

Remittances and Their Microeconomic Impacts: Evidence from Latin America

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Remittances, defined as the money transfers made by migrants to their families and friends back home, have increasingly captured the attention of policymakers as their magnitude keeps rising and their role in economic development becomes more obvious. Nowhere is this more true than in Latin America and the Caribbean (LAC), a region in which growth in domestic incomes and capital flows has stagnated while private transfers in the form of remittances have reached \$53.6 billion (Inter-American Development Bank 2006).

The flow of remittances to LAC countries is the highest and fastest growing in the world, exceeding foreign direct investment and net official development assistance to the region. Remittances surpass tourism income and almost always exceed revenues from the largest export in these countries, accounting for at least 10 percent of gross domestic product in six of them. Furthermore, remittances are the least volatile source of foreign exchange in many of these economies, thus playing a crucial role in economic development.

In what follows, I provide a general overview of the remitting patterns of migrants to the U.S. who are from Costa Rica, the Dominican Republic, Haiti, Mexico, Nicaragua, and Peru. Subsequently, I summarize some microeconomic evidence of the impact that remittances have on various spheres of economic development, as is the case with employment, business ownership, education, and health care investments in two LAC economies. These findings underscore the importance of remittances as a resource for the accumulation of human capital investments in education and health and as a determinant of employment patterns in remittance-receiving households in developing economies.

Data Sources

For the analysis of immigrant-remitting patterns, I rely on information from two companion data sets: the Mexican Migration Project (MMP) and the Latin American Migration Project (LAMP).¹ MMP started in 1982 to study the migration patterns of Mexicans within Mexico and to the United States. I use detailed social, demographic, and economic information from approximately 16,000 households in 93 communities in 17 Mexican states.² For each household, interviewers gather a complete life history for the household head that includes detailed information on past migration experiences in the United States. Afterward, interviewers travel to destination areas in the U.S. to administer identical questionnaires to households from the same communities in Mexico whose members have settled in the U.S. and no longer return home. Altogether, I work with a sample of 5,837 authorized and unauthorized Mexican immigrants.

LAMP, the companion set to MMP, uses the same methodology in a variety of other countries in Latin America and the Caribbean. Only one wave of data—collected between 1999 and 2003, depending on the country—is available so far. As such, I rely on data from immigrants who are from Costa Rica (192 respondents), the Dominican Republic (166), Nicaragua (161), Peru (61), and Haiti (36).

Latin American Immigrants' Remitting Patterns

What Percentage of Migrants Remits and How Much Do They Send Home?

Table 1 compares the percentage of immigrants sending money home across six Latin American and Caribbean countries. Of the 5,703 immigrants providing information regarding their remitting practices, 71 percent declare sending money home monthly during their last U.S. trip. This figure is in line with the more than 60 percent of immigrants from Nicaragua, Costa Rica, the Dominican Republic, Mexico, and Haiti remitting home. The portion of migrants sending money to their families monthly drops to 46 percent among the 52 Peruvian immigrants in the sample.

Table 1 also lists the average dollar amount (\$302 a month) remitted home by immigrants from these LAC nations. Yet, there are significant differences in the funds sent by migrants from these countries. For instance, money transfers are the smallest among immigrants from the Dominican Republic (\$179) and the largest among immigrants from Costa Rica (\$493).

Who Remits?

A longstanding series of empirical papers have noted that remittances differ according to immigrants' ages, family responsibilities back home, earnings, and

Table 1
What Share of Migrants Remits and How Much?

Variables	All countries			Costa Rica			Dominican Republic			Haiti		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
Migrants remitting	5,703	.71	.46	167	.69	.46	154	.67	.47	19	.74	.45
Average amount remitted (monthly)	4,034	301.68	418.48	115	492.91	865.46	103	179.18	195.31	14	284.56	251.78
Variables	Mexico			Nicaragua			Peru					
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
Migrants remitting	5,179	.71	.45	132	.61	.49	52	.46	.50			
Average amount remitted (monthly)	3,698	300.43	403.35	80	223.18	255.03	24	376.55	371.75			

NOTES: N = number of observations; SD = standard deviation. Amounts in U.S. dollars.

SOURCES: Author's tabulations using data from the Mexican Migration Project and the Latin American Migration Project.

temporary versus permanent status (Taylor 1999; de la Garza and Lowell 2002). Table 2 examines these characteristics as well as the variability of immigrants' remitting patterns and remitting purposes according to whether they were authorized upon entry, their educational attainment, decade of visit, and area of residence in the United States. Several findings are worth discussing.

A higher share of unauthorized immigrants (75 percent) than legal immigrants (64 percent) remits money home. Likewise, less educated immigrants appear more likely to remit than their more educated counterparts (59 percent versus 50 percent, respectively). Yet, by country, there are no statistically significant differences in the remitting likelihood of less and more educated immigrants.

Other interesting findings refer to remittance trends. According to Table 2, a higher fraction of Latin American immigrants has transferred money to family during the present decade than in the 1990s. This is indeed the case for Costa Ricans, Dominicans, Peruvians, and Mexicans. The opposite trend is observed among Haitians, though the limited number of observations for Haiti calls any conclusions into question.

A final result revealed by Table 2 is the change in remitting patterns according to where immigrants resided in the United States. Immigrants were more likely to remit (73 percent versus 67 percent) if they resided in smaller cities or rural areas rather than big cities. This finding is partially a by-product of the sample's larger number of Mexicans, most of whom were employed in the agriculture sector. However, in the case of Dominicans and Nicaraguans, the percentage of remitting immigrants was larger among those who last resided in a big U.S. city. This pat-

Table 2
Who Remits?

Variables	All countries		Costa Rica		Dominican Republic		Haiti	
	Share	t-stat	Share	t-stat	Share	t-stat	Share	t-stat
<i>By documentation status:</i>								
Legal	.64	–	.66	–	.68	–	.69	–
Unauthorized	.75	–8.36	.80	–1.76	.57	.75	1.00	–2.61
<i>By educational attainment:</i>								
Up to 15 years	.59	–	.60	–	.69	–	.75	–
16 years-plus	.50	2.37	.33	1.48	.73	–3.35	.50	.48
<i>By decade of visit:</i>								
During 1990s	.67	–	.45	–	.58	–	.92	–
2000 and later	.79	–9.79	.81	–4.76	.83	–3.39	.33	2.63
<i>By area where they stayed in the U.S.:</i>								
Not a large city	.73	–	.68	–	.54	–	.70	–
Large city	.67	5.42	.78	–.86	.73	–2.28	.78	–.37
Variables	Mexico		Nicaragua		Peru			
	Share	t-stat	Share	t-stat	Share	t-stat		
<i>By documentation status:</i>								
Legal	.66	–	.57	–	.44	–		
Unauthorized	.75	–7.34	.80	–2.22	1.00	–7.90		
<i>By educational attainment:</i>								
Up to 15 years	.58	–	.56	–	.56	–		
16 years-plus	.50	1.44	.53	29.37	–	1.29		
<i>By decade of visit:</i>								
During 1990s	.68	–	.56	–	.22	–		
2000 and later	.79	–8.92	.67	–1.28	.64	–3.42		
<i>By area where they stayed in the U.S.:</i>								
Not a large city	.75	–	.56	–	–	–		
Large city	.66	6.56	.73	–1.82	–	–		

NOTES: The null hypothesis being tested is whether the two shares are significantly different from each other. Information on migrant residency while in the U.S. is not available in the Peruvian survey.

SOURCES: Author's tabulations using data from the Mexican Migration Project and the Latin American Migration Project.

tern may be simply indicative of the location preferences of emigrants from these countries; for example, Dominicans may primarily concentrate in New York City.

For What Purposes Do They Remit?

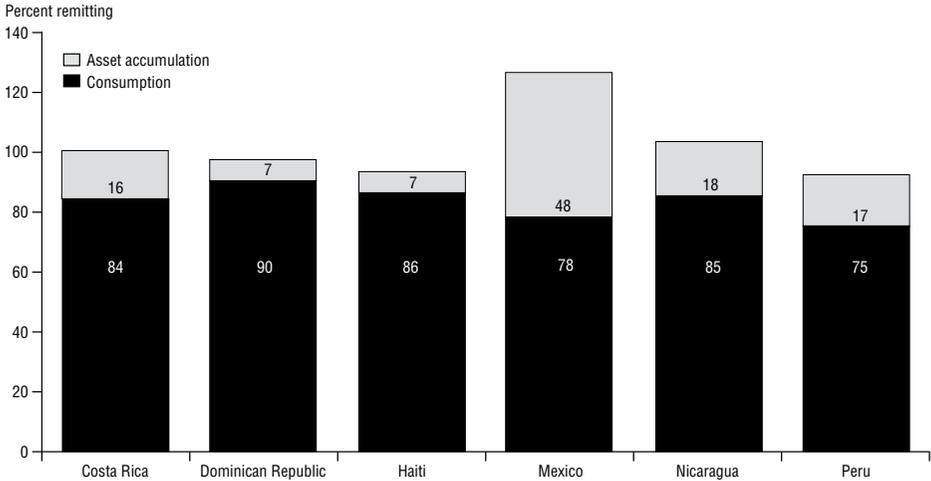
The literature has long examined immigrants' remitting motives (Amuedo-Dorantes, Bansak, and Pozo 2005). A variety of reasons have been identified, including altruism, exchange, investment, and co-insurance.

The altruism motive suggests that remittance payments made by migrants to their families increase with the needs of household members back home (Becker 1974). The exchange motive, or at least one of the motives, refers to existing evidence of immigrants repaying family members and friends back home for financing their trips (Cox 1987). Another motive discussed in the literature is investment, which occurs when immigrants remit money home to purchase assets with the intent of earning an economic return. Finally, Lucas and Stark (1985) brought attention to yet another motive for sending money home: co-insurance. Both immigrants and family members/friends provide monetary and in-kind transfers to each other to hedge against economic shocks.

MMP and LAMP ask remitters about the purpose for sending money home. Remitters are allowed to choose up to five motives. For practical purposes, these motives can be grouped into "consumption" or "asset accumulation/investment," depending on whether remittances are sent to cover the consumption needs of families and friends back home or to be invested in productive activities. Which expenditure categories should constitute consumption versus asset accumulation is debatable, particularly when it comes to assets such as housing. However, for this presentation, I group under the category of consumption the following expenditures: food and maintenance, purchase of a vehicle, purchase of consumer goods, financing a special event, recreation/entertainment expenses, and debt payments. Asset accumulation comprises the following: construction or repair of a house, purchase of a house or lot, purchase of tools, purchase of livestock, purchase of agriculture inputs, start/expand a business, education expenses, health expenses, and savings.

Figure 1 addresses migrants' remitting motives in a variety of countries. Because migrants can indicate up to five motives, the percentages of migrants sending money back home for consumption and asset accumulation purposes do not add to 100. According to Figure 1, consumption is the overwhelming purpose behind immigrants' remitting practices. Yet, a nontrivial fraction of remitters indicates asset accumulation as a reason for sending money home. Consumption appears to be a more pressing remittance motive for immigrants coming from the Dominican Republic, Haiti, Nicaragua, Costa Rica, and Peru. Only a small fraction of immigrants from each of those economies (not more than 18 percent) indicates sending money home for asset accumulation purposes.

Figure 1
For What Purposes Do Migrants Remit



NOTE: Percentages do not add up to 100 because more than one purpose may be reported.

SOURCES: Author's tabulations using data from the Mexican Migration Project and Latin American Migration Project.

Microeconomic Evidence: Implications of Remittance Inflows

One reason policymakers and development organizations are paying more attention to migrant remittances is that they constitute a significantly larger, less volatile, and more reliable source of financial-development aid than foreign aid and other public transfers. As such, much of the focus on remittances has been oriented toward measuring the impact of these money transfers on the receiving economies. In what follows, I summarize some of the key findings from my work with Susan Pozo regarding the implications of remittances on the employment, business ownership, education, and health care investments carried out by receiving households, using data from the Dominican Republic and Mexico. Overall, remittances have the potential to significantly alter household labor supply patterns.

Remittance-Receiving Households and the Labor Supply

Among the ways remittances can impact economic development is via their effect on the employment patterns of men and women in remittance-receiving areas (Funkhouser 1992; Rodriguez and Tiongson 2001). Amuedo-Dorantes and Pozo (2006a) examine the impact of remittances from Mexican migrants on the supply of working-age men and women in Mexico, using data from the Encuesta

Nacional de Ingresos y Gastos de los Hogares (ENIGH). ENIGH is a nationally representative income and expenditure survey carried out biennially by the Mexican statistical institute since the late 1980s. Using data on sixteen- to sixty-four-year-olds from the 2002 ENIGH—the most complete wave yet—we (1) account for the endogeneity of remittance income with respect to the labor-supply patterns of individuals in remittance-receiving households,³ and (2) examine differences in the hours worked in various types of employment by men and women in urban and rural areas in response to this income. We find that remittances seem to be associated with variations in the allocation of the male labor supply across various types of employment. In contrast, remittances are accompanied by an overall drop in the female labor supply resulting from reductions in informal-sector and nonpaid work in rural areas.

What might account for these differences? One plausible explanation is that when measuring the labor-supply impact of remittances, the income effect from these monetary inflows is confounded by the disruptive effect of the preceding out-migration of family members. The income effect appears to dominate in the case of women in rural areas, who seem to be using remittances to purchase time away from informal and nonpaid work. Likewise, higher remittance incomes appear to be associated with reduced male labor supply in formal-sector work and urban self-employment. However, among men, the income effect seems offset by a higher incidence of informal-sector employment, possibly signaling the disruptive effect of household out-migration. Overall, remittances have the potential to significantly impact household labor-supply patterns in remittance-receiving countries.

Remittances and Business Ownership

The development literature has long emphasized the important role that remittance inflows can play in promoting microentrepreneurship by lifting budget constraints in areas with poor access to credit (Woodruff and Zenteno 2001). Using household-level data from the Dominican communities in LAMP, Amuedo-Dorantes and Pozo (2006b) examine the links between remittance receipt and business ownership. Recognizing their likely joint determination, we estimate a system of simultaneous probit models examining the likelihood of both events. In this manner, we are able to identify some of the determinants.

While it has been suggested that workers' remittances may loosen the capital constraints of households in developing economies with regard to business ownership, our findings do not support this hypothesis in the case of the Dominican Republic. Specifically, household remittance receipt appears to be associated with a lower household likelihood of business ownership. Why does this occur? One possibility is that remittances are used to fulfill basic consumption needs, contribute to the housing stock, increase the availability of health care for individuals, or contribute to the education of household members.

Although remittance receipt does not appear to enhance the household's likelihood of business ownership, business owners seem more likely than non-business owners to receive international remittances. One explanation is that the existence of a family business may signal to emigrants the availability of good investment opportunities in the home community. Another is that emigrants may send money home in order to claim household assets upon their return; that is, remittances may respond to a bequest motive.

Remittances and Educational Investments Back Home

Remittances can also influence economic development via their impact on educational investments (Edwards and Ureta 2003). Using LAMP's Dominican survey data, known as LAMP-DR7, Amuedo-Dorantes and Pozo (2006c) work with a sample of school-age children from 907 households who were interviewed in seven Dominican communities in 1999 and 2000. Our purpose is twofold: (1) to examine how remittances impact the household's decision to invest in education while attempting to account for the disruptive impact of household out-migration, and (2) to consider the differential impact of remittance inflows on the distribution of educational investments by gender.

We take advantage of the fact that only 44 percent of children in remittance-receiving households have family members abroad to examine the impact of remittances on the educational attainment of children in households without migrants relative to all other children. Specifically, we examine the effect of remittance inflows on the likelihood that children have an age-appropriate education, which we refer to as being "academically on target."

We find that the receipt of remittances has no discernible impact on the likelihood of achieving an age-appropriate education among children when we include in our sample households with, as well as without, migrants. However, remittance receipt is associated with a significantly higher likelihood of being academically on target among children in households without migrants. The difference suggests that among children in households with migrants, remittance income may help neutralize the disruptive effect of household out-migration on children's educational attainment.

We also look at the differential impact of remittance inflows on the educational attainment of boys as compared with girls. When we do not distinguish among children according to whether the household has migrants currently abroad, girls seem to benefit significantly more than boys from the receipt of remittances by the household. However, when we focus on children in households without migrants, the receipt of remittances benefits both boys and girls. Again, the difference suggests that the disruptive effect of household out-migration disproportionately falls on boys. Furthermore, the findings suggest that remittances help palliate the negative impact of household out-migration on the educational attainment of boys while also helping girls.

Remittances and Health Care Expenditures of Families in Mexico

Finally, remittances have also been deemed responsible for changes in health outcomes (Kanaiaupuni and Donato 1999; Levitt 1997; López-Córdova 2006; Dur-yea, López-Córdova, and Olmedo 2005). Using Mexico's 2002 wave of ENIGH, Amuedo-Dorantes and Pozo (2006d) examine the impact of remittance income on the health care of Mexican families by income strata.

We find that international remittances increase both the likelihood and level of spending on health care. We also find that the sensitivity of health care expenditures to variations in the level of international remittances by and large exceeds the impact of nonremittance income, thus hinting at the critical role played by remittances in this type of household expenditure. Finally, remittance income has significantly greater influence in shaping the health care expenditures of households in lower-income quartiles relative to those of households in higher-income quartiles. In particular, a one-peso increment in remittance income raises the health care expenditures of households in the bottom income quartiles by 21 percent, whereas a similar increment in remittances increases the health care expenditures of households in the top income quartiles by only 4 percent. As such, remittance income has the potential to significantly impact health care expenditures among poorer households.

Hence, our findings add to the existing evidence on remittances as a valuable resource for human capital investments among lower-income households in developing economies.

Concluding Remarks

This presentation covers the similarities and differences in remitting patterns of Latin Americans in the United States. About 70 percent of immigrants in the sample declare remitting money home on a monthly basis during their last U.S. trip. On average, migrants remitted just over \$300 a month. Yet, these figures significantly varied across countries, with Dominicans sending an average of \$179 and Costa Ricans as much as \$493.

The data confirm that consumption is the overwhelming and increasingly more important motive for sending money home. However, a non-negligible fraction of immigrants indicates asset accumulation as one motive for transferring money to their families, particularly in Mexico.

I also summarize previous findings that show how remittance funds can significantly impact the employment, education, and health care use of their recipients and, in this manner, help shape the economic development of receiving areas. Altogether, given the role of remittances in shaping household decision-making, the findings suggest that policymakers take the differences in remit-

tance patterns across various Latin American countries into consideration when designing policies that maximize the economic potential of these money flows in improving the livelihoods of their recipients.

Notes

- ¹ The Mexican Migration Project and the Latin American Migration Project are collaborative research projects based at Princeton University and the University of Guadalajara, supported by the National Institute of Child Health and Human Development (NICHD). Their website can be found at <http://mmp.opr.princeton.edu>.
- ² The sample covers communities in the states of Aguascalientes, Baja California Norte, Chihuahua, Colima, Durango, Guanajuato, Guerrero, Hidalgo, Jalisco, Michoacán, Nayarit, Nuevo León, Oaxaca, Puebla, San Luis Potosí, Sinaloa, and Zacatecas.
- ³ One source of this endogeneity is in the potential for reverse causality between remittance flows and labor-supply patterns in the country of origin. In particular, while remittances may impact the labor-supply decisions of individuals in the receiving household, it is also true that the employment or unemployment patterns of individuals at home may drive migrants' remitting patterns. As such, the causality runs in both directions.

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