

International Migration and Remittances

By Dean Yang

Between 1965 and 2000, individuals living outside their countries of birth grew from 2.2 percent to 3.1 percent of world population, reaching a total of 214 million people in 2010 (United Nations 2011). The remittances that these migrants send to origin countries are one of the largest types of international financial flows to developing countries.

This article is on remittances and their relationship with the economic development of the world's poorer nations. It will first review the definition, magnitude, and some basic characteristics of remittance flows. Then, it will treat the motivations for remittances, the impacts of remittances on development outcomes, and their role in helping origin-countries and – households respond to adverse shocks. It will conclude with thoughts about the immediate future of remittances and promising areas for future research on the topic.

Definition, magnitude, and basic characteristics

Remittances are household income received from overseas, primarily initiated by international migrants sending funds to home countries. Remittances may be sent as cash or in kind, and may flow through a variety of formal or informal channels. Formal channels include dedicated money transfer operators (e.g., Western Union, MoneyGram), banks, and credit unions. Informal channels include systems – such as *hawala* and *hundi* in South Asia and *padala* in the Philippines – operated by non-financial firms or brokers. In international balance of payments data, remittances are measured as the sum of two categories of transactions: “personal transfers” (all current transfers in cash or in kind made or received by resident households to or from nonresident households) and “compensation of employees” (earnings of temporary workers who are not resident in their host countries) (International Monetary Fund 2013.)

Since the late 1990s, remittances sent home by international migrants have exceeded official development assistance, and in several years have approached the magnitudes of foreign direct investment flows. Figure 1 graphs these four categories of financial flows to developing countries from 1991-2011. In 2011, migrant remittances sent to developing countries amounted to US\$353 billion. Developing country receipts of foreign direct investment (the largest type of international financial flow to the developing world) were less than double that figure (\$646 billion). Receipts of official development assistance (foreign aid) came in a poor third to remittances and FDI in 2011, amounting to just \$141 billion.¹ The World Bank estimates that remittances to developing countries will amount to \$414 billion in 2013 (Ratha et al 2013). Motivated by their large magnitudes, international financial institutions and developing country governments are keenly interested in finding policies that can stimulate remittances and enhance their development impacts.

Table 1 displays remittance data for the 10 largest remittance receiving countries, ranked by dollar value (column 1) and by share of GDP (column 2). The largest remittance receiving countries in 2013 by (estimated) dollar value are India and China, which received \$71 billion and \$60 billion respectively. The Philippines and Mexico are nearly tied for the next two places, receiving \$26 billion and \$22 billion respectively. When it comes to remittances as a share of

¹ Data are from the World Bank's World Development Indicators 2013. The 2008-09 financial crisis had a substantial negative impact on FDI flows, while remittances and ODA were by contrast relatively stable. In 2009, FDI, remittance, and ODA flows to developing countries were \$382, \$282, and \$126 billion, respectively.

GDP, on the other hand, rankings (based on 2012 data) are very different. Countries with small populations but large migrant flows end up at the top of this list, led by Tajikistan (where remittances amount to 48 percent of GDP) and followed by the Kyrgyz Republic (31 percent), Nepal (25 percent), Lesotho (25 percent), and Moldova (24 percent).

Remittances are not only large in aggregate magnitude. They are also prominent in the context of individual financial lives, making up a substantial fraction of migrant workers' earnings. Table 2 presents data on remittances sent as a fraction of earnings from several surveys of various migrant populations. For many migrant populations, the share of earnings remitted is substantial. Mexican migrants (surveyed upon return to Mexico) remit 31.1 percent of earnings, while migrants from El Salvador surveyed in the Washington, D.C. area in 2007-2008 report remitting 37.7 percent of their U.S. earnings. Senegalese in Spain remit 49.9 percent of earnings, and Ghanaians in Italy 23.3 percent. In other surveyed migrant populations, the share of remittances out of earnings is more modest: Moroccan immigrants in France remit 10.4 percent of earnings, Turks in Germany 2.1 percent, Chinese in Australia 6.1 percent, Filipinos in the U.S. 5.8 percent, and Cubans in the U.S. 2.3 percent.

Remittances differ from the other large types of international financial flows to developing countries — such as foreign direct investment and official development flows— in that they are sent at relatively high frequencies and in relatively small magnitudes. This pattern has been found in a diverse variety of migrant populations.

For example, Yang (2011) analyzes transaction-level data from a money transmitter in Washington DC, and finds that migrants from El Salvador sent an average of 16.9 remittances over a 12-month period in 2006-2007, with more than a fifth of migrants undertaking 26 or more remittance transactions (at least bi-weekly) over the period. The average amount sent per remittance was \$299.21, and the median was \$200. In 88.6% of transactions, the amount sent was \$500 or less. These patterns are consistent with other surveys of Hispanic immigrants in the United States. Orozco and Fedewa (2006) report that 81 percent of individual remittance transactions sent to a major bank in Guatemala were equal to or less than \$300. Bendixen (2008), in a survey of 5,000 Hispanics in the United States, found that 50 percent sent remittances on a regular basis, remitters sent on average 15 remittances per year, and the average amount sent per remittance was \$325. Other survey-based studies finding similar results include Menjivar et al (1998), DeSipio (2000), Clark and Drinkwater (2001), Bendixen (2001), Bendixen (2004a), Bendixen (2004b), and Amuedo-Dorantes, Bansak, and Pozo (2005).

Motivations behind remittances

The motivations for remittances are varied, and often overlap with motivations behind the original decision to migrate. Migration is frequently well-described as an investment on the part of the migrant and his or her family, where the returns to the investment take the form of higher earnings in a more-developed migration destination. In this context, remittances often constitute the portion of the investment return from migration that accrues to individuals in the migrant origin country (Clemens and Ogden 2013, de Haas 2010). Docquier and Rapoport (2006) provide a model of the remittance-sending decision that incorporates a variety of motives, including altruism, exchange (compensation for services rendered to the migrant by recipients), insurance, loan repayment, and investment, some or all of which could operate simultaneously.

Altruistically-motivated migrants could send remittances to increase recipient consumption levels (Stark, 1995), and may also be responsive to shocks experienced by

recipients and thus play an insurance function (Cox, Eser, and Jimenez, 1998; Gubert, 2002). Remittances may be intended for physical or human capital investments by recipients. Remittances could also have self-interested motivations, such as repayment of debts incurred for the migrant's education in the home country or the initial fixed costs of migration (Poirine, 1997; Ilahi and Jafarey, 1999). Remittances could also be intended for migrants' future investments in the home country, or for monitoring or administration of investment assets. Remittances may be sent to secure a future inheritance from elders being supported in the home country (Hoddinott, 1994, de la Briere et al., 2002, Osili, 2004).

Impacts of remittances

Remittances have a variety of impacts on recipient countries and households. Aggregate analyses of the relationship between remittances and economic performance at the country level are inconclusive. Some studies find a positive relationship between remittances and economic growth (Faini 2006, World Bank 2006, Barajas et al 2009), while others find a zero or negative relationship (Chami et al 2003, IMF 2005, Giuliano and Ruiz-Arranz 2005).

Studies using country-level data face inherent challenges in conclusively establishing causal impacts of remittances on national-level outcomes. Studies using data at the micro (household or individual) level can often delineate causal pathways more convincingly, and can also shed light on remittance impacts with greater detail and nuance.

Many papers argue that remittances rarely fund productive investments, and instead mainly allow higher consumption: for example, see Brown and Ahlburg (1999), and references cited in Durand et al. (1996). However, others have found that migration and remittance receipts are positively correlated with various types of household investments in developing countries. Examples include Brown (1994), Massey and Parrado (1998), McCormick and Wahba (2001), Dustmann and Kirchkamp (2002), Woodruff and Zenteno (2008), and Mesnard (2004) on entrepreneurship and small business investment in a variety of countries; Adams (1998) on agricultural land in Pakistan; Taylor, Rozelle, and de Brauw (2003) on agricultural investment in China; Cox-Edwards and Ureta (2003) and Adams (2005) on schooling investments in El Salvador and Guatemala respectively; and others. (Of course, neither consumption nor investment should be assumed a priori to be a "better" use of remittances. It could be optimal for households to use remittances mainly on consumption, particularly if they are starting from very low consumption levels.)

A key methodological concern with existing work that attempts to understand effects on households is that remittances are not randomly allocated across households. In general, therefore, any observed relationship between migration or remittances and household outcomes may simply be due to unobserved third factors, or reverse causation. A more recent research literature on the impacts of migration (and the associated remittance flows) seeks to go beyond establishing correlations (as interesting as they may be), and pays close attention to establishing causal impacts on outcomes of interest.

An experimental approach to establishing causal impacts of migration and remittances would randomly assign migration opportunities (or fluctuations in the size of remittances), and examine how households or localities in the migrant-source country are affected. While there are substantial practical obstacles to conducting such experiments, a number of studies have identified situations in the real world – or "natural experiments" – that in key respects approximate the randomized experiment just described.

One type of natural experimental study involves taking advantage of lotteries that migration destination countries have implemented to decide which of many applicants will receive a limited number of immigration visas. Lottery winners can then be compared with lottery losers, and any differences between the groups can be interpreted as due to differences in the opportunity to migrate. A number of papers have measured impacts of winning lotteries for immigration visas to New Zealand from Pacific island nations. Gibson, et al (2010) finds that Tongans moving to New Zealand due to winning the lottery increase their income 263 percent within the first year of moving, and also show improved mental health (Stillman, et al 2009), compared to lottery losers.

Gibson, et al (2011) then examine the impact of migrating due to visa lottery winning on household members remaining behind in Tonga. They find that per capita income and consumption of remaining household members are actually lower for left-behind household members of lottery winners, compared to similar individuals in lottery-loser households. This appears to be due to the fact that migrants send home lower amounts in remittances than they were earning domestically prior to migration. This negative finding does not appear universal, however. Gibson et al. (20XX) conduct a similar analysis among Samoan households with and without winners in the New Zealand immigration visa lottery, finding that migration due to winning the visa lottery led to lower poverty rates and higher household incomes among left-behind household members.

Another natural experimental approach to establishing the impact of migration and remittances was implemented by Clemens and Tiongson (2013). Their focus is on Filipinos applying to migrate to Korea for temporary contract work. Their analysis exploits the fact that eligibility for this migration opportunity was conditional on receiving a certain minimum score on a Korean language test. Applicants scoring at the score cutoff or above were deemed eligible, and those scoring below were not. Their analysis involves comparing applicants who scored at or just above the Korean test score cutoff, and those scoring just below, on the basis that scoring just above or just below is as good as randomly determined. They find that eligibility for this migration opportunity on the basis of the Korean test score leads to large increases in the likelihood of international labor migration. The origin households of successful applicants in turn receive higher remittances, have higher expenditures, and invest more in children's human capital 3-5 years later.

Another revealing type of natural experimental analysis takes advantage of shocks to the economic conditions of migrants, and examines how origin households are affected. Yang and Martinez (2005) and Yang (2008b) take advantage of the fact that a non-negligible fraction of households in the Philippines have one or more members working overseas at any one time. These overseas Filipinos work in dozens of foreign countries, many of which experienced sudden changes in exchange rates due to the 1997 Asian financial crisis. These exchange rate changes were unexpected and varied in magnitude across overseas Filipinos' locations. The net result was large variation in the size of the exchange rate shock experienced by migrants across source households. Taking advantage of this variation in the size of migrant exchange rate shocks, these papers examine the impact of the shocks on changes in outcomes in migrants' origin households. Yang (2008b) shows that more positive exchange rate shocks (from the standpoint of the migrant, appreciations of the overseas currencies in which they earn vs. the Philippine currency) lead to increases in remittances sent home. Households whose migrants experience more favorable exchange rate shocks raise their non-consumption disbursements in several areas likely to be investment-related—in particular, educational expenditures—and show

enhanced participation in entrepreneurial activities. Households raise hours worked in self-employment, and become more likely to start relatively capital-intensive household enterprises like transportation/communication services and manufacturing. By contrast, there is no identifiable effect of the exchange rate shocks on current household consumption. Yang and Martinez (2005) shows that these positive migrant exchange rate shocks also lead to lower poverty rates among migrant origin households.

One question that is often raised is whether remittance lowers recipients' incentive to work (sometimes referred to as a "dependency" effect of remittances). Across studies, there is little evidence of such an effect. Gibson et al (2011) find no statistically significant effect of migration due to visa lottery winning on labor supply of left-behind household members. Yang (2008b) find no effect of migrants' exchange rate shocks on wage labor in origin households, and actually finds a positive effect on hours worked in self-employment. The Clemens and Tiongson (2012) study also finds no effect of labor migration to Korea on labor supply of non-migrant origin household members.

Insurance role of remittances

Remittances may also bring benefits to origin households of migrants by serving an insurance role. Households in developing countries are exposed to a variety of types of risk, such as from shocks to weather or other determinants of agricultural productivity, economic fluctuations of other sorts, or adverse health events within the household. Overseas migrants could respond to adverse events in origin households by sending assistance in the form of increased remittances. Such insurance provided by migrants could help origin households maintain human capital investments, encourage them to adopt new (and riskier) production technologies or entrepreneurial activities.

Remittance flows in the aggregate do appear to rise in response to negative shocks at the country level. Mishra (2005) examines aggregate remittances in 13 Caribbean countries from 1980 to 2002 and finds that every 1 percent decrease in GDP is associated with a 3 percent increase in remittances two years later. Yang (2008a) examines the impact of hurricanes on international financial flows using country-level data, and finds that for poorer developing countries, remittances rise after countries are hit by hurricanes, and amounting to about one-fifth of the value of hurricane damages (a response about one-quarter as large as the response of foreign aid.)

Household-level analyses come to similar conclusions. For example, Yang and Choi (2007) ask whether migrant remittances serve as insurance by focusing on responses to income fluctuations driven by weather in the Philippines. Among households with migrant members, they find that remittances rise when incomes fall due to negative weather shocks. The amount of insurance provided is large, with about three-fifths of declines in income replaced by new remittances sent by migrants.

Concluding thoughts

Remittances will likely remain one of the most important types of international financial flows to developing countries. Increasing competition in the money transfer industry, leading to declines in remittance transaction costs, will drive continued strong growth of remittances. Innovations such as cellphone-based remittance services will make sending remittances more

and more convenient for migrants. The existing empirical evidence suggests that migrants are likely to respond to the reductions in transaction costs and increases in convenience by sending substantially more remittances in dollar terms (Aycinena, et al 2010.) As a result, remittances are projected to continue to grow in the coming years, reaching \$540 billion in 2016 (Ratha et al 2013).

There are attractive prospects for continued remittance-related innovation on the part of money transmitters and financial institutions, and collaborations with academics and the non-profit and government sectors. One direction for research is on the extent to which migrants value control over how recipients use remittances, for which there is emerging new evidence, for example in the area of control over savings in the home country (Ashraf et al 2012). It should be useful to explore the demand for and impact of improving migrant control over other remittance uses, such as human capital investments or investments in small enterprises. Such innovations may lead to enhanced impacts on economic development outcomes in home areas, and may also encourage migrants to send more remittances.

Another area where future investigations might focus is on reasons why remittances tend to be sent in low-value transactions, at high frequencies. This pattern is a puzzle, because of substantial per-transaction remittance fees. For example, remittances examined in Yang's (2011) sample, remittances to El Salvador typically incurred a flat fee of \$9 or \$10 per transaction. An open question is why remitters fail to minimize fees paid by sending large amounts relatively rarely. There are a number of possible explanations for low-value, high-frequency transactions, such as liquidity constraints on the part of senders, self-control problems on the part of senders or recipients, or risk of theft or loss on either the sender or recipient side of the transaction. Valuable future work could seek to shed light on the likely causes of this very prominent pattern in remittance sending behavior.

Notwithstanding recent advances in our knowledge on migration, remittances, and their impacts, much more remains to be learned. We are likely to see major advances on remittance-related questions in the coming years. It remains a fruitful area for future research and experimentation.

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Table 1: Top Remittance Recipient Countries

	Remittance Receipts (USD billions), 2013 estimate		Remittances received as % of GDP, 2012
India	71	Tajikistan	48
China	60	Kyrgyz Republic	31
Philippines	26	Nepal	25
Mexico	22	Lesotho	25
Nigeria	21	Moldova	24
Egypt	20	Armenia	21
Bangladesh	15	Haiti	21
Pakistan	15	Samoa	21
Vietnam	11	Liberia	20
Ukraine	9	Lebanon	17

SOURCE: Development Prospects Group, World Bank

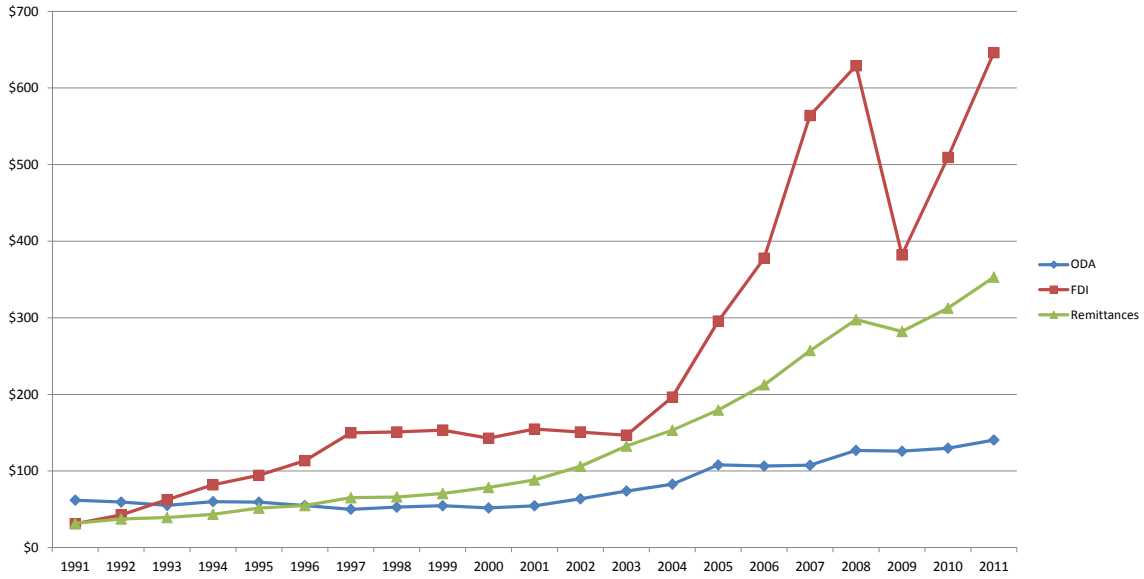
NOTES: Data on the dollar value of remittances received are estimated for 2013, and data on remittances received as share of GDP are from 2012. For estimation methodology, see Ratha et al (2013).

Table 2: Remittance Activity in Selected Migrant Origin-Destination Country Pairs

Origin Country	Migrant Destination Country	Average remittances as a percentage of earnings	Average Annual Remittances (\$ Value)	Data Source	N
China	Australia	6.09%	\$552	Australia LSIA	65
Morocco	France	10.37%	\$1,283	France 2MO	128
Turkey	Germany	2.14%	\$512	Germany SOEP	334
Ghana	Italy	23.28%	\$2,528	Italy NIDI	497
Senegal	Spain	49.91%	\$3,304	Spain NIDI	399
Mexico	United States	31.12%	\$4,125	MMP	1268
El Salvador	United States	37.72%	\$5,314	ESSMF	877
Philippines	United States	5.84%	\$958	US NIS	344
Cuba	United States	2.32%	\$398	US PEW	111

NOTES: Data are from the following sources: China-Australia: 1997 Longitudinal Survey of Immigrants to Australia (Australia LSIA), <http://www.immi.gov.au/media/research/lsia/>; Morocco-France: Survey of Households' Transfer of Funds to their Countries of Origin (France 2MO), Miotti, Mouhoud & Oudinet (2009); Turkey-Germany: 2000 German Socio-Economic Panel (Germany SOEP), http://www.diw.de/english/soep_overview/33899.html; Senegal-Spain: Netherlands Interdisciplinary Demographic Institute International Migration Survey (Spain NIDI), Groenewold & Bilsborrow (2004); Mexico-U.S.: Mexican Migration Project (MMP), <http://mmp.opr.princeton.edu/>; Philippines-U.S.: New Immigrant Survey (US NIS), <http://nis.princeton.edu/>; El Salvador-U.S.: El Salvador Survey of Migrant Families (ESSMF), Ashraf et al. (2012). Cuba-U.S.: Pew National Survey of Latinos (US Pew), <http://pewhispanic.org/datasets/signup.php?DatasetID=7>.

Figure 1: Remittances vs. Other International Financial Flows to Developing Countries (1990-2011)



Notes: Data are from the World Bank's World Development Indicators (WDI) 2013. Data are in billions of constant (2005) US\$, in total across developing countries (low and middle income as classified by World Bank). Variables displayed are: "Net official development assistance and official aid received (current US\$)", "Foreign direct investment, net inflows (BoP, current US\$)", and "Personal remittances, received (current US\$)".