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## Outlook for Remittance Flows 2008-2010:

### Growth expected to moderate significantly, but flows to remain resilient

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After several years of strong growth, remittance flows to developing countries began to slow down in the third quarter of 2008. This slowdown is expected to deepen further in 2009 in response to the global financial crisis, although the exact magnitude of the growth moderation (or outright decline in some cases) is hard to predict given the uncertainties about global growth, commodity prices, and exchange rates. In nominal dollar terms, officially recorded remittance flows to developing countries are estimated to reach \$283 billion in 2008, up 6.7 percent from \$265 billion in 2007; but in real terms, remittances are expected to fall from 2 percent of GDP in 2007 to 1.8 percent in 2008. This decline, however, is smaller than that of private or official capital flows, implying that remittances are expected to remain resilient relative to many other categories of resource flows to developing countries. In 2009, remittances are expected to fall by 0.9 percent (or at the worst case, no more than 6 percent). Migration flows from developing countries may slow as a result of the global growth slowdown, but the stock of international migrants from developing countries is unlikely to decrease. Remittance flows from the GCC countries are likely to fall more than those from the US and Europe, affecting recipient countries in the Middle East and North Africa and South Asia.

The outlook for remittances for the rest of 2008 and 2009-10 remains as uncertain as the outlook for global growth, oil and non-oil commodity prices, and currency exchange rates. In the past, remittances have been noted to be stable, or even counter-cyclical, during an economic downturn in the recipient economy, and resilient in the face of a slowdown in the source country. This time, however, the crisis has affected all countries, creating additional uncertainties.

After several years of strong growth, remittance flows to developing countries began to slow down significantly in the third quarter of 2008 in response to a deepening global financial crisis. Based on the World Bank's economic projections for 2008-10, and available monthly and quarterly data on remittances for January-August 2008, we estimate that remittance flows to developing countries are likely to reach \$283 billion in 2008 compared to a revised \$265 billion in 2007. While this translates into an increase of 6.7 percent in nominal US dollar terms, remittances as a share of GDP of the recipient countries will fall to 1.8 percent in 2008 from 2.0 percent in 2007. In 2009, the deceleration in remittances is likely to be sharper. Indeed remittances may even register a relatively large decline in some corridors. Nevertheless, remittances are unlikely to fall as much as private flows and official aid to developing countries.

In this note, we first present remittance trends in 2008 and then the outlook for 2009 and 2010. Under the current circumstances of uncertainty, however, this analysis ought to be taken as an attempt to understand the risks rather than present precise forecasts.

## Remittance Trends in 2008

### Remittance flows to developing countries are estimated to reach \$283 billion in 2008

Despite a sharp deceleration in growth in the third quarter of 2008, recorded remittances to developing countries are estimated to reach 283 billion in 2008 compared to a revised \$265 billion in 2007 (table 1 and box 1 “Revisions to 2007 data”). The regional pattern of remittance flows appears to be shifting. Flows from the US to Latin America and the Caribbean and those from Western Europe to Europe and Central Asia are slowing. In contrast, flows from the GCC countries to East Asia and South Asia have grown rapidly. Flows to the Middle-East and North Africa were estimated to have remained strong and relatively stable. But those to Sub-Saharan Africa appear to have decelerated sharply from a high growth rate of 42 percent the previous year, in part because of a moderation in remittance flows to Nigeria following a 70 percent increase in 2007.

**Table 1: Remittance flows to developing countries, 2006-2008 (\$ billion)**

	2006	2007	2008e
<b>(US\$ billion)</b>			
<b>Developing countries</b>	<b>229</b>	<b>265</b>	<b>283</b>
<i>(as share of GDP, %)*</i>	<i>(2.1)</i>	<i>(2.0)</i>	<i>(1.8)</i>
East Asia and Pacific	53	58	62
Europe and Central Asia	39	51	54
Latin America and Caribbean	57	61	61
Middle-East and North Africa	27	32	35
South Asia	40	44	51
Sub-Saharan Africa	13	19	20
<b>Growth rate (%)</b>			
<b>Developing countries</b>	<b>18%</b>	<b>16%*</b>	<b>7%</b>
<i>East Asia and Pacific</i>	<i>13%</i>	<i>10%</i>	<i>7%</i>
<i>Europe and Central Asia</i>	<i>23%</i>	<i>31%</i>	<i>5%</i>
<i>Latin America and Caribbean</i>	<i>18%</i>	<i>6%</i>	<i>0%</i>
<i>Middle-East and North Africa</i>	<i>10%</i>	<i>20%</i>	<i>8%</i>
<i>South Asia</i>	<i>20%</i>	<i>11%</i>	<i>16%</i>
<i>Sub-Saharan Africa</i>	<i>35%</i>	<i>42%*</i>	<i>6%</i>

*e = estimate*

Source: Authors' calculation based on data from IMF Balance of Payments Statistics Yearbook 2008 and data releases from central banks, national statistical agencies, and World Bank country desks. Remittances are defined as the sum of workers' remittances, compensation of employees, and migrant transfers – see [www.worldbank.org/prospects/migrationandremittances](http://www.worldbank.org/prospects/migrationandremittances) for data definitions and the entire dataset. See annex for the methodology for preparing the estimates for 2008.

\* Including the revision to Nigeria data in 2007. Excluding that, remittance flows to Sub-Saharan Africa would have experienced a more modest growth rate of 14.4 percent, and to developing countries, 14.1 percent in 2007.

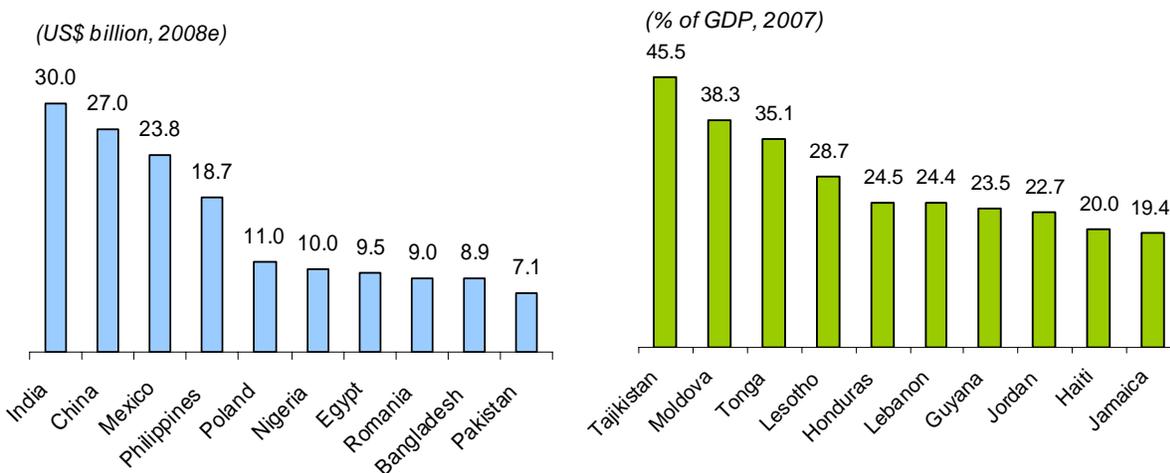
**Box 1: Revisions to 2007 Remittance Data**

According to newly available data from the IMF Balance of Payments statistics, remittance flows to developing countries reached \$265 billion in 2007, up from the previous estimate of \$251 billion. Several countries reported new data for 2007. Nigeria recently revised upwards the data it reports to the IMF Balance of Payments to \$18 billion for 2007. This represents a 450 percent increase compared to the inflows for 2005, raising concerns this increase may reflect inclusion of other types of private flows, such as trade payments. Our estimates for 2006 and 2007 – \$5.4 billion and \$9.2 billion respectively – were therefore constructed using data reported for 2005 to the IMF Balance of Payments and the growth of remittance inflows reported in a global survey of central banks conducted by the World Bank’s Development Prospects Group in mid-2008. Also Egypt reported \$7.6 billion in remittances for 2007, marking a significant increase compared to 2006.

According to the new estimates, India, China and Mexico are likely to maintain their position as the top 3 recipients of remittances among developing countries in 2008 (box figure 1). The top 10 recipients list also includes Philippines, Poland, Nigeria, Romania, Egypt, Bangladesh and Pakistan. In contrast, the top recipients in terms of the share of remittances in GDP included many smaller economies such as Tajikistan (45 percent), Moldova (38 percent), Tonga (35 percent), Lesotho (29 percent), and Honduras (25 percent).

Remittances more than doubled between 2002 and 2007 because of: (a) growth in the migrant stock and incomes, (b) increased scrutiny of flows since September 2001, (c) reduction in remittance costs and expanding networks in the remittance industry, and (d) the depreciation of the U.S. dollar during this period, which encouraged higher remittances to compensate for the loss of purchasing power vis-à-vis appreciating local currencies and rising costs of living in the origin countries.

**Box figure 1: Top 10 remittance-recipient developing countries in 2008**



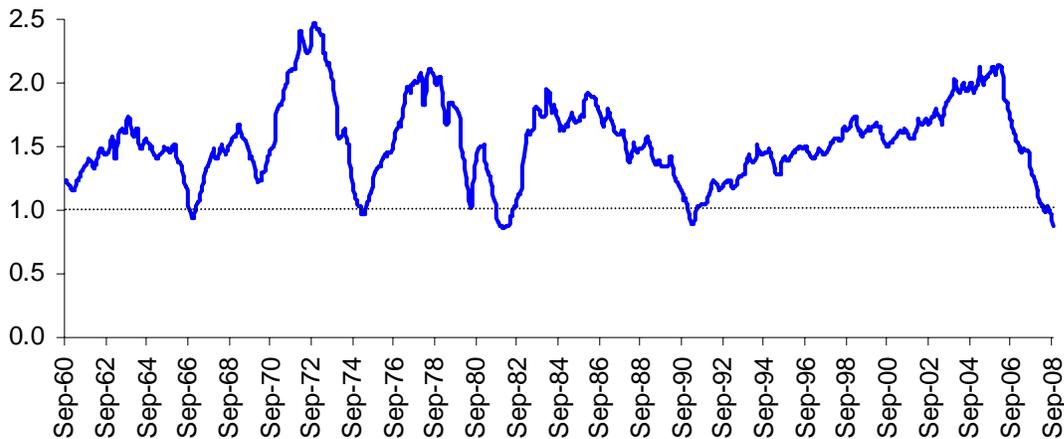
Source: Same as table 1.

Several factors appear to be responsible for the slowdown in Latin America and the Caribbean in 2008: (a) a slowdown in the US economy, especially in the construction sector, has affected the employment and incomes of Latin American (especially Mexican) migrants in the US; (b) tighter enforcement of immigration rules in the United States is likely to have caused a shift in remittance flows to hand carry and unrecorded channels; and (c) after more than doubling during 2002-2007, the rate of growth of remittances is beginning to slow (the effect of a high base). The slowdown in new home construction in the United States that began in early 2006 has dipped to the level in 1991 and is likely to plateau in future (figure 1). While it is true that the economic slowdown in the United States has affected migrants from Latin America and the Caribbean, job losses in the construction sector in 2006-07 were smaller for foreign-born Hispanic migrants than for non-Hispanic natives (table 2). This underscores the importance employers tend to place on migrants as more flexible and lower-cost workers, and therefore their unwillingness to fire migrant workers first in the face of slowing demand and declining revenues.

Officially recorded remittances to Mexico declined by 3.7 percent during January-September 2008 compared to the same period the previous year. The seasonal pattern of remittance flows during the first half of 2008 was similar to that in recent years.<sup>2</sup> Later in the year, however, recorded remittances fell sharply, prompting the Mexican authorities to forecast an 8 percent decline in remittance flows in 2008. According to our estimates, officially recorded remittances to Mexico are likely to decline by 4.4 percent in 2008.

**Figure 1: New home construction in the United States has declined since early 2006**

*New housing construction started, 3-month m.a. (millions)*



Note: Construction started on new privately-owned homes in the United States

Source: U.S Census Bureau

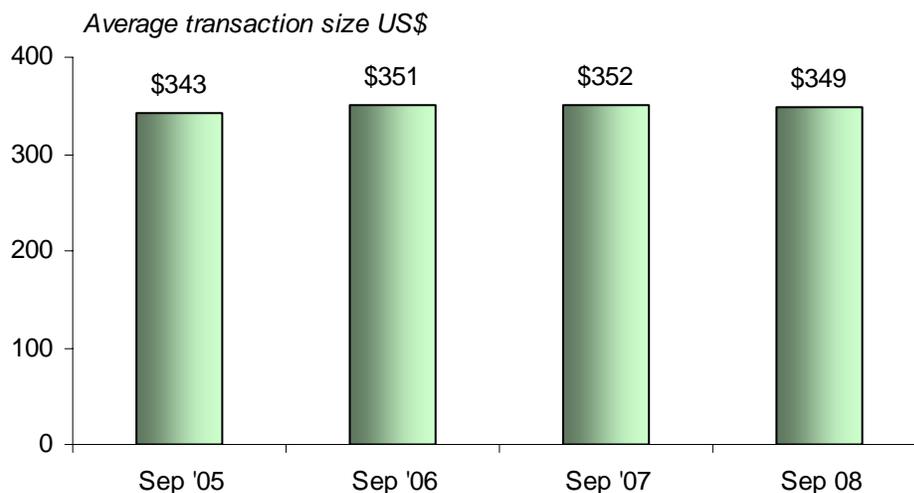
**Table 2: Job losses in the construction sector, however, have been lower for migrants than natives in the United States**

(Millions)	Q1-2006	Q1-2007	Q1-2008	Change 2006-07	Change 2007-08
All workers	11.10	11.61	10.91	0.51	-0.70
Non-Hispanics	8.43	8.64	8.18	0.21	-0.46
Native born Hispanics	0.62	0.71	0.69	0.09	-0.03
Foreign born Hispanics	2.06	2.26	2.04	0.20	-0.22
Mexican born	1.43	1.64	1.49	0.21	-0.15

Source: Pew Hispanic Center tabulations of Current Population Survey data. A similar table was included in the JP Morgan report on "Determinants of Mexico's remittances from the US", October 17, 2008.

Mexican migrants are still sending money home, if necessary by taking up whatever jobs they can find, postponing consumption, or drawing on savings. Remittance flows to Mexico increased in 2007 despite a decrease in the incomes of Mexican migrant households in that year.<sup>3</sup> The average value of remittances sent by Mexican migrants has not fallen in response to the growth slowdown in the United States; it has remained in the range of \$340-\$350 since 2005 (figure 2). There are also anecdotal reports that stringent immigration enforcements have encouraged some remittances to shift to hand carry or informal channels. Thus, it cannot be ruled out that the true size of remittances to Mexico (including unrecorded flows) is probably increasing although at a slower rate than during the last year.

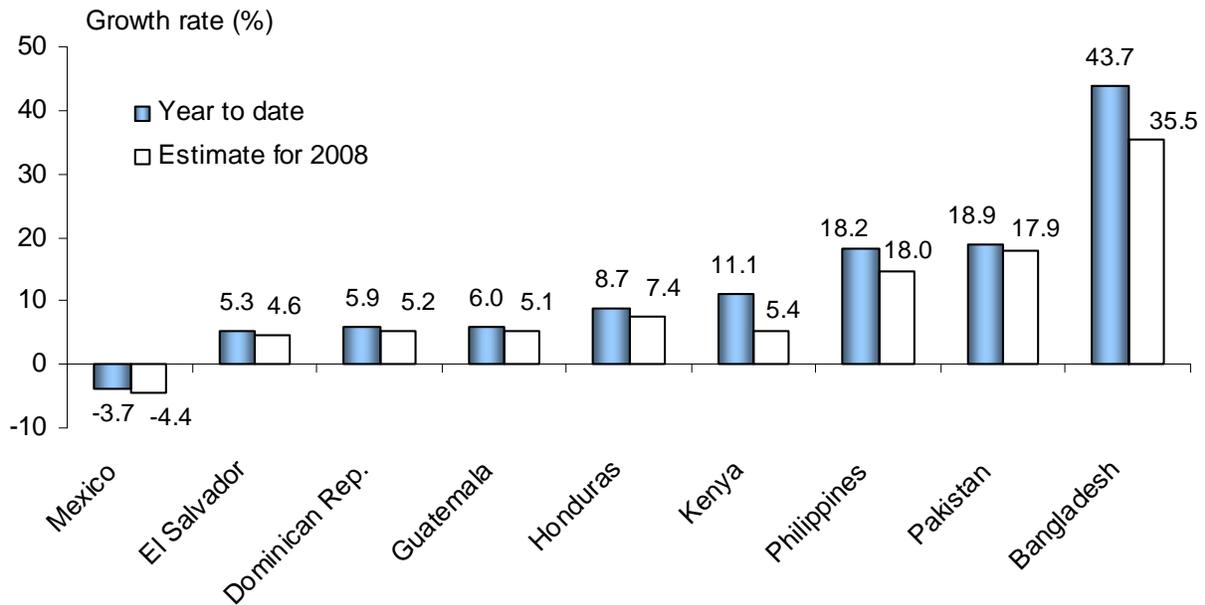
**Figure 2: In Mexico, the average value of remittances per transaction has remained unaffected by the recent US economic slowdown**



Source: Banxico

Remittances have continued to grow in countries other than Mexico, especially those outside Latin America (figure 3).<sup>4</sup> This growth is particularly impressive for countries in South and East Asia, which are relatively less dependent on remittances from the United States (see the next section for a discussion of the sources of remittances for developing regions). Moreover, the depreciation of the US dollar against the local currencies of the remittance-recipient countries (until a few months ago) is believed to have increased the flow of remittances to several countries during the last three years. Combined with rising prices of food and oil, it had resulted in a diminishing purchasing power of the dollar, and hence a need for increased remittances.<sup>5</sup> The recent depreciation of the currencies of recipient countries may increase the flows in local currency terms, preserving the purchasing power of recipient households (figure 4).

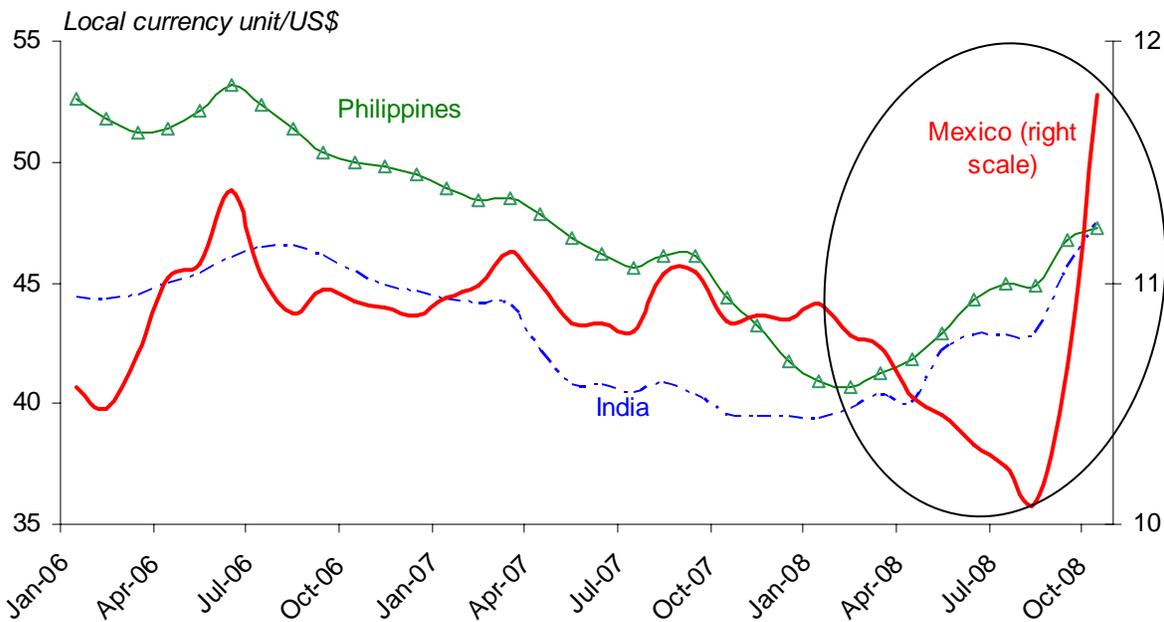
**Figure 3: Remittances are slowing but still robust, especially outside Latin America**



Note: Growth relative to same period last year: January-October for Guatemala, January-September for El Salvador, Mexico and Pakistan; January-August for Honduras, Kenya and the Philippines; January-June for Dominican Republic; January-July for Bangladesh.

Source: Central banks of the respective countries and authors' estimates

**Figure 4: Depreciation of currencies with respect to the US dollar may reverse the decline in local currency value of remittances**



Source: World Bank Global Trends team; Bloomberg.

## Outlook for 2009-2010

**The slow down of remittance flows to developing countries is expected to deepen in 2009, but remittances will exhibit resilience compared to private capital flows and official aid**

With the current crisis becoming increasingly global, the environment for remittance flows to developing countries in 2009-10 appears uncertain for four main reasons: (1) the economic slowdown in the high-income OECD destination countries including the United States and Western Europe (which account for almost two-third of remittance flows to developing countries – see figure 7); (2) impact of the financial crisis on developing countries (which account for half of migrants from developing countries); (3) impact of a fall in oil prices on the economies of the GCC countries, a major destination of migrants from developing countries in South Asia and the Middle East and North Africa; and (4) uncertainty about exchange rates. This section attempts to understand the risks for remittance flows in 2009-10 for the major receiving countries and regions.

The growth of remittance flows is expected to slow significantly from 6.7 percent in 2008 to -0.9 percent in 2009 under the base case, but recover in the medium term to 6.1 percent growth in 2010 (see table 3 and figure 5). Remittance inflows in US dollar terms are expected to decrease in five of the six developing regions during 2009-10, with sharp declines compared with recent years. At the same time, the regional shifts in remittances are likely to become more pronounced. The methodology for preparing these forecasts is described in the annex.

Despite a decline in the share of remittances in GDP, the contribution of remittances to the external position of developing countries will increase significantly during 2009-10. The decline in the share of remittances in GDP is expected to be much smaller than the decline (equivalent to 2 percent of GDP) in the current account balance of developing countries. Officially recorded inward remittances were 54 percent of the current account balance in 2007; they are expected to be at least as large by 2010.

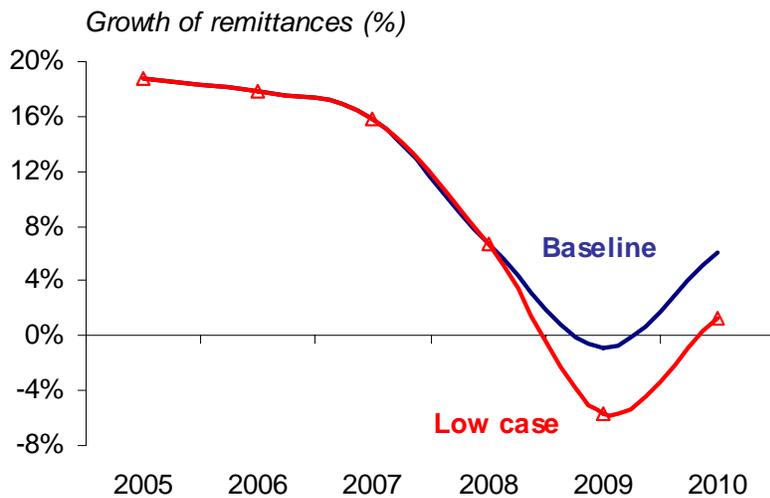
**Table 3: Outlook for remittance flows to developing countries, 2009-10**

	2008e	Base case		Low case	
		2009f	2010f	2009f	2010f
<b>\$ billion</b>					
<b>Developing countries</b>	<b>283</b>	<b>280</b>	<b>297</b>	<b>267</b>	<b>270</b>
<i>(as share of GDP, %)*</i>	<i>(1.8)</i>	<i>(1.6)</i>	<i>(1.5)</i>	<i>(1.5)</i>	<i>(1.4)</i>
East Asia and Pacific	62	63	66	60	61
Europe and Central Asia	54	53	57	51	53
Latin America and Caribbean	61	61	64	58	58
Middle-East and North Africa	35	32	34	30	29
South Asia	51	51	55	48	49
Sub-Saharan Africa	20	20	21	19	19
<b>Growth rate (%)</b>					
<b>Developing countries</b>	<b>6.7%</b>	<b>-0.9%</b>	<b>6.1%</b>	<b>-5.7%</b>	<b>1.2%</b>
East Asia and Pacific	7.5%	0.4%	6.1%	-4.2%	1.6%
Europe and Central Asia	5.4%	-0.1%	6.4%	-4.0%	2.7%
Latin America and Caribbean	0.0%	-0.2%	4.4%	-4.4%	0.2%
Middle-East and North Africa	7.6%	-6.7%	5.7%	-13.2%	-1.5%
South Asia	16.2%	-0.1%	8.2%	-5.5%	2.7%
Sub-Saharan Africa	6.3%	-1.3%	5.3%	-6.8%	-0.2%

Source: Same as table 1. See annex for the methodology for the estimates for 2008 and forecasts for 2009 and 2010.

\* Excluding the revision to Nigeria data in 2007, remittance flows to Sub-Saharan Africa would have experienced a more modest growth rate of 14.4 percent, and to developing countries, 14.1 percent in 2007.

**Figure 5: Remittance flows will slow sharply in 2009 in US dollar terms**

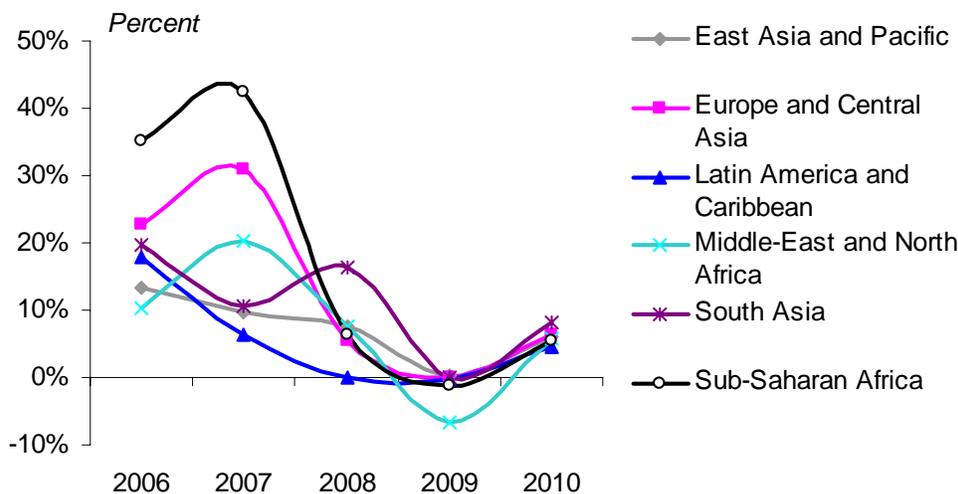


\* Decline equivalent to 2 years of migrant inflows in the high-income destination countries

Source: Same as table 3.

In Europe and Central Asia and Latin America and the Caribbean, after registering a significant slow down in the latter part of 2008, remittance flows are expected to decline modestly in 2009 and recover in 2010 under the base case scenario (see table 3 and figure 6). Remittance flows to South Asia will slow sharply from over 16 percent growth in 2008 to zero growth in 2009. In other developing regions, the rate of decline of remittance inflows will be larger in 2009—with flows to Middle East and North Africa expected to decline by nearly 7 percent in US dollar terms and those to Sub-Saharan Africa by over 1 percent. Growth of remittances to all the developing regions except the Middle East and North Africa will remain almost flat in nominal dollar terms, reflecting the relative resilience of remittances in the face of economic downturns in the source countries, and also in the recipient countries.

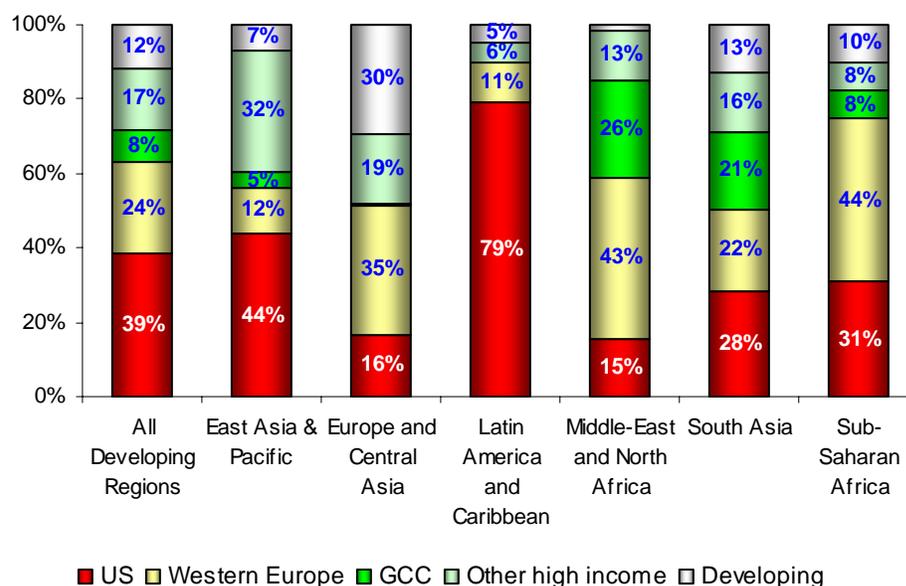
**Figure 6: Growth of remittance flows to developing regions under the base case scenario**



Source: Same as table 3.

The impact on remittance flows to recipient developing regions will depend on the prospects for recovery of growth and employment in the respective migrant-destination countries. The United States is the top destination and largest source of remittances for the Latin America and Caribbean region, accounting for an estimated four out of every five dollars of inflows (figure 7). Hence, if the United States goes into a recession in 2009, the Latin America and the Caribbean region as well as other developing regions that receive a large share of inflows from the United States—East Asia and Pacific (estimated 44 percent of inflows), Sub-Saharan Africa (31 percent) and South Asia (28 percent)—will be adversely affected.

**Figure 7: Sources of remittances by recipient regions, 2008**



Source: Same as table 3.

**Table 4: Outlook for remittance flows to developing countries by source region, 2008-09**

Growth rate (%)	Base case		Remarks
	2008e	2009f	
US	-2.9%	1.4%	Construction sector slowdown
EU-15	7.9%	-7.6%	Effect of Euro-\$ exchange rate
GCC countries	37.6%	-9.0%	Decline in oil prices from 2008 level
Other high-income countries	10.3%	0.9%	Economic slowdown and exchange rate effect
Developing countries	17.0%	9.5%	

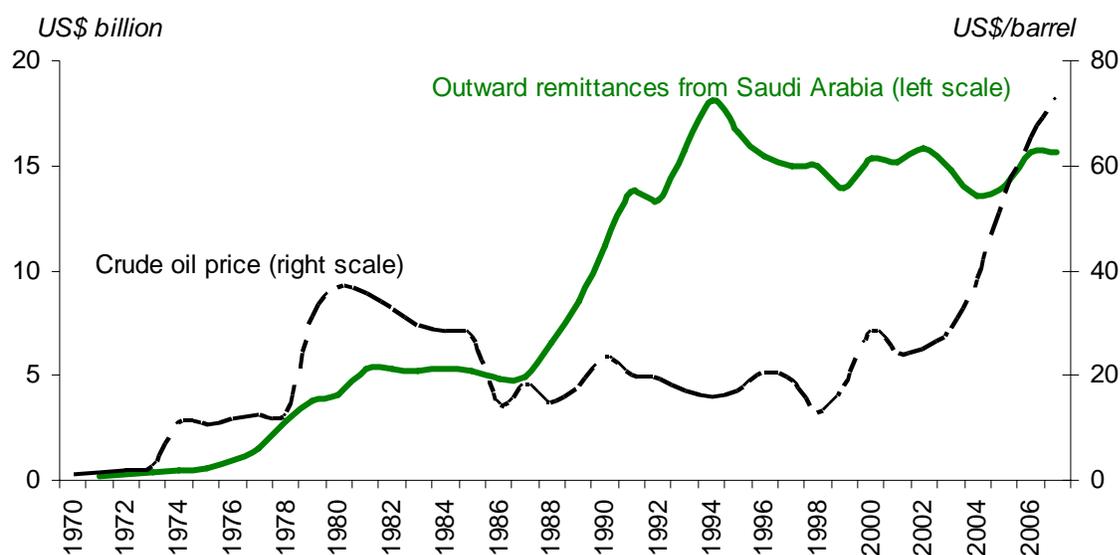
Source: Same as table 3.

Remittance flows from oil-rich Gulf Cooperation Council (GCC) countries accounted for 63 percent and 52 percent, respectively, of the remittance inflows for Bangladesh and Pakistan. In the Philippines, although a large share of the existing migrants stocks are in the United States and Europe, an overwhelming share (80 percent – 90 percent) of deployments of Overseas Filipino Workers is to countries in the oil-rich Middle East. A continuation of the recent decline in oil prices, which have fallen nearly 60 percent from the peak, would make the GCC economies more vulnerable (table 4). Combined with the impact of the financial crisis on the banking sector of these countries, this could potentially lead

to a significant deceleration in construction activities in which a large number of migrants have been employed in recent years. Under the base scenario, remittance flows from the GCC countries would fall by 9 percent in 2009 in nominal dollar terms compared to an increase of 38 percent in the previous year.

While some lay offs are to be expected in the construction sector in the GCC countries, it is unclear whether the numbers would be large enough to result in a net outflow of migrants from the wealthy GCC countries with ample oil and financial reserves. The relationship between oil prices and immigration to the GCC countries was evident during the 1970s, but this relationship has been weak or non-existent since the 1980s (figure 8).

**Figure 8: Remittance outflows from Saudi Arabia do not appear to be influenced by oil prices**



Source: *Migration and Remittances Factbook 2008*; DECPG Commodities Team, World Bank.

Movements in exchange rates – especially the \$/€ exchange rate – are going to impact the size of flows expressed in nominal dollar terms. Because of the US dollar weakness vis-à-vis the euro in 2008, EU15 countries appear as major source countries for remittances denominated in dollar terms in Europe and Central Asia, Middle-East and North Africa, and Sub-Saharan Africa, accounting for 35 percent, 43 percent, and 44 percent of inward remittances respectively (see figure 7). Under the base scenario, outward remittances from the EU15 countries are expected to decline by nearly 8 percent in 2009, primarily due to a strengthening of the US dollar compared to the average in 2008 (table 4). The base scenario assumes that the Euro-US\$ dollar exchange rate remains constant at the level as of October 2008. Since the US dollar has appreciated against the Euro since the beginning of the year, the constant exchange rate assumption implies that it would strengthen in 2009 compared to the average for 2008.

It is also worth noting that several developing countries (e.g., India, Malaysia, Russia, and South Africa) are both migrant-receiving and remittance-source countries. Developing countries host almost half of emigrants from all developing countries and account for at least a tenth of recorded remittance flows to developing countries in US dollar terms (figure 7). These countries are being affected by the financial crisis through several channels, including trade linkages, a reversal of foreign investment flows and banking channels. Economic performance of these countries will continue to impact remittance flows to many poorer developing countries in different regions, especially in Europe and Central Asia.

Remittance flows to some smaller and poor countries, where remittances are a relatively large share of GDP (see box figure 1), are likely to be affected significantly. The rate of growth of remittance inflows to

Tajikistan and Moldova (and also the Kyrgyz Republic) is expected to decline in 2009-10; however these flows will remain positive as the remittance source countries in the region are expected to experience a more modest slowdown compared to the U.S and Europe. Remittance flows are expected to moderate in Haiti, Honduras, Guyana and Jamaica (which receive most of their remittances from the United States) from the double digits in 2007 to single digits in 2009-10. In Lesotho, which receives almost all of its remittances from South Africa, these flows are expected to remain flat in 2009-10.

A slowdown in remittance flows to countries such as India and Mexico, where remittance inflows are large in dollar terms (\$30 billion and \$24 billion respectively) but small as a share of GDP, can affect a large number of remittance-recipient households. Remittance-receiving households in several other large countries such as the Bangladesh, Morocco, Nigeria, Romania and the Philippines—which received between \$7 billion and \$16 billion (between 6 and 12 percent of GDP) in 2007—are similarly vulnerable.

The sectoral profile of migrants will also determine the elasticity of migrants' incomes to the economic downturns in the host countries. For example, countries whose migrants are employed in cyclically-sensitive sectors such as construction may be relatively more vulnerable to downturns. In contrast, origin countries such as the Philippines, many of whose migrants are employed in sectors such as healthcare (which is projected to grow robustly in the high income countries in the medium term) may be relatively less vulnerable. Remittances to origin countries that have undocumented emigrants in high-income countries (which include many African and Latin American countries) may also be vulnerable to a rise in anti-immigration sentiment and stepped-up enforcement efforts in the host countries during an economic downturn.

### **A low case scenario**

The base case outlined above assumes that migrants' incomes grow in tandem with GDP growth in the host countries while migrants stocks remain constant. Although the flows of new migrants could slow in some developing regions, migration stocks are not likely to be affected by the current crisis. According to some reports, the economic slowdown in the United States appears to have reduced the inflows of undocumented migrants. Compared to the large stock of migrants, however, the reported decline in inflows of new migrants (or increase in the return of existing migrants) is relatively small. Increased enforcement and tighter border controls have also reportedly increased the duration of migration, as migrants find it increasingly difficult to go back and forth across the border in response to labor market demands.

A low case scenario takes into account the additional vulnerabilities that migrants might face during a downturn. It assumes that the migrant stock in high income countries declines at a rate equivalent to two years of migrant inflows. This decline is equivalent to a reduction in migrant stock of approximately 4 percent in the United States, 8 percent in the EU15 countries, 10 percent in the GCC countries, and 4 percent in other high-income remittance source countries. Such a scenario could also be a result of some return migration and a disproportionately larger impact of the crisis on migrants' incomes.

Under this scenario, remittance flows to developing countries would register a sharper decline of 5.7 percent in 2009 (compared to a less than 1 percent decrease under the base scenario – see table 3 and figure 5). All developing regions would have a negative growth in 2009, with the Middle East and North Africa and Sub-Saharan Africa experiencing the largest declines of 13 percent and 7 percent respectively, followed by Latin America and the Caribbean, Europe and Central Asia, and South Asia.

An additional risk to this low case may arise from unexpected movements in the exchange rates. As discussed above, the sharp slowdown in remittance flows from the EU15 Euro area countries in 2009 in nominal dollar terms is largely due to exchange rate changes. A depreciation of the euro from the current level may result in an even larger decline in remittance flows in US dollar terms.

## Resilience of remittances

Remittances are one of the less volatile sources of foreign exchange earnings for developing countries. While capital flows tend to rise during favorable economic cycles and decline in bad times, remittances tend to be counter-cyclical relative to recipient countries' economic cycles. Historically remittance flows have also been resilient to downturns in the migrant-destination countries.<sup>6</sup> Remittance flows to developing countries are expected to remain more resilient than private flows—which are expected to fall sharply if global liquidity continues to remain tight—and even compared to official development assistance (ODA), which some analysts expect to fall by a quarter to a third based on the experience of Japan and some Nordic donor countries in the 1990s.<sup>7</sup>

There are several reasons for the resilience of remittance flows during economic downturns in remittance-source countries: (a) Remittances are sent by the cumulated flows of migrants over the years, not only by the new migrants of the last year or two. This makes remittances persistent over time. If new migration stops, then over a period of a decade or so, remittances may stop growing. But they will continue to increase as long as migration flows continue. (b) Remittances are a small part of migrants' incomes, and migrants continue to send remittances when hit by income shocks. (c) Because of a rise in anti-immigration sentiments and tighter border controls, especially in the U.S and also in Europe, the duration of migration appears to have increased. Those staying back are likely to continue to send remittances. (d) If migrants do indeed return, they are likely to take back accumulated savings. This may have been the case in India during the Gulf war of 1990-91 which forced a large number of Indian workers in the Gulf to return home (Ratha 2003, p 163). Also the "safe haven" factor or "home-bias" can cause remittances for investment purposes to return home during an economic down turn in the host country. (e) Several high-income OECD remittance source countries are likely to undertake large fiscal stimulus packages in response to the financial crisis. This increase in public expenditure, if directed to public infrastructure projects, will increase demand for both native and migrant workers.<sup>8</sup> Also documented migrants are likely to send more remittances to their families, to make up for a fall in remittances by undocumented migrants.

## End notes

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<sup>1</sup> Migration and Remittances Team, Development Prospects Group, World Bank. We would like to thank K. M. Vijayalakshmi for assistance with updating remittances data for 2007 and 2008, and Andrew Burns, Uri Dadush, Jacqueline Irving, Sonia Plaza, Neil Ruiz, and Hans Timmer for useful comments.

<sup>2</sup> Monthly remittances to Mexico show strong seasonality, reaching a peak during May on account of Mother's Day (see Migration and Development Brief 2, available at [www.worldbank.org/prospects/migrationandremittances](http://www.worldbank.org/prospects/migrationandremittances)).

<sup>3</sup> According to the Pew Hispanic Center the median real household income of Mexican "non-citizens" declined by 6.2 percent between 2006 and 2007 (see <http://pewhispanic.org/files/reports/95.pdf> for full report). Non-citizen households employed in sectors such as construction, production and services experienced larger declines of 7.9 percent, 17.3 percent and 8.8 percent respectively.

<sup>4</sup> Western Union, the largest money transfer company with 365,000 agent locations worldwide, reported robust revenue growth of 10 percent in the third quarter of 2008 (reaching \$1.4 billion) while operating margins from remittance (C2C) transactions were 28 percent. Their C2C revenues and transactions for the Americas region were flat, with revenues and transactions for Mexico declining by 1 percent and 4 percent respectively. However, revenues in their Europe, Middle East, Africa, and South Asia region grew by 20%.

<sup>5</sup> In the Philippines, while remittances increased by nearly 50 percent in nominal dollar terms between 2004 and 2007, they increased by 22 percent after accounting for the appreciation of the Philippine Peso. After adjusting for domestic inflation, they increased by only 3 percent in this period. In Mexico, the increase in terms of purchasing power of the beneficiary was half of the increase in US dollar terms (19% versus 38%) during this period.

<sup>6</sup> Remittance flows to Latin America were relatively insensitive with respect to business cycle fluctuations in the United States between 1990 and 2007 (see Roache and Gradzka 2007).

<sup>7</sup> Washington Post, October 22, 2008. See also [http://blogs.cgdev.org/globaldevelopment/2008/10/history\\_says\\_financial\\_crisis.php](http://blogs.cgdev.org/globaldevelopment/2008/10/history_says_financial_crisis.php) for an analysis of how Finland, Norway and Sweden cut spending on foreign aid following crises in the early 1990s.

<sup>8</sup> Taylor (2000) found that public income transfer schemes in the United States resulted in increased remittances to Mexico – other things being equal, immigrant households that received Social Security or unemployment insurance were more likely to remit than other immigrant households.

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## Annex. Methodology for forecasting remittances worldwide

Remittance flows are broadly affected by three factors: the migrant stocks, incomes of migrants and the income differential with the source country. We assume that migrant stocks will remain unchanged during 2008-10. This is not an unreasonable assumption as argued in the main text. We prepare the forecasts for remittance flows for 2009 and 2010 by examining the effects of income changes in destination countries worldwide. For this purpose, we use a bilateral remittance matrix estimated by Ratha and Shaw (2006) to estimate remittance intensities—the share of remittance outflows in gross domestic product (GDP)—for the remittance source countries.

$$r_{ij} = \frac{R_{ij}}{Y_j}$$

where “*i*” is the remittance receiving country and “*j*” is the remittance source country.

We then estimate remittance flows for 2008 until 2010 using these remittance intensities and the latest available projections of gross domestic product for all remittance source countries from the World Bank’s global macroeconomic forecasts.

$$R_i = \sum_j r_{ij} Y_j$$

In order to avoid attributing flows in dollar terms that are simply due to movements in the Euro-dollar exchange rate, we assume a constant exchange rate at the current level.

Other factors such as remittance costs and migrants’ vintage also play a role (see World Bank 2005 and Lueth and Ruiz-Arranz 2008). The data on remittance costs are not easy to model, although we know that remittance costs are falling and causing remittance flows to increase. The migrants’ vintage, or the number of years lived in the destination country, is also a plausible determinant of remittance flows to the origin countries. New migrants may send more remittances as a percentage of their income, since they have better ties back home. However, there is anecdotal evidence that new migrants often have financial obligations (such as repaying loans incurred while migrating) and therefore unlikely to send remittances immediately after arrival in the host country. We try to capture the vintage effect examining a low case scenario where recent migrant inflows of the last one or two years are forced to go back as the economic crisis deepens in the major destination countries, an unlikely but high-impact scenario (see discussion in the main text).

References:

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