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Preliminary Estimates of Diaspora Savings

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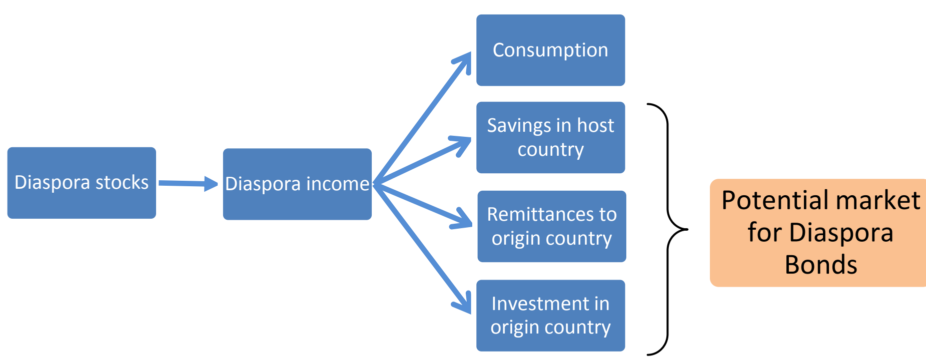
Preliminary estimates, based on data on bilateral migrant stocks for 2010 and assumptions about migrant incomes, suggest that annual diaspora savings of developing countries could be in the range of $400 billion. Diaspora saving as a share of GDP is estimated to be 2.3 percent in middle-income countries and as high as 9 percent in low-income countries.

It has often been said that the diaspora of developing countries possess considerable wealth that can be tapped – via issuance of diaspora bonds – for the origin countries' development (Ketkar and Ratha 2010). In this note, we present some rough estimates of the annual savings of the global diaspora from developing countries.

As outlined in chart 1, there are three broad elements to estimating savings of the diaspora from developing countries: (a) the size of the diaspora stocks in the different host countries, (b) the average income of the diaspora members, and (c) their propensity to save.

Diaspora savings are usually allocated between sending remittances to their family and friends, investments in origin country, and saving/investment in the host country. These three items together broadly form the potential market for diaspora bonds (chart 1).

Chart 1: Diaspora savings and potential market for diaspora bonds



A simple equation for diaspora savings of origin country *i*: can be expressed as:

$$DiasporaSaving_i = \sum_j DiasporaStock_{ij} * s_{ij} * \left(\omega_{ij}^D * \bar{y}_{ij}^D\right) \qquad (1)$$

where $DiasporaStock_{ij}$ is the number of diaspora members from country *i* residing in destination country *j*, $\bar{y}_{ij}^D$ is the average earnings of the diaspora members in the working age, ω_{ij}^D is the share of diaspora in the working age group (inverse of the dependency ratio), and s_{ij} is their average propensity to save. These savings are summed over all destination countries *j* to arrive at the estimate of diaspora savings for origin country *i*.

However, estimating each of these items at the global level is fraught with conceptual and practical difficulties. Lack of comparable data on migration and migrants' income across host countries, the undocumented status of many migrants, and differences in the concepts used for income and savings across countries, for example, make this exercise challenging.

(a) Diaspora stocks adjusted for working age members:

A broad notion of the diaspora includes first- and higher-generation migrants, and some notions even include people who have historical links with the country of origin and can potentially contribute to its welfare (see for example, African Union's definition of African diaspora). However, data availability limits us to a narrower definition of those born in the country but presently living outside the country. We obtain data on emigrant stocks from the *Migration and Remittances Factbook 2011*. This updates the previously available bilateral migration data from the 2000 round of censuses (see Ratha and Shaw 2007 and Parsons et al. 2007) with more recent data from national censuses and household and labor force surveys in key destination countries (World Bank 2011). These are the most current estimates of bilateral migrants stocks available for 2010.

Since these numbers include children and the elderly, for the purpose of estimating diaspora income and savings, we adjust the overall emigrant stock estimates for the share of those in the working ages. Since comparable cross-country data on the age structure of migrants for all destination countries is not available, we assume that the share of migrants in the working age (15-64) is similar to that of the countries of destination. This is a conservative assumption since available evidence for a few countries, for example, the United States and the Gulf Cooperation Council countries, suggests that migrants tend to be concentrated in the working ages, while high income destination countries tend have a larger share of elderly dependents.

(b) Incomes of diaspora adjusted for skill level:

The income of diaspora members depends on several factors. Perhaps the most important is the average per capita income in the host country. The earnings of migrants in the working age group is also likely to depend heavily on their education level, age, gender, occupation and sector of work, and employment status. For example, highly skilled migrants can often earn higher incomes than natives, while those with lower levels of education and skills may earn substantially less, for example Mexican migrants in the U.S (see Pew report) and South Asian migrants in the Gulf. In the absence of comparable cross-country data on incomes of migrants, estimates of the importance of each of the variables above for one destination country such as the United States can be used to extrapolate migrants' incomes across countries based on observed characteristics of migrants (see Clemens and Pritchett 2008). In conducting robustness tests, Clemens and Pritchett conclude that a simple assumption of average migrant income being 35% of host country income provides a reasonable lower bound on estimates of migrants' incomes obtained using detailed information on the characteristics of migrants.

In order to account for the variation in migrants' income by skills, we assume that the income of households that have migrants with a college degree is the same as the average household income of their host countries (Note that this implies that average incomes of migrants, including dependents, is similar to that of natives). For less educated migrants, we use the conservative assumption that migrant households earn a third of the average household incomes of the host countries. Since available information suggests that a large proportion of migrant workers in the Gulf Cooperation Council countries are unskilled and earn significantly lower incomes than natives of the natives (with the monthly earnings of many in the range of $200-$300), we assume that their household incomes are a fifth of the average household incomes of the group of GCC countries.

(c) Propensity to save:

There is very little comparable data across countries on the saving rate of the diaspora. The propensity to save of the diaspora can be affected by various factors, such as their overall earnings, level of education, migration status, and so on. For example, since the prospects of remaining in the host country are limited for migrants on temporary or undocumented status, they may be more likely to save a larger fraction of their income and to remit a large share of that back home (see for example, Galor and Stark 1990, Glytsos 1997, Merkle and Zimmermann 1992, Dustmann and Mestres 2010, and Sinning 2010). On the other hand, recent migrants may also have incurred substantial debts to finance the migration process (see Sharma and Zaman 2009 for evidence from Bangladesh) and therefore could be constrained in the financial resources available for saving. In the absence of comparable cross-country information on the savings of migrants in all the migrant destination countries from each source country, we assume that the savings propensity of migrants is similar to the average savings rates of developing countries, which is roughly about 20 percent of national income on average. This assumption can be justified on the ground that migrants bring their savings norms to their countries of destination.

Estimates of diaspora savings

The modified equation for estimating diaspora saving, incorporating the above assumptions, is:

$$DiasporaSaving_i = \sum_j DiasporaStock_{ij} * s_i * \left(\omega_j^D * \bar{y}_{ij}^D\right) \quad (1)$$

Estimation results are summarized in tables 1 and 2. The estimated savings of the global diaspora from developing countries is close to $400 billion (table 1). Although middle-income developing countries account for the bulk of diaspora stocks and estimated diaspora savings, the diaspora savings are more important for low-income countries as a share of their gross domestic product (GDP) – 9 percent versus 2.3 percent for middle-income countries.

The region with the largest estimated diaspora savings is Latin America and the Caribbean ($116 billion) followed by East Asia and Pacific ($84 billion), Europe and Central Asia ($73 billion) and South Asia ($53 billion). The estimated diaspora savings for Sub-Saharan Africa is $30.4 billion, and for the African continent including North Africa is nearly $53 billion. One of the reasons why the Latin America region has the largest diaspora savings is that its migrants are mostly in the United States and Western Europe, and have relatively higher incomes on average than migrants in other corridors. However, when expressed as share of gross domestic product (GDP) of the origin countries, diaspora savings range from 1.3 percent in East Asia and Pacific to 4.3 percent in North Africa.

Table 1: Diaspora savings of developing regions: Preliminary estimates

	Diaspora stock (millions)	Diaspora savings estimate, 2009 ($ billions)	Diaspora savings as % of regional GDP
Developing countries	**161.5**	**397.5**	**2.4%**
East Asia & Pacific	21.7	83.9	1.3%
Europe & Central Asia	43.0	72.9	2.8%
Latin America & Caribbean	30.2	116.0	2.9%
Middle East	9.3	18.9	3.5%
North Africa	8.7	22.3	4.3%
Sub-Saharan Africa	21.8	30.4	3.2%
South Asia	26.7	53.2	3.3%
Low income countries	*27.7*	*34.4*	*9.0%*
Middle income countries	*133.8*	*363.1*	*2.3%*

Source: Authors' calculations using the World Bank's *Migration and Remittances Factbook 2011* and World Development Indicators. See main text for assumptions for diaspora incomes and savings

Table 2: Diaspora savings of developing countries: Preliminary estimates

		Diaspora stock (mil.)	Diaspora savings est., 2009 ($ bil.)	Diaspora savings as % of GDP	Diaspora savings as % of domestic saving
Middle-income countries					
1	Mexico	11.9	46.9	5	26
2	China	8.3	32.0	1	1
3	India	11.4	31.0	2	8
4	Philippines	4.3	21.1	13	84
5	Turkey	4.3	13.8	2	16
6	Russia	11.0	12.3	1	4
7	Vietnam	2.2	10.6	12	42
8	Ukraine	6.5	10.0	9	57
9	Morocco	3.0	9.6	11	42
10	Pakistan	4.7	9.4	6	51
11	Romania	2.8	9.0	6	24
12	Colombia	2.1	6.4	3	13
13	Iran	1.3	6.2	2	..
14	Cuba	1.2	6.1	10	..
15	Egypt	3.7	6.0	3	26
16	Malaysia	1.5	5.9	3	8
17	Brazil	1.4	5.7	0.4	2
18	Jamaica	1.0	5.4	44	1636
19	El Salvador	1.3	5.1	24	..
20	Sri Lanka	1.8	4.5	11	59
Low income countries					
1	Bangladesh	5.4	4.6	5	30
2	Haiti	1.0	3.7	57	..
3	Afghanistan	2.4	2.6	22	..
4	Ghana	0.8	2.0	7	85
5	Ethiopia	0.6	1.9	6	157
6	Kenya	0.5	1.8	6	78
7	Somalia	0.8	1.8	..	..
8	Zimbabwe	1.3	1.6	34	..
9	Korea, Dem Rep.	0.3	1.4	..	..
10	Cambodia	0.4	1.3	13	73
11	Lao PDR	0.4	1.3	22	..
12	Congo, D.R.	0.9	1.1	10	59
13	Nepal	1.0	1.0	8	99
14	Myanmar	0.5	0.8	..	..
15	Uganda	0.8	0.6	4	32
16	Kyrgyz Republic	0.6	0.6	14	..
17	Liberia	0.4	0.6	67	..
18	Mozambique	1.2	0.6	6	265
19	Tajikistan	0.8	0.5	11	..
20	Tanzania	0.3	0.5	2	..

Source: Same as table 1.

The countries with the largest estimates of diaspora savings include Mexico ($47 billion), China ($32 billion), India ($31 billion) and the Philippines ($21 billion), reflecting their status as countries with significant emigration and a relatively prosperous diaspora (table 2). However, low income countries such as Bangladesh, Haiti, Afghanistan, Ghana, Ethiopia, Kenya, Somalia and Nepal, among others, also have significant diaspora savings above $1 billion each.

Furthermore, when compared with domestic savings, the estimated diaspora savings in developing countries tend to be quite large, in the range of 30-70 percent for many countries, suggesting that diaspora savings could play a role in increasing the available resources for investment in developing countries.

Caveats

This note has provided some preliminary "ballpark" estimates of diaspora savings of developing countries. These necessarily rough estimates are aimed at gaining a sense of the order of magnitude of potential diaspora savings as a prelude to gauging the potential market for diaspora bonds. Several caveats to these estimates have been discussed above. Perhaps the most important one is the lack of reliable and comparable data on some of the key variables of interest. For example, the data on migrant diaspora stocks are likely to be underestimated because of the extent of undocumented migration, particularly among developing (South) countries. The incomes of migrants and their savings propensity are estimates based on relatively conservative assumptions, but are subject to a margin of error. Finally, as discussed earlier, migrants tend to be concentrated in the working age groups, compared to both their origin countries, which tend have a relatively larger share of dependent children, and to the destination countries, which tend to have more elderly people. All of these suggest the need for improving the quality of data on the various aspects of migration and the incomes and wealth of migrants, including from household surveys, surveys of migrants, national censuses and market surveys.

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