CONFERENCE EDITION

Close to Home

The Development Impact of Remittances in Latin America

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The manuscript for this conference edition disseminates the findings of work in progress to encourage the exchange of ideas about development issues.

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FOREWORD

A booming interest in the topic of workers' remittances has developed over the past few years on the part of academics, donors, international financial institutions, commercial banks, money transfer operators, microfinance institutions, and policy makers. This should not be a surprise. Remittances currently represent about one-third of total financial flows to the developing world. Total remittance flows are larger than official development assistance flows and, in many countries, than foreign direct investment flows. More importantly, current trends suggest that remittances flows will continue to increase in the next few years.

The World Bank is devoting significant attention to the topic of remittances and is stepping up efforts to better understand how migration and remittances can contribute to poverty reduction. In addition to several books edited by World Bank staff, one of the Bank's flagship publications, *Global Economic Prospects*, had international migration and remittances as its central theme in 2006. *Close to Home: The Development Impact of Remittances in Latin America*, a report in the Regional Studies Series of the Office of the Chief Economist for Latin America, is a further effort in this direction and should be viewed as an integral part of the Bank's program on migration and remittances.

The report analyzes the characteristics of households that are remittance recipients and how these characteristics affect the poverty-reducing impact of observed remittances flows. It also devotes significant attention to the macroeconomic impact of these flows, and explores policies and interventions aimed at enhancing the development impact of remittances in the region. On the whole, the main messages that emerge from *Close to Home* are quite positive. Even though the estimated impact is moderate in most cases and country heterogeneity is very significant, higher remittances inflows tend to be associated with lower poverty levels and with improvements in human capital indicators (education and health) of the recipient countries. Remittances also seem to contribute to higher growth and investment rates and lower output volatility. Against this background, remittances are to be welcomed and actions that lower the cost of remitting and therefore attract additional flows should be encouraged.

These results, however, come with a number of important qualifiers that deserve the attention of the region's policy makers. For one, the migration of workers that precedes remittances flows is not without costs. Besides the social disruptions that take place when a parent migrates and leaves his or her children behind, there are potential losses of income associated with migrants' absence from their families and communities. Moreover, as a result of migration patterns, some countries have lost significant portions of their college-educated populations.

Similarly, the magnitude of remittance flows relative to the size of receiving economies implies that remittances may also pose a number of important policy challenges. *Close to Home* explores these challenges and studies potential policy responses—for example, countries experiencing Dutch disease effects may want to rely more on indirect than direct taxation. And in the vein of other World Bank reports, in which the impact of international financial flows other than remittances (such as aid) has been found to depend on the policy environment of the recipient country, *Close to Home* argues that countries are not equally capable of exploiting the potential

benefits of migration and remittances: countries with better institutions and economic management appear to obtain a higher payoff from these flows. In other words, migration and remittances are a complement to rather than a substitute for good economic policies.

We believe *Close to Home: The Development Impact of Remittances in Latin America* to be a valuable contribution to the regional debate on how to enhance the positive effects of remittance flows. The World Bank is committed to enriching and learning from this debate and to supporting the efforts of countries in Latin America and the Caribbean to improve the living standards of the poor.

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The report was prepared by a team led by Pablo Fajnzylber and J. Humberto López, and comprising Pablo Acosta, Cesar Calderón, Massimo Cirasino, Paola Granata, Mario Guadamillas, María Soledad Martínez Peria, Yira Mascaro, Florencia Moizeszowicz, Caglar Ozden, Pedro Olinto, and Emanuel Salinas. Luis Molina, from the Bank of Spain, also collaborated with the project while he was visiting the World Bank in early 2006. Guillermo Beylis and Namsuk Kim provided excellent research assistance at different times during the project.

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EXECUTIVE SUMMARY

Workers' remittances have become a major source of financing for developing countries and are especially important in Latin America and the Caribbean (LAC), which tops the ranking of remittances-receiving regions in the world. Remittances in LAC represent about 70 percent of foreign direct investment (FDI) and are five times larger than Official Development Assistance. To a large extent this is a recent phenomenon, which is reflected in the scarcity of standardized data both at the aggregate and the microeconomic level. In fact, two decades ago, remittances to LAC represented only one tenth of their current value, in real terms. Not surprisingly, during recent years development practitioners in the region have grown increasingly interested in understanding the nature, potential development impact, and policy implications of remittances flows.

While there has been a recent surge in analytical work on worker's remittances, *Close to Home: The Development Impact of Remittances in Latin America* (henceforth *Close to Home*) is motivated by the large heterogeneity in migration and remittances patterns across countries and regions, and by the fact that existing evidence for LAC is restricted to only a few countries—for example, Mexico and El Salvador. Thus, as the nature of the phenomenon varies across countries, its development impact and policy implications are also likely to differ in ways that at present are still largely unknown. This study attempts to help fill this gap by exploring, in the specific context of Latin American and Caribbean countries, some of the main questions faced by policy makers when trying to respond to increasing remittances flows.

What is the profile of Latin American and Caribbean migrants and remittances recipients? How do these flows affect poverty and inequality? Do remittances contribute to higher investment and faster growth, or are they mainly directed towards consumption? Are remittances recipients more or less likely to keep their children in school? Does labor supply diminish as a result of remittances inflows? Does financial development accelerate in recipient countries? Are there negative Dutch disease effects? What are the challenges faced by policy makers in order to make the best of remittances flows and enhance their developing impact? What changes in the regulatory environment are needed in order to minimize transaction costs in remittances transfers while maintaining system security?

While *Close to Home* does not attempt to provide definitive answers to all these questions, the goal is to present a well-grounded general picture of how the various economic effects of remittances vary across the recipient countries of the region. That does not mean, however, that the study is based only on micro-econometric country case studies—performed when possible with a common methodological approach and using household survey data for as many as 11 countries. The study also makes use of cross-country analysis based on large samples of countries encompassing other regions of the world. Whenever possible our approach is to use those cross-country frameworks to investigate potential LAC specificities in terms of the development impact that remittances may have in the region.

A first set of findings relates to the socioeconomic characteristics of LAC migrants and remittances recipients. For the latter, household surveys analyzed in the study show that their

characteristics vary considerably across countries, both in terms of their position in the income distribution and their educational attainment. In some cases (for example, Mexico and Paraguay), households with remittances come primarily from the bottom of the income and educational distribution; the opposite pattern is found in others (for example, Peru or Nicaragua). As a result, the impact of remittances on poverty and inequality cannot be expected to be the same across the different countries of the region. Moreover, differences in migration patterns are also relevant to the size of remittances flows, which the study shows to be inversely related to migrants' educational levels.

The existence of a sizable heterogeneity in migration patterns is confirmed by U.S. census data, which show that Mexican and most of the Central American migrants are drawn from the lower end of the education spectrum of their home countries. By contrast, migrants from the Caribbean and South America tend to be proportionally more educated than those who remain behind. One possible explanation of this finding is that it is relatively less costly for Mexican and Central Americans to migrate to the United States, whether through legal channels using family preferences or without proper documentation. On the other hand, the cost of migration may be higher in South America and the Caribbean, making it an option only for those with higher levels of schooling and income.

Another relevant finding is that while Mexico and Central America tend to top the ranking of migrants in absolute terms, small Caribbean islands clearly dominate the charts when migration is measured in relation to each country's population. As of 2000, on average 30 percent of the labor force of many Caribbean islands had migrated, as opposed to about 10 percent for non-Caribbean countries (6 percent for South America). Moreover, the data confirm that "brain drain" is a serious problem for many small Caribbean countries. More than 80 percent of people born in Haiti, Jamaica, Grenada, or Guyana who have college degrees live abroad, mostly in the United States. On the other hand, fewer than 10 percent of college graduates from South America, and between 15 and 20 percent of those from Mexico and Central America, have migrated.

As for the development impact of migration and remittances, *Close to Home* suggests both good and bad news. Among the former is the finding that remittances have a generally positive impact in terms of reducing poverty and inequality. Not so good, however, is the news that the above effects are generally modest. For poverty, the study's cross-country and micro-based estimates indicate that for each percentage point increase in the share of remittances to gross domestic product (GDP), the fraction of the population living in poverty is reduced by an average of about 0.4 percent. However, household survey-based estimates suggest that migration and remittances reduce poverty headcounts in only 6 out of the 11 LAC countries for which data is available—the exceptions being Mexico, Nicaragua, Paraguay, Peru, and the Dominican Republic—and they reduce poverty gaps in only three cases—Ecuador, Guatemala, and Haiti. In two cases, the Dominican Republic and Nicaragua, we even found that those flows were linked to small increases in extreme poverty.

Similarly, the differences between observed Gini coefficients and those that would have prevailed in the absence of migration and remittances are generally small. The largest reductions are obtained for Haiti (7.7 percent), Guatemala (2.9 percent), El Salvador (2.1 percent),

Nicaragua (1.8 percent), and Honduras (1.1 percent). The inequality-reducing effects of migration and remittances are much smaller in the other countries, and small increases in the Gini coefficients are obtained for Mexico and the Dominican Republic.

A similar story applies to the impact of remittances on investment and growth. Indeed, while the estimated effects are positive and respond to corrections for the potential endogeneity of remittances and the use of a wide set of control variables as potential investment and growth determinants, their magnitude is relatively small in economic terms. As an example, the increase in remittances observed for the average Latin American country in our sample from 0.7 percent of GDP in 1991–1995 to 2.3 percent of GDP in 2001–2005 is estimated to have led to an increase of only 0.27 percent per year in per capita GDP growth, of which about one-half is estimated to be due to increased rates of domestic investment. However, on the positive side, we also find that remittances behave countercyclically in most countries of the region and increase sharply after macroeconomic crises. Moreover, after controlling for various sources of external and policy shocks, we find that remittances significantly reduce growth volatility, both directly and by diminishing the impact on the economy of external and macroeconomic policy shocks.

Close to Home also reviews microeconomic channels through which remittances could affect growth, namely through household savings and expenditure patterns, human capital outcomes, labor supply, and entrepreneurship. Once again the results are quite mixed, both across countries and between different socioeconomic groups within each country. On the positive side, we found evidence that remittances are not entirely consumed—that is, households save a positive fraction of remittances income. However, while saving rates increase among poorer recipient households, the opposite effect is obtained for richer ones. By contrast, while the composition of household expenditures is altered in the direction of increasing human capital investments, with the exception of Mexico, this effect is restricted to households located in the middle to upper segments of the income distribution.

With regard to human capital, there is evidence that for some specific groups—defined by country, gender, and urban status—remittances increase children's educational attainment. However, the impact is often restricted to children with low levels of parental schooling. In the case of health outcomes, we were able to analyze only two cases—Nicaragua and Guatemala—and found that in both countries remittances improved children's health, particularly among low-income households. A positive link is also found between remittances and entrepreneurship, but the effects, once again, vary considerably by income quintile. Finally, although the effects are often restricted to individuals with low levels of schooling, we find that remittances have a negative effect on labor supply, which as mentioned below could contribute to the exacerbation of potential Dutch disease effects (i.e. the loss of external competitiveness resulting from a real exchange rate appreciation associated with a surge in remittances).

A complementary channel through which remittances could promote economic growth is by increasing access to financial services among recipient households and promoting an overall increase in the level of financial development of recipient countries. This effect is indeed present in Latin America, but it is weaker than in the rest of the developing world. Moreover, at the microeconomic level, remittances are found to increase access to deposit accounts, but the use of credit by recipient households remains unchanged. Among the implications of these findings is

the need to step up ongoing efforts by financial institutions and regulators to increasingly "bank" migrants and remittance recipients.

Another important policy challenge facing recipient countries is that, at least in Latin America, remittances are found to be accompanied by real exchange rate appreciation pressures. While this is consistent with natural adjustments towards new equilibriums following positive shocks (that is, the surge in remittances), evidence in this study suggests that at least a fraction of the observed appreciations is linked to real exchange rate misalignments. That, in turn, justifies the desire by policy makers to take mitigating actions in order to minimize competitiveness losses owing to remittances. While there are no general answers to the question of how to respond to possible misalignments, the study discusses various possibilities, including the use of fiscal policy restraint while avoiding the sterilization of remittances inflows, and the use of microeconomic interventions aimed at reducing rigidities in labor and product markets.

In addition to addressing the potential external competitiveness problems mentioned above, *Close to Home* shows that policy makers can take actions in traditional economic reform fronts that are estimated to enhance the development impact of remittances. Indeed, we show that progress in the areas of education, institutional quality, and the macroeconomic policy environment can contribute to increase the positive impact of remittances on growth. While deepening reforms on these areas would be desirable even in the absence of remittances, it becomes even more important when those flows are significant.

Finally, there are also policy challenges associated with the regulatory environment for remittances services. Recent high-level multilateral initiatives led by the World Bank have produced a set of "General Principles for International Remittances Services." These principles cover key features and functions that should be satisfied by remittances systems, providers, and financial intermediaries to reduce the costs of sending remittances while avoiding criminal misuse of remittance channels. To address this issue, the study's recommendations include actions that would ensure contestability in remittances markets by establishing regulatory requirements that balance the need to maintain security in the system with the goal of eliminating hurdles to bona fide entrants. Moreover, the study recommends that unduly burdensome regulatory barriers to the direct or indirect use of payment and settlement systems be removed. At the same time, regulators and service providers should take a proactive stance to increase market transparency and accessibility to financial services among remittances senders and recipients.

On the whole, the overall conclusion of *Close to Home* is that remittances are an engine for development, but they are neither "manna from heaven" nor a substitute for sound development policies. First, the migration flows that logically precede surges in remittances are not without costs, both for the households directly affected and their countries. For instance, once reductions in households' earnings-generating potential are taken into account, net income increases fall well below observed remittances inflows—simply because the migrant was usually economically active. As a result, the potential poverty and inequality reduction of remittances is, in most cases, quite modest. Similarly, while there are some positive growth-enhancing effects associated with remittances—for example, higher savings, human capital investments, increased

entrepreneurship, and higher bank deposits—the bottom-line effects on investment rates and per capita GDP growth are relatively small.

Second, the way countries benefit from remittances appears to be positively related to a given country's institutional and macroeconomic environments. Thus, countries that rank low on these fronts should expect even more modest impacts from remittances. In addition, if one considers that remittances may reduce labor supply and lead to real exchange rate over-valuation, it becomes clear that countries experiencing large remittances inflows will also face considerable policy challenges that may require corrective actions. Thus, given the positive effects of remittances, the private nature of remittances flows, and the fact that they may be here to stay, it appears that a healthy stance is to combine measures to minimize negative effects on competitiveness with a focus on complementary growth-enhancing policies and improvements in the regulatory environment that seek to promote secure and low-cost remittances services.

ABBREVIATIONS

ACH/FedACH	Federal Reserve Bank's Automated Clearing House
AFDC	Aid to Families with Dependent Children
AML/CFT	Anti-money laundering/combating the financing of terrorism
ATE	Average treatment effect
ATM	Automated teller machine
BANSEFI	Banco de Ahorro Nacional y Servicios Financieros
BBVA	Banco Bilbao de Vizcaya
BI	Banco Industrial
BIS	Bank for International Settlements
BOP	Balance of payments
CCT	Conditional cash transfer
CEMLA	Centro de Estudios Monetarios Latinoamericanos
CEPAL	Comisión Económica para América Latina
CIME	Coalición Internacional de Mexicanos en el Extranjero
CNBV	Comisión Nacional Bancaria y de Valores
CPI	Consumer price index
CPSS	Committee on Payments and Settlement Systems
ECA	Europe and Central Asia Region
ENEMDU	Encuesta de Empleo, Desempleo y Subempleo
FATF	Financial Action Task Force
FDI	Foreign direct investment
FUSADES	Fundación Salvadoreña para el Desarrollo Económico y Social
GDP	Gross domestic product
GEP	*Global Economic Prospects*
GMM	Generalized method of moments
HAZ	Height-for-age Z-score
IADB/IDB	Inter-American Development Bank
ICRG	International Country Risk Guide
IFI	International financial institution
IFPRI	International Food Policy Research Institute
IHSI	Institut Haïtien de Statistiques et Informatique
IMF	International Monetary Fund
INEC	Instituto Nacional de Estadísticas y Censos
IOSCO	International Organization of Securities Commissions
IRnet	International Remittances Network
IV	Instrumental variables method
LAC	Latin America and the Caribbean Region
LDC	Least developed countries
LPM	Linear probability model

MECOVI	Programa para el Mejoramiento de las Encuestas de Hogares y la Medición de Condiciones de Vida en América Latina y el Caribe
MIF	Multilateral Investment Fund
MTO	Money transfer operator
MXP	Mexican pesos
NBER	National Bureau of Economic Research
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
OFAC	Office of Foreign Assets Control
OLS	Ordinary least squares method
PPP	Purchasing power parity
PRAF	Programa de Asignación Familiar
PROFECO	Procuraduría Federal del Consumidor
PWT	Penn World Tables
REER	Real effective exchange rate
RPS	Red de Protección Social
RSP	Remittances service providers
SWIFT	Society for Worldwide Interbank Financial Telecommunication
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USD	United States dollars
WAZ	Weight-for-age Z-Score
WDI	*World Development Indicators*
WIDER	World Institute for Development Economics Research
WOCCU	World Council of Credit Unions

Dollars are June 2006 U.S. dollars unless otherwise specified**.**

I. INTRODUCTION

Over the past two decades, workers' remittances to Latin America and the Caribbean (LAC) have increased tenfold in real terms. Not surprisingly, the potential impact of those flows on economic development has also generated considerable interest, both among academics and policy makers. At the academic level, a number of recent works have explored the impact of remittances on poverty (Adams and Page, 2005; Page and Plaza, 2005; Acosta et al. 2006a; and Acosta et al. 2006b), inter-temporal consumption smoothing (Yang, 2005), growth (Ruiz Arranz and Giuliano, 2005; Calderon, Fajnzylber, and Lopez, 2006), risk management (Amuedo-Dorantes and Pozo, 2004), education (Cox and Ureta, 2003), labor supply (Rodriguez and Tiognson, 2001), and external competitiveness (Amuedo-Dorantes and Pozo, 2004; Rajan and Subramaian, 2005).[1]

At the policy level, the flagship publications of the International Monetary Fund (IMF), the World Bank, and the United Nations Development Program (UNDP) have all addressed the growing importance of migration and remittances and their impact on development efforts. For example, the IMF's *World Economic Outlook 2005* devoted significant attention to the determinants and implications of inflows of workers' remittances, whereas the World Bank's *Global Economic Prospects 2006* had as its central topic the economic implications of remittances and migration. The World Bank has also edited a number of volumes on migrations and remittances issues (see Maimbo and Ratha, 2005, and Ozden and Schiff, 2006). Similarly, the UNDP's 2005 *Human Development Report* for El Salvador focused heavily on the development impact of remittances. Further, the UNDP is now organizing a high-level meeting on the topic to be held in New York in the fall of 2006.

This surge of interest is understandable given that workers' remittances have become a major source of financing in developing countries. According to the World Bank's *Global Economic Prospects 2006*, in 1990 remittances to middle- and low-income countries amounted to about US$31 billion. Fifteen years later, they are estimated to have reached US$167 billion. Workers' remittances now account for about 30 percent of total financial flows to development countries (table 1), are more than twice as large as official development assistance, and represent the equivalent to 2.5 percent of the gross national income of the developing world. They are also comparable to FDI flows (about 80 percent of the latter), and in some regions (Middle East and North Africa, and South Asia) they are much larger than FDI.

Considering the large amount of recent analytical work on the topic, a natural question relates to the motivations for undertaking the present study. To answer this question it is important to consider that, as shown below, there is a large heterogeneity in migration and remittances patterns across regions and countries. As a result, the nature and impact of those flows are likely to be different in Latin America and the Caribbean, in comparison to other parts of the developing world. Moreover, they also are likely to differ from one LAC country to the

[1] This list of works on the topic is not intended to be exhaustive; its goal is to give readers a sense of the surge of interest in the issue of remittances.

Table 1. International Flows to Low-and Middle-Income Countries (2004)

Region	Remittances US$ million	Remitt. pc US$	FDI US$ million	Private non-FDI US$ million	ODA US$ million
EAP	43100	23	64563	26660	6916
ECA	19900	42	62211	69089	11869
LCR	42400	80	60843	-4460	6869
MENA	21300	68	5340	2980	10517
SA	32000	22	7151	12670	6758
SSA	8100	11	11276	8400	26004
Total	166800	31	211384	115339	68933

Source: World Bank (2006b).

other. Since the existing evidence on the development impact of remittances in the LAC context is restricted to only a few countries—for example, Mexico and El Salvador—the present study is expected to provide readers an unprecedented general picture of how the various economic effects of remittances vary across the main recipient countries of the region. That is not to say that *Close to Home* is based only on country case studies—performed when possible with a common methodological approach. Indeed, the study also makes use of cross-country analysis based on large samples of countries encompassing other regions of the world. Whenever possible, however, our approach is to use those cross-country frameworks to investigate potential LAC specificities in terms of the development impact that remittances may have in the region.

A complementary motivation for undertaking a specific study on this region is that remittances are especially important in Latin America. Thus, with flows of US$42 billion in 2004, LAC is at the top of the ranking (together with East Asia and the Pacific) of remittances-receiving regions. Moreover, on a per capita basis, Latin America is the region with highest remittances: an average of US$102 per person per year. Clearly, given the magnitude of these flows, many questions arise related to the potential development impact of remittances: What is the profile of recipients of remittances in LAC? How do they affect poverty and inequality? Do remittances contribute to higher investment and faster growth rates, or are they mainly directed toward consumption? Do countries react differently to a surge in inflows, and, if so, why? Is there any policy challenge associated with remittances that policy makers have to be aware of? Finally, what can policy makers do to enhance the developing impact of these flows? This study, which is based on the first volume of World Bank (2006b), offers a fresh look at these issues in the Latin American context.

We recognize that a number of issues not discussed in this study would justify a separate study on the development impact of remittances in Latin America. For example, even though remittances associated with migration flows tend to improve the income dimension of recipient households' overall welfare, it is also true that migration often imposes important costs on family members who are left behind, and especially on children who have to grow up without the presence of one parent and, in some cases, both parents. Similarly, a number of development practitioners have noted the negative social implications associated with the fact of important segments of the younger generation becoming used to receiving steady flows of remittances without any effort on their part—a trend that may discourage their incentive to participate in the workforce. This concern is similar to one usually raised for public transfers and the so called *asistencialismo social*. In fact, an analysis that takes into account the costs associated with those (and other potential) aspects of migration could significantly enrich the results presented in this

study. Thus, *Close to Home* should not be understood as an attempt to have the final word on the development impact of remittances in Latin America. Rather, it should be viewed as a contribution to the existing debate that focuses on a selected number of relevant issues but leaves many others for future analyses.

The rest of the study is organized as follows. It begins by reviewing in Section II the magnitude of remittances flows to the region. In Section III we pause to pay attention to the different profile of recipients in 11 Latin American countries for which available household surveys contain information on remittances. Section IV tries to get a better understanding of Latin American migration flows toward developed countries by exploiting the censuses of the United States and other OECD countries.

Sections V through VII review the impact of remittances[2] on poverty, inequality, growth, investment, and output volatility with a special focus on the Latin American context. The conclusions of these sections are reached on the basis of cross-country econometric analysis and case studies for 11 countries. These case studies use the same methodology so that the results are fully comparable among countries. One point of interest in this analysis is that we aim at computing a counterfactual scenario without migration, which requires imputing the income of migrants had they remained in their home countries.

Sections VIII through XI deal with the impact of remittances on household behavior, once again using data from household surveys for as many as 11 LAC countries. These sections address the impact of remittances on savings and expenditures, educational attainment, health outcomes, labor supply, and entrepreneurship.

Sections XII through XVII address a number of questions that may be of particular interest to policy makers. In Section XII, for example, the study reviews whether remittances affect financial sector development. This section reaches its conclusions combining cross-country econometrics and country case studies. Section XIII discusses one important policy challenge associated with the large magnitude of remittances flows for some of the economies, namely the possibility of Dutch disease type effects, and Section XIV reflects on the implications for fiscal and more specifically tax policy. Section XV addresses the possibility that public transfers, such as conditional cash transfers (CCTs), crowd out remittances and is based on an analysis that exploits the information generated through randomized experiments designed to evaluate the impact of CCT programs in Honduras and Nicaragua. Section XVI discusses whether policy makers have any tools to enhance the development of remittances, and, more specifically, whether there are any complementarities between remittances and other growth enhancing policies. Section XVII focuses on regulatory and payment systems issues that need to be tackled in order to facilitate the transfer of funds across borders. Finally, Section XVIII closes with the main conclusions of the study.

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[2] We would like to note that in many cases it is quite difficult to separate migration effects from the pure remittances effects. In fact, while the increases in household income after remittances will have a positive effect on many dimensions of household welfare, one cannot discount that migration per se (that is, without remittances) can also positively contribute to those dimensions. For example, McKenzie (2006) notes that mothers in migrant families are found to have higher levels of health knowledge. Thus, while we consistently refer to the estimated effects for remittances, it must be understood that these effects will in all likelihood also incorporate the pure migration effect.

II. HOW RELEVANT ARE REMITTANCES IN LATIN AMERICA AND THE CARIBBEAN?

As noted earlier, remittances are particularly important in the Latin America region. Further, they are particularly important for a number of countries in the region. For example, remittances in 2004 represented 52.7 percent of Haiti's GDP, whereas in Jamaica, Honduras, and El Salvador they were about 17 percent, 16 percent, and 15 percent of GDP (figure 1). These figures are even more dramatic when compared with FDI flows. For example, at the beginning of the present decade, remittances in Guatemala, Honduras, El Salvador, and the Dominican Republic were equivalent to, respectively, four, four, three, and two times FDI flows. Even in Colombia and Ecuador, where, in relative terms, remittances are lower than in some of the Central American and Caribbean countries, remittances represented, respectively, 197 percent and 112 percent of FDI.

In terms of volume, the country with the highest absolute remittances flows is Mexico, which is estimated to have received $21.8 billion in 2005. This would represent 45 percent of total flows to Latin America in that year ($48.3 billion) and would make Mexico the largest world recipient, followed by India, Philippines, China, and Pakistan. Colombia and Brazil were ranked respectively 9th and 11th among the top remittance-receiving countries in the world, receiving, respectively, $3.8 billion and $3.5 billion in 2005.

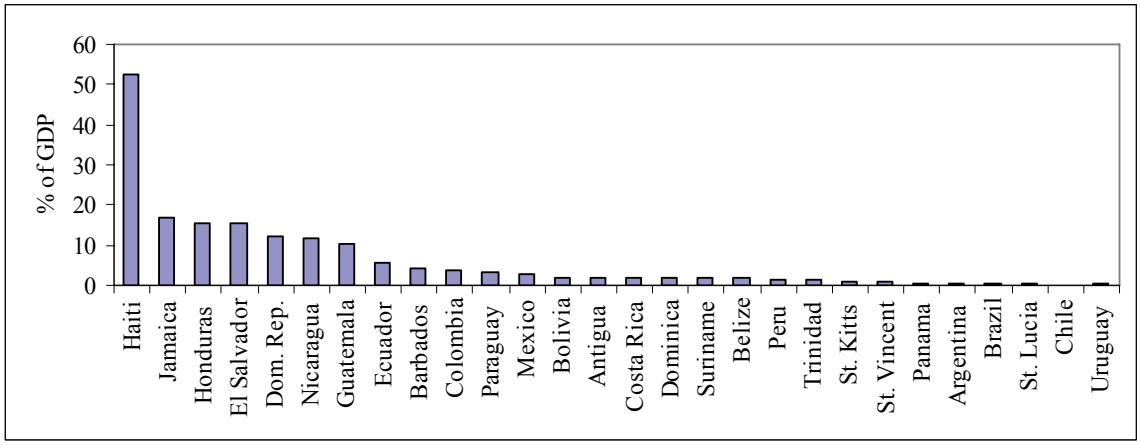
On a per capita basis, the country with the highest estimated remittances is Jamaica, with approximately $550 per capita, followed by Barbados, with about $400 per capita, and El Salvador, with flows of approximately $350. The estimated average remittance for the 28 countries considered in this study is $128 per capita per year.

III. PROFILE OF REMITTANCES RECIPIENTS

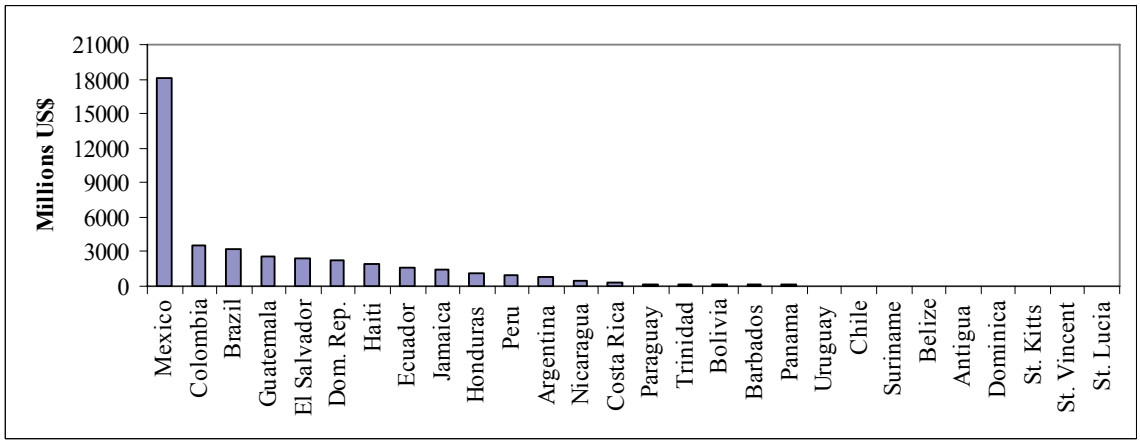
The balance of payments (BOP) data reviewed in the previous section allows for global cross-country comparisons of the magnitude of remittances flows. It gives no information about those at the receiving end, however. To address these issues, it is necessary to have household-specific information, ideally through an analysis of household surveys. Unfortunately, national representative household surveys with specific questions on remittances are only available for 11 Latin American countries: Haiti, El Salvador, Honduras, Nicaragua, Guatemala, the Dominican Republic, Ecuador, Paraguay, Mexico, Bolivia, and Peru. On a more positive note, in terms of BOP data, these countries represent more than two-thirds of the remittances to the LAC Region.

Figure 1. Remittances to Latin America in 2004

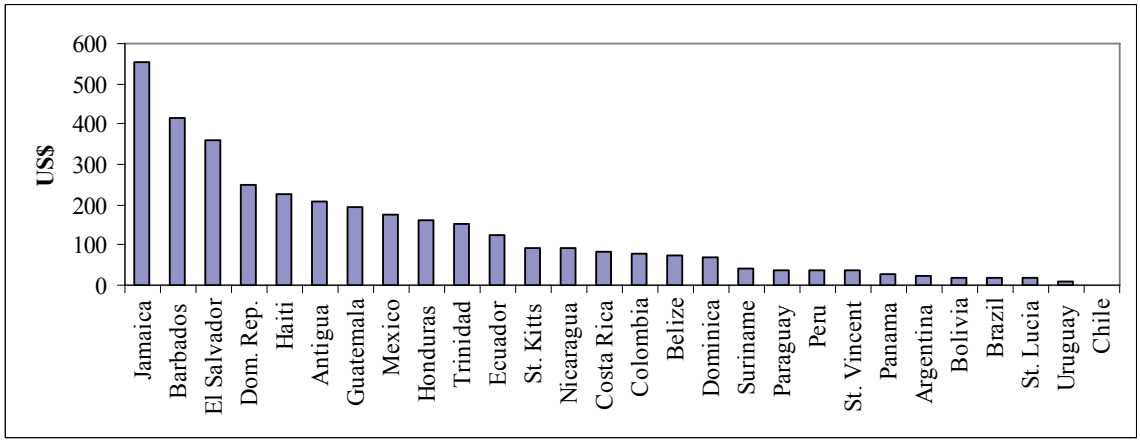
Panel A. (Percent of GDP)



Panel B. (US$ millions)



Panel C. Per capita



Source: World Bank (2006b).

How many households receive remittances?

The number of households receiving remittances in the Latin American region varies significantly. For example, in Haiti more than 25 percent of the households reported having received remittances in 2001. At the other extreme, only 3 percent of Peruvian households benefited from these flows. In between, remittances reached between 10 percent and 25 percent of the households in the Dominican Republic, El Salvador, Nicaragua, and Honduras; between 5 percent and 10 percent in Mexico and Guatemala; and between 3 percent and 5 percent in Bolivia, Ecuador, and Paraguay. Thus, remittances are a common element of household income in these countries.

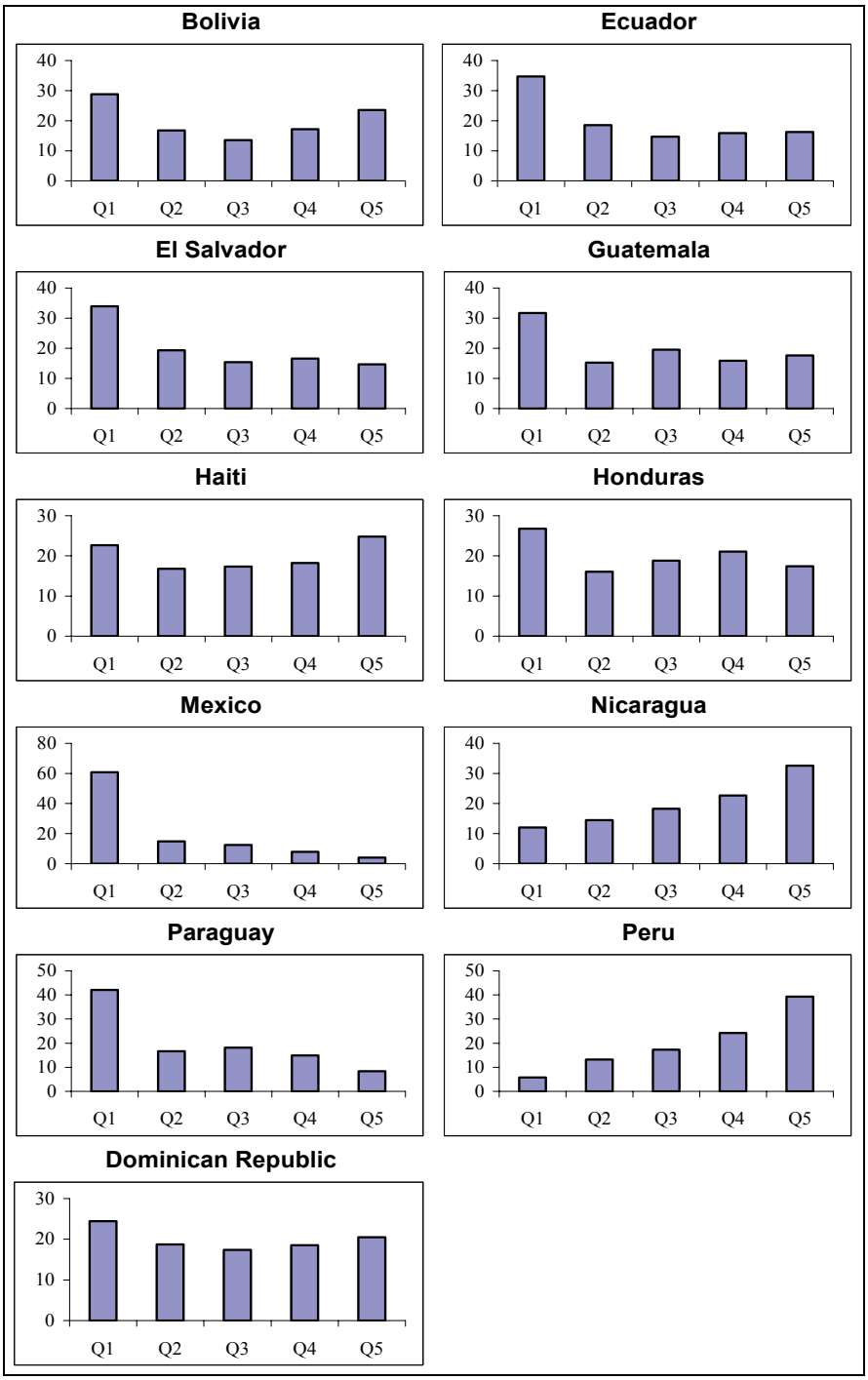
Who receives remittances in Latin America?

A question that arises from the previous discussion concerns the position along the income distribution of households that receive remittances. Figure 2 plots the percentage of households receiving remittances by quintile of the (non-remittances) income distribution. For instance, in Mexico the recipients of remittances are predominantly poor: 61 percent of the households that report receiving remittances fall in the first quintile of non-remittances income, whereas only 4 percent of them are in the top quintile. Similarly, in Paraguay 42 percent of recipients are in the first quintile of the distribution, and only 8 percent are in the top quintile. The other countries where at least 30 percent of the recipients of remittances are in the lowest quintile (that is, where these flows tend to be directed towards the lower quintile) are Ecuador, El Salvador, and Guatemala.

By contrast, in Peru and Nicaragua the distribution of remittances across households is completely different. For example, in Peru fewer than 6 percent of the households that receive remittances belong to the lowest quintile, while 40 percent belong to the top quintile. In the case of Nicaragua, where only 12 percent of the recipients are in the first quintile, 33 percent belong to the fifth quintile. Thus, in these two countries remittances seem to be flowing towards the richest. In between the groups of Mexico, Paraguay, Ecuador, El Salvador, and Guatemala and the group of Peru and Nicaragua, there are four countries (Bolivia, Honduras, the Dominican Republic, and Haiti) where remittances appear to be homogeneously distributed across the distribution of income. They exhibit a U-shaped distribution (that is, remittances flow towards the poorest and the richest in the same proportion and more than towards the three middle quintiles).

This situation changes dramatically when we analyze the economic status of recipients on the basis of total income (including the value of remittances). In fact, according to World Bank (2006b): (i) the share of recipients that belong to the lowest quintile falls dramatically in all the countries; and (ii) with the exception of Mexico, and to a lesser extent of Paraguay and of El Salvador, where 50 percent, 40 percent, and 34 percent of recipients, respectively, continue to be in the first and second quintiles, more than half of recipients in the rest of the countries are now in the two highest quintiles. Not surprisingly, this concentration is particularly marked in those countries where migrants seem to come from richer classes. For example, in Peru more than 75 percent (50 percent) of recipients are now in the two (top) quintiles of the income distribution.

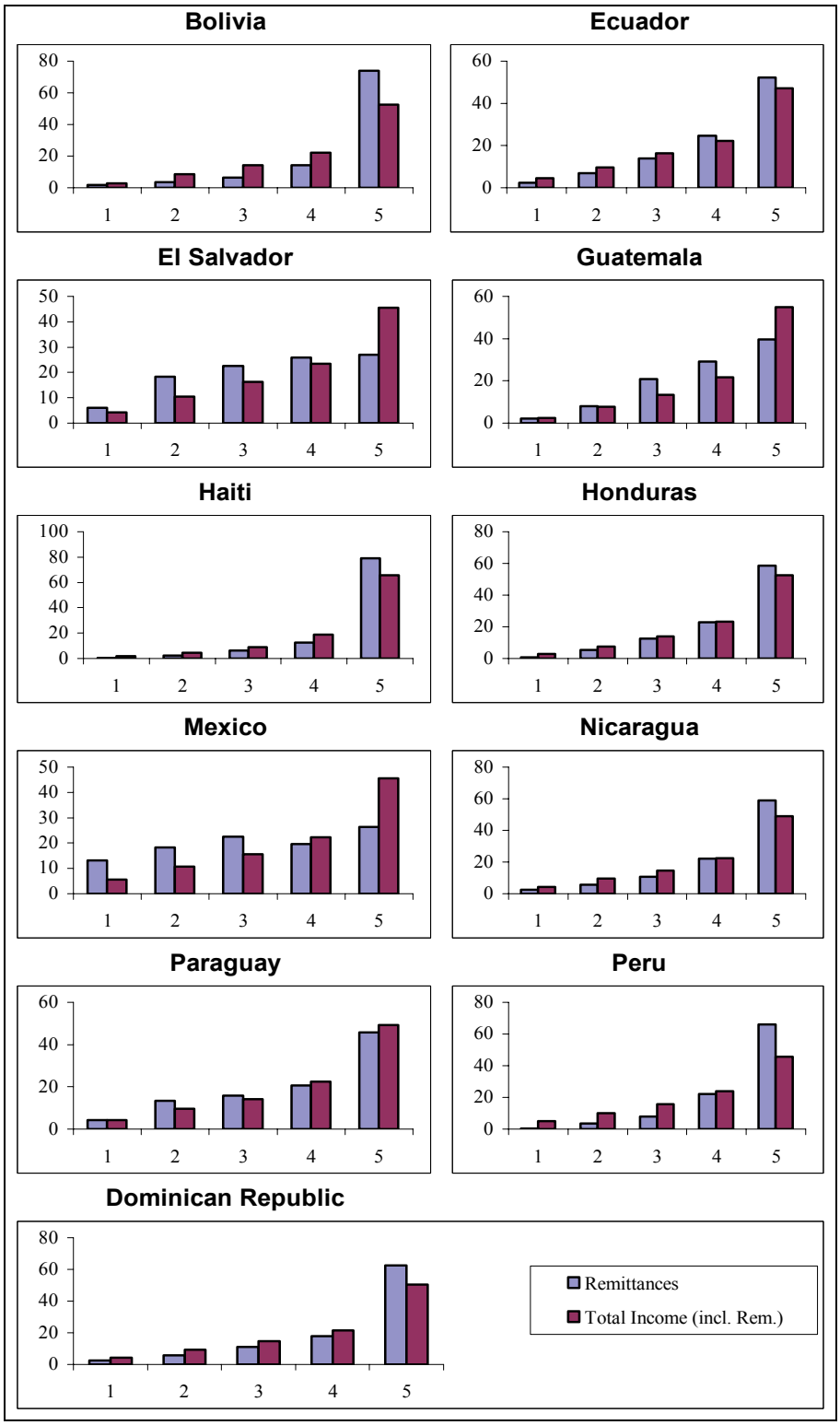
Figure 2. Households Receiving Remittances by Quintile of the Non-Remittances Income Distribution



Source: World Bank (2006b).

Note: The figure reports the percentage of households receiving remittances that fall in each of the five quintiles of the income distribution, when reported remittances are excluded from reported income.

Figure 3. Income and Remittances Distribution by Income Quintile



Source: World Bank (2006b).

More direct evidence on the extent to which remittances have a regressive effect on the distribution of income is provided in figure 3, which reports each quintile's share of both total income and total remittances. The results suggest not only that remittances are distributed in a quite unequal fashion, but also that they are generally distributed more unequally than total income. Thus, in the 11 countries for which we have data, the first three quintiles—the poorest 60 percent of the population—receive only a quarter of total remittances, while the top quintile receives on average 54 percent of those flows. For comparison purposes, on average the richest 20 percent receives 51 percent of total household income, which suggests that the distribution of remittances is only slightly more unequal than that of income. Figure 3, however, reveals that in the cases of Mexico, El Salvador, Guatemala, and Paraguay remittances are less unequally distributed than total income—for example, the poorest 60 percent receive 41 percent of remittances compared to 29 percent of income. By contrast, in the other seven countries, the first three quintiles receive only 16 percent of total remittances, compared to 26 percent of total income. These statistics suggest that remittances may have a regressive effect on income distribution. While these calculations are subject to a number of caveats —for example, in the absence of remittances households probably would have generated incomes higher than the observed non-remittances income—the evidence so far does not suggest that remittances could play an important role in reducing the very high levels of income inequality observed in Latin America. Moreover, this analysis also suggests that one could expect quite different impacts of remittances on inequality and poverty across the various countries of the region.

IV. WHAT DO WE KNOW ABOUT THE MIGRATION PATTERNS OF LATIN AMERICANS?

Migration and remittances are two sides of the same coin and, in fact, remittances would not occur if those sending them had not migrated in the first place. Thus, to understand the volume of remittances that a country may experience, it is critical to have some knowledge about its population living in other countries. World Bank (2006b) addresses this issue and presents a profile of Latin American migrants living in developed countries. It has to be noted that when one considers migration to the developed world, the resulting picture is undoubtedly biased because of the omission, due to to data limitations, of South to South migration. Thus, for example, our migration data does not cover the flow of Nicaraguans towards Costa Rica, or that of Peruvians to Chile. However, if one is willing to assume that most of Latin American migration is towards developed OECD countries, then the resulting biases should be relatively small.

In brief, the facts on Latin American migration are the following.

Choice of destination. While most Mexican and Latin American migrants are directed toward the United States, for many South American countries, Europe continues to be a major destination. In some cases, migrants to the United States from South America represent less than 50 percent of those countries' migrants. That is the case for migrants to the United States from Brazil, Chile, Paraguay, and Uruguay. Among Latin American migrants who migrate to European countries,

language seems to play an important role; the Caribbean migrants prefer the United Kingdom as a destination, and the South American migrants choose Spain.

Migration to the United States. The total number of Latin American migrants in the United States increased from 8.6 million in 1990 to about 16 million in 2000 (an 86 percent increase), of that number, close to 10 million had Mexican origin. That same year, according to the U.S. Census figures, the number of Cubans (870,000) or Salvadorans (820,000) in the United States (that is, the countries with the second and third highest number of migrants, respectively) represented fewer than 10 percent of the Mexican figure. In addition to Cuba and El Salvador, there are several other countries with a stock of migrants numbering between 500,000 and 1 million in the United States: Dominican Republic (680,000), Jamaica (550,000), and Colombia (510,000). In absolute terms, and apart from the small Caribbean islands of St. Kitts and Nevis, the country with the lowest number of migrants in the United States was Paraguay, with fewer than 13,000.

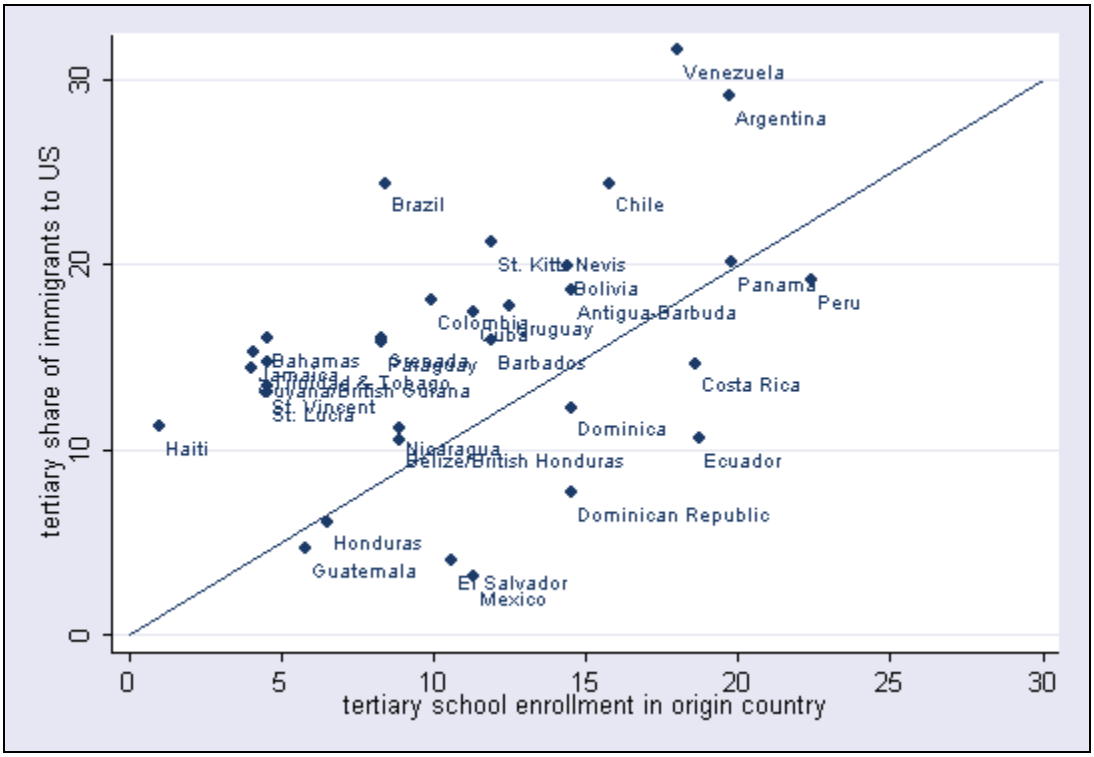
Migrants in relation to home population. As of 2000, an average of 30 percent of the labor force of many Caribbean islands had migrated. An extreme case is Grenada, where close to 50 percent of the population had migrated. For the non-Caribbean countries, migrants, as a share of the country of origin's population, represent an average of about 10 percent (6 percent for South America). Thus, even if Mexico and the Central American countries tend to top the ranking of migrants in absolute terms, the small Caribbean islands clearly dominate the migration charts when we look at migration flows in relation to each country's population.

Schooling levels of migrants. The schooling levels of Latin American migrants in the United States are especially low for people who migrated as adults after completing their education in their home countries. This is particularly the case for migrants from Mexico and Central America, who account for the majority of Latin American migrants and tend to dominate the overall education profile. Yet there are significant differences in the education distribution between different countries. In fact, while only 4 percent of Mexican migrants have tertiary education, the figures are 7 percent for Central America, 12 percent for the Caribbean, 24 percent for the Andean region, and around 30 percent for other South American countries. If one were to expand the comparison to developing countries from other parts of the world, the gaps are even bigger. For example, about 70 percent of migrants from India, China, the Philippines, Egypt, Iran, Indonesia, Pakistan, and Malaysia have tertiary education.

Labor market performance. The schooling levels of migrants and their country of origin provide some indication of their labor market performance. Slightly more than 10 percent of Mexican and Central American migrants who were 22 years old or older when they migrated to the United States ended up in high-skilled and medium-skilled jobs. That ratio is between 40 and 50 percent for Caribbean and South American migrants. The differences between countries of origin are also evident for migrants that arrived in the United States before the age of 17. More than 20 percent of Mexican migrants and more than 30 percent of Central American migrants are in high-skilled or medium-skilled jobs, while that ratio is between 50 and 60 percent for migrants from the Caribbean and South America. The improvements with respect to the population of migrants that were aged 22 or older when entering the United States are likely to be owing to higher educational levels, English proficiency, and other measures of social and economic integration exhibited by migrants that entered the country as children.

Schooling levels of migrants relative to those in the home country. A comparison of the schooling levels of migrants to those who remained at home indicates that Mexican and most of the Central American migrants are drawn from the lower end of the education spectrum in the home country. By contrast, migrants from the Caribbean and South America tend to be proportionally more educated than those who remain behind. For example, even though education levels in Brazil and Mexico are similar, their migrants are starkly different in their education profiles (figure 4). One possible explanation of this finding is that it is relatively easy for Mexican and Central Americans to migrate to the United States either through legal channels using family preferences or without proper documentation. On the other hand, it is more costly for a Brazilian to migrate. As a result, the educated form a higher portion of the migrants from South American countries because these are the people who can afford to migrate, and they benefit more from migrating.

Figure 4. Education Profile of Native Populations Versus Migrants for Latin American Countries



Source: World Bank (2006b).

Brain drain appears as a problem for many small Caribbean countries. More than 80 percent of people born in Haiti, Jamaica, Grenada, or Guyana who have college degrees live abroad, mostly in the United States. On the other hand, fewer than 10 percent of college graduates from South American countries have migrated, even though they form a large portion of the migrant population. This is mainly owing to the low levels of overall migration for South America. For Mexico and Central America, the migration level of college graduates is about 15 percent to 20 percent, which is relatively high in comparison to that of South America, but not as alarming as the situation found in the Caribbean.

The impact of migration on remittances. Econometric analysis relating remittances to the stock of migrants living abroad indicates the following: (i) the ratio of remittances to GDP increases with the stock of migrants, but the stock of migrants reduces the amount of remittances sent per migrant—rendering ambiguous the impact on remittances received per capita; (ii) increases in the overall education levels of migrants tend to reduce remittances sent; (iii) the share of female migrants does not have a significant effect on remittance flows; (iv) economic growth in the recipient country tends to increase remittance levels; and (v) remittances sent by migrants increase with the level of financial development of their home countries.

V. DO REMITTANCES REDUCE INEQUALITY AND POVERTY?

In theory, given that in many cases remittances go to poor households and that remittances directly increase these household's level of income, an unequivocally positive answer could be expected. Moreover, to the extent that remittances ease credit constraints and reduce risk and volatility, they could also promote higher levels of investment in physical and human capital and have dynamic effects on growth and poverty reduction.

There are, however, several reasons that warrant circumspection when answering this question. First, as shown earlier, the position of migrants in the income distribution varies considerably across countries. As a result, the impact of remittances on poverty reduction should also vary by country and region. Second, as we will show below, remittances also could reduce labor supply and generate real exchange rate appreciations that, in turn, could hurt competitiveness and growth. Third, it is reasonable to believe that in many cases remittances and migration also entail potential losses of income associated with the migrants' absence from their families and communities. Finally, depending on the demographic characteristics of migrants, "brain drain" effects could have negative effects on productivity and welfare.

To test the net effect of remittances on inequality and poverty, World Bank (2006b) uses both micro- and macroeconomic data and techniques. In the first case, using household survey data for 11 countries, it first adopts a simple approach—previously used in several poverty assessment reports—of comparing Gini coefficients and poverty headcounts estimates obtained using observed non-remittances household income and total income. This simple analysis indicates that 9 out of 11 countries—the exceptions being Nicaragua and Peru—exhibit higher Gini coefficients for non-remittance income, suggesting that if remittances were exogenously eliminated, inequality would increase.[3]

Quantitatively, however, the estimated potential changes in the Gini coefficient are small, which can be attributed to the generally very unequal distribution of remittances income and that remittances also tend to go to relatively well-off households in most countries. On the other hand, the comparisons of poverty headcounts before and after excluding remittances from the

[3] Note that household surveys include remittances received from abroad and do not differentiate between those coming from developed or developing nations. Thus, these results encompass cases where South-South and South-North migration are predominant.

total income of recipients do suggest large reductions in poverty levels, especially in those countries where migrants tend to come from the lower quintiles of the income distribution.[4] For example, in Mexico, El Salvador, and the Dominican Republic, extreme poverty is estimated to fall by more than 35 percent, and moderate poverty by an average of 19 percent. The reductions in poverty headcounts that result from taking remittances income into consideration are smaller when using locally defined country-specific national poverty lines.[5] Thus, while Mexico, El Salvador, and the Dominican Republic are still the countries where the largest reductions are obtained, the corresponding average changes are 15 percent for extreme poverty and 8 percent for moderate poverty.

There is, however, an important concern with these inequality decompositions and poverty simulations—namely that they implicitly make the unrealistic assumption that remittances can be treated as exogenous transfers by migrants. The problem is that in many cases migration also entails potential losses of income associated with the migrants' absence from their families and communities. In other words, remittances are not exogenous transfers but rather they substitute for the home earnings that migrants would have had if they had not decided to leave their countries to work abroad. To consider these effects one needs to estimate the value that household income would have had if migrants had stayed in their households. The results reported in tables 2 and 3 are based on a comparison with the levels of inequality and poverty that would have prevailed had migration and remittances not taken place (see World Bank 2006b for the technical details).

As seen in table 2, the Gini coefficients that would have prevailed in the absence of migration would have been generally higher, with the largest differences obtained for Haiti (7.7 percent), followed by Guatemala (2.9 percent), El Salvador (2.1 percent), Nicaragua (1.8 percent), and Honduras (1.1 percent). The negative effects of remittances on inequality are much smaller in the other countries, and a positive effect actually is obtained for the cases of Mexico and the Dominican Republic. The results for the countries for which remittances' impact is minor or even favors inequality are consistent with the findings of previous studies that have made attempts to calculate counterfactual pre-remittances income for families with migrants.[6] Overall, the estimated inequality reducing effects of remittances are found to be relatively small—2.7 percent on average, when significant—although they tend to be comparatively larger in countries where remittances represent a higher share of income.

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[4] Two caveats, however, need to be mentioned in this respect: (i) the analysis does not take into account general equilibrium effects (that is, the average and structure of wages could also be affected if had all migrants stayed in their home countries competing for jobs); (ii) we look only at the effects on monetary poverty, and thus do not consider possible negative impacts on welfare arising from the fragmentation of families, which sociological research has found to be important.

[5] We emphasize the calculations based on common international poverty lines (US$ 1 and US$2 PPP) because they are better suited for international comparisons. However, World Bank (2006b) reports similar calculations based on locally defined poverty lines, which may be of interest for country-specific analysis. It is worth noting that poverty headcounts are in all cases much higher when using local poverty lines – which are higher than their international counterparts.

[6] Rodriguez (1998), for instance, finds that remittances increase inequality in the Philippines, and the effect rises from 1.27 percent to 7.90 percent when using imputed income instead of reported non-remittances income. Similarly Barham and Boucher (1998), for the case of Bluefields (Nicaragua), find that the Gini for household income falls from 0.47 to 0.43 when using reported figures, but inequality actually rises from 0.38 to 0.43 after correcting the pre-remittances distribution using imputed income for migrant families.

Table 2. Income Gini Coefficient in a Counterfactual Scenario of No-Migration

Country	Gini Coefficient	Difference in Gini before/after remitt.	Diff. in %	Country	Gini Coefficient	Difference in Gini before/after remitt.	Diff. in %
Bolivia (2002)				Honduras (2002)			
Non-Remittances Income	0.556			Non-Remittances Income	0.565		
95% Confidence Interval	(0.553; 0.561)			*95% Confidence Interval*	(0.564; 0.567)		
Total Income	0.555	-0.001	-0.3%	Total Income	0.559	-0.006	-1.1%
Ecuador (2004)				Mexico (2002)			
Non-Remittances Income	0.501			Non-Remittances Income	0.477		
95% Confidence Interval	(0.500; 0.503)			*95% Confidence Interval*	(0.477; 0.478)		
Total Income	0.499	-0.002	-0.5%	Total Income	0.481	0.004	0.7%
El Salvador (2000)				Nicaragua (2001)			
Non-Remittances Income	0.497			Non-Remittances Income	0.528		
95% Confidence Interval	(0.494; 0.501)			*95% Confidence Interval*	(0.519; 0.539)		
Total Income	0.486	-0.011	-2.1%	Total Income	0.518	-0.010	-1.8%
Guatemala (2000)				Paraguay (2003)			
Non-Remittances Income	0.603			Non-Remittances Income	0.515		
95% Confidence Interval	(0.596; 0.615)			*95% Confidence Interval*	(0.514; 0.517)		
Total Income	0.586	-0.017	-2.9%	Total Income	0.516	0.001	0.2%
Haiti (2001)				Peru (2002)			
Non-Remittances Income	0.725			Non-Remittances Income	0.478		
95% Confidence Interval	(0.703; 0.756)			*95% Confidence Interval*	(0.476; 0.481)		
Total Income	0.669	-0.056	-7.7%	Total Income	0.476	-0.002	-0.3%
Dominican Republic (2004)							
Non-Remittances Income	0.519						
95% Confidence Interval	(0.514; 0.525)						
Total Income	0.520	0.001	0.3%				

Source: World Bank (2006b).

As for the impact of migration and remittances on poverty, the results in table 3 suggest that the failure to correct for the reduction in income associated with the absence of migrants from their households may lead to grossly overestimating the poverty-reducing effect of remittances. In particular, when using our preferred methodology, we find that remittances reduce poverty headcounts in only 6 out of the 11 countries for which data is available—the exceptions being Mexico, Nicaragua, Paraguay, Peru, and the Dominican Republic—and they reduce poverty gaps in only three cases—Ecuador, Guatemala, and Haiti. In two cases, the Dominican Republic and Nicaragua, we even find that remittances are linked to small increases in extreme poverty—respectively of 7.4 percent and 0.4 percent. Thus, for very poor households in those countries the income lost because of the absence of migrants from their households is less than compensated by the money they send home, possibly because they also under-perform in the job market of destination countries.[7]

Considering all 11 countries and assuming that the remittances share in GDP is as given by BOP statistics, the average estimated impact of remittances on poverty headcounts is such that a 1 percentage point increase in the remittances to GDP ratio reduces moderate and extreme poverty by respectively 0.37 percent and 0.29 percent.

[7] One complementary approach proposed by Schiff (2006) is to estimate the impact of remittances on poverty, focusing exclusively on the population of households that receive remittances. World Bank (2006b) also reports the results of implementing this approach and shows that while the impact of remittances on national poverty levels may be limited, the effect on the poverty status of the families with migrants is much larger. The largest absolute reductions in poverty among recipients are found in Haiti, Guatemala, Bolivia, Honduras, and Ecuador.

Table 3. Poverty Headcounts in Counterfactual Scenario of No-Migration

Country	US$ 1 a day (PPP)	Diff. in %	US$ 2 a day (PPP)	Diff. in %	Country	US$ 1 a day (PPP)	Diff. in %	US$ 2 a day (PPP)	Diff. in %
Bolivia (2002)					Honduras (2002)				
Non-Remittances Income	17.999		35.052		Non-Remittances Income	16.715		33.155	
95% Confidence Interval	(17.842; 18.184)		(34.824; 35.279)		95% Confidence Interval	(16.608; 16.820)		(32.993; 33.307)	
Total Income	17.764		34.674		Total Income	16.155		31.731	
Diff. before/after remitt.	-0.2	-1.3%	-0.4	-1.1%	Dif. before/after remitt.	-0.6	-3.4%	-1.4	-4.3%
Ecuador (2004)					Mexico (2002)				
Non-Remittances Income	11.665		28.082		Non-Remittances Income	3.079		12.603	
95% Confidence Interval	(11.594; 11.741)		(27.960; 28.221)		95% Confidence Interval	(3.019; 3.145)		(12.480; 12.731)	
Total Income	11.198		27.147		Total Income	3.165		12.695	
Dif. before/after remitt.	-0.5	-4.0%	-0.9	-3.3%	Dif. before/after remitt.	0.1	2.8%	0.1	0.7%
El Salvador (2000)					Nicaragua (2001)				
Non-Remittances Income	8.215		20.055		Non-Remittances Income	8.226		22.848	
95% Confidence Interval	(8.077; 8.375)		(19.824; 20.311)		95% Confidence Interval	(8.012; 8.528)		(22.427; 23.345)	
Total Income	7.700		18.607		Total Income	8.260		22.552	
Dif. before/after remitt.	-0.5	-6.3%	-1.4	-7.2%	Dif. before/after remitt.	0.0	0.4%	-0.3	-1.3%
Guatemala (2000)					Paraguay (2003)				
Non-Remittances Income	23.630		41.379		Non-Remittances Income	6.066		15.373	
95% Confidence Interval	(23.335; 23.931)		(41.055; 41.710)		95% Confidence Interval	(5.999; 6.145)		(15.256; 15.521)	
Total Income	21.578		39.087		Total Income	6.057		15.333	
Dif. before/after remitt.	-2.1	-8.7%	-2.3	-5.5%	Dif. before/after remitt.	0.0	-0.1%	0.0	-0.3%
Haiti (2001)					Peru (2002)				
Non-Remittances Income	57.541		74.376		Non-Remittances Income	4.186		15.555	
95% Confidence Interval	(56.929; 58.138)		(73.793; 74.992)		95% Confidence Interval	(4.186; 4.192)		(15.533; 15.888)	
Total Income	53.425		71.414		Total Income	4.185		15.539	
Dif. before/after remitt.	-4.1	-7.2%	-3.0	-4.0%	Dif. before/after remitt.	0.0	0.0%	0.0	-0.1%
Dominican Republic (2004)									
Non-Remittances Income	4.364		13.008						
95% Confidence Interval	(4.247; 4.488)		(12.777; 13.270)						
Total Income	4.688		12.836						
Dif. before/after remitt.	0.3	7.4%	-0.2	-1.3%					

Source: World Bank (2006b).

Interestingly, the countries for which we find the largest inequality, and poverty-reducing effects are not necessarily those where remittances recipients tend to come from lower income groups. Consider, for instance, the cases of El Salvador, Guatemala, Mexico, and Paraguay, where remittances recipients tend to be relatively less educated than the general population—there is "negative" selection into migration—and remittances are more progressively distributed than total income. Only in two of them (El Salvador and Guatemala) do we find that remittances are associated with significant reductions in both inequality and poverty. Moreover, in Haiti and Honduras, the other two countries where remittances do appear to significantly reduce poverty and inequality, remittances recipients are more likely to be found among highly educated individuals, and remittances income is distributed more unequally than total income. If anything, the common element in the four countries where remittances have the largest effects on poverty and inequality is that they are among those in which remittances are highest with respect to GDP.

An alternative way of estimating the impact of remittances on poverty is by means of cross-country regression analysis. This is the approach taken by Adams and Page (2005) and the IMF's *World Economic Outlook* (2005). Both studies find that countries that receive remittances have lower poverty levels. In particular, Adams and Page find that a 10 percent increase in per capita remittances would lead to a 3.5 percent decline in the share of people living in poverty in the corresponding country, and the *World Economic Outlook* concludes that a 2.5 percentage point increase in the remittances to GDP ratio is associated with a 0.5 percentage point decrease in poverty.

These studies, however, do not allow the effect of remittances to vary by country or region. Moreover, as noted in *World Economic Outlook* (2005), because both studies control separately for the effect of per capita income and income inequality, they miss the effects of remittances that operate through changes in those variables. Thus, they are both likely to underestimate the poverty effects of remittances. World Bank (2006b) addresses both issues using data for a large panel of countries. The results suggest that remittances tend to reduce poverty, and this effect is more marked in Latin America than elsewhere. On the other hand, remittances seem to lead to higher income inequality at the global level but to either reduce or leave inequality unchanged in Latin America (something to be welcomed given the high inequality levels of the region).

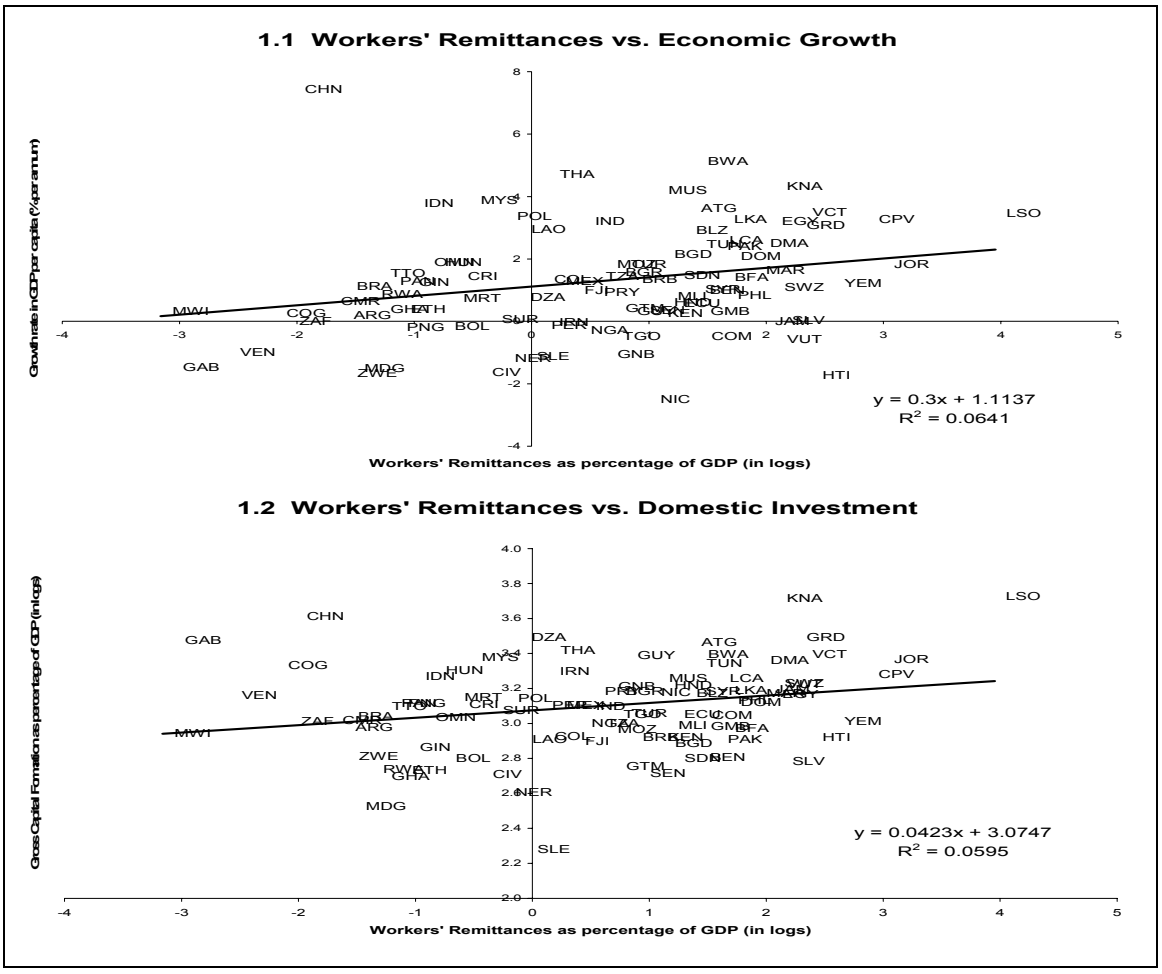
These basic messages are responsive to the use of different econometric methodologies. However, we find that there is substantial heterogeneity in the effects of remittances on poverty depending upon the country's initial conditions, as given by the ratio of per capita income to the poverty line and the Gini coefficient. Overall, assuming a common value of 0.5 for the Gini, and considering that in the average Latin American country remittances are 4.9 percent to GDP, a one percentage point increase in the remittances to GDP ratio is estimated to lead to reductions in poverty that vary between 0.08 percent for poorer countries to 1.12 percent for richer countries, with an average estimated reduction of 0.37 percent, which is fully in line with our micro-econometric results for moderate poverty.

VI. REMITTANCES, GROWTH, AND INVESTMENT

Previous studies on the growth-remittances link have generated ambiguous results.[8] This is not surprising given the countercyclical nature of those flows, which suggests that remittances tend to respond negatively to economic growth. Thus, failure to correct for reverse causality and other sources of endogeneity in remittances flows may lead to misleading conclusions regarding the causal relationship of remittances to economic growth. From a conceptual point of view, this relationship could be motivated by the possibility that workers' remittances may help ease credit constraints, thus allowing individuals not only to increase their consumption but also to augment investments in physical capital, education, health care, and the creation or expansion of micro-enterprises—all of which could eventually be reflected in higher aggregate investment and economic growth. As seen in figure 5, even simple scatter plots between remittances, growth, and investment using a large cross-section of countries tend to suggest the presence of positive correlations between remittances, investment, and growth.

[8] Faini (2002), the IMF's *World Economic Outlook* (IMF, 2005), and Chami, Fullenkamp, and Jahjah (2005), for example, have found that remittances have, respectively, a positive, non-significant, and negative impact on economic growth. Giuliano and Ruiz-Arranz (2005) also find that the impact of remittances on growth is not significant in general but is positive in countries with shallower financial markets. In the case of Latin America, Solimano (2003) finds that lagged remittances have a positive and significant impact on growth in Colombia, but the relationship is not significant for Ecuador. Mishra (2005) and Mundaca (2005), on the other hand, find positive effects for a sample of Caribbean countries, and for Central America, Mexico, and the Dominican Republic.

Figure 5. Scatter Plots of Remittances, Growth, and Investment



Source: World Bank (2006b).

Panel data estimates on the impact of remittances and growth are presented in table 4, using a sample of 67 countries, 21 of which are from Latin America and the Caribbean. We find that remittances have a positive and significant impact on growth, and that this effect is responsive to the use of external and time-varying instrumental variables to control for the potential endogeneity of remittances.[9] All control variables are found to be significant and with the sign that, *a priori*, would be expected. That is, growth is found to be higher for countries with lower levels of income, higher levels of education, deeper financial markets, more openness to trade, and better institutions, and to be discouraged by excessive government burden, higher inflation, and real exchange rate overvaluation. These results improve upon previous estimates, which have either overlooked the issue of the possible endogeneity of remittances, or have addressed it using time-invariant instrumental variables (for example, IMF, 2005) or internal

[9] The only exception is given by column [4] where we instrument remittances with their own lagged levels and differences. This may be inappropriate if remittances are influenced in an inter-temporal optimizing framework by future shocks to economic growth.

instruments only (for example, Giuliano and Ruiz-Arranz, 2005).[10] Moreover, following Loayza, Fajnzylber, and Calderón (2005), we now use a wide set of control variables as potential growth determinants, thus reducing possible omitted variable biases.

Table 4. Remittances and Economic Growth

	Growth Regressions without Investment				Growth Regressions including Investment			
Variable	[1] Exogenous Remittances	[2] Distance Instrument	[3] Migration Instrument	[4] Lagged Lev + Diff of Remittances	[5] Exogenou Remittances	[6] Distance Instrument	[7] Migration Instrument	[8] Lagged Lev + Diff of Remittances
Transitional Convergence								
Initial GDP per capita	-0.354 **	-0.281 **	-0.296 **	-0.349 **	-0.438 *	-0.641 **	-0.648 **	-0.524 **
(in logs)	(0.08)	(0.08)	(0.09)	(0.08)	(0.09) *	(0.07)	(0.08)	(0.09)
Investment								
Investment Rate	...	...	...	...	4.116 *	6.645 **	5.988 **	4.325 **
(As a percentage of GDP, in logs)					(0.65) *	(0.32)	(0.26)	(0.19)
Macroeconomic Policies and Institutions								
Education	0.257 **	0.258 **	0.217 **	0.346 **	0.220 **	0.303 **	0.263 **	0.219 *
(Secondary Enrollment, in logs)	(0.09)	(0.11)	(0.10)	(0.08)	(0.10)	(0.13)	(0.13)	(0.11)
Financial Depth	0.620 **	0.384 **	0.499 **	0.523 **	-0.109	-0.448 **	-0.226 *	0.007
(Private Domestic Credit to GDP, in logs)	(0.19)	(0.16)	(0.19)	(0.17)	(0.17)	(0.13)	(0.14)	(0.16)
Institutions	3.888 **	4.236 **	4.105 **	3.676 **	2.918 **	2.657 **	2.339 *	2.934 **
(ICRG Political Risk Index, in logs)	(0.31)	(0.27)	(0.31)	(0.29)	(0.41)	(0.35)	(0.39) *	(0.41)
Trade Openness (TO)	0.329 **	0.431 **	0.422 **	0.503 **	-0.095	-0.283 *	-0.305 **	-0.155
(Real Exports and Imports to GDP, in logs)	(0.11)	(0.11)	(0.10)	(0.12)	(0.12)	(0.15)	(0.13)	(0.11)
Lack of Price Stability	-0.007 **	-0.006 **	-0.007 **	-0.006 **	-0.008 *	-0.005 **	-0.007 **	-0.006 **
(inflation rate, in log[100+inf.rate])	(0.00)	(0.00)	(0.00)	(0.00)	(0.00) *	(0.00)	(0.00)	(0.00)
RER Overvaluation	-0.011 **	-0.012 **	-0.012 **	-0.010 **	-0.005 *	-0.001	0.000	-0.003 *
(Proportional index in logs, overvaluation if >0)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00) *	(0.00)	(0.00)	(0.00)
Government Burden	-0.862 **	-0.882 **	-0.828 **	-0.942 **	-1.019 *	-1.061 **	-0.929 **	-1.026 **
(General Govt. Consumption in logs)	(0.18)	(0.19)	(0.16)	(0.16)	(0.16) *	(0.13)	(0.11)	(0.13)
Workers' Remittances								
Remittances	**0.167 ** **	**0.226 ** **	**0.239 ** **	**0.025**	**0.063 ***	**0.042**	**0.048**	**0.039**
(Workers Remittances to GDP, in logs)	**(0.04)**	**(0.04)**	**(0.04)**	**(0.07)**	**(0.04)**	**(0.05)**	**(0.04)**	**(0.05)**
No. Countries	67	67	67	67	67	67	67	67
No. Observations	273	273	273	273	273	273	273	273
Specification Tests (p-values)								
- Sargan Test	(0.34)	(0.28)	(0.31)	(0.37)	(0.64)	(0.56)	(0.55)	(0.53)
- 2nd. Order Correlation	(0.19)	(0.19)	(0.19)	(0.19)	(0.20)	(0.29)	(0.29)	(0.21)

Source: World Bank (2006b).

Note: All regressions include a constant and time dummies. * (**) denotes statistical significance at the 10 (5) percent level.

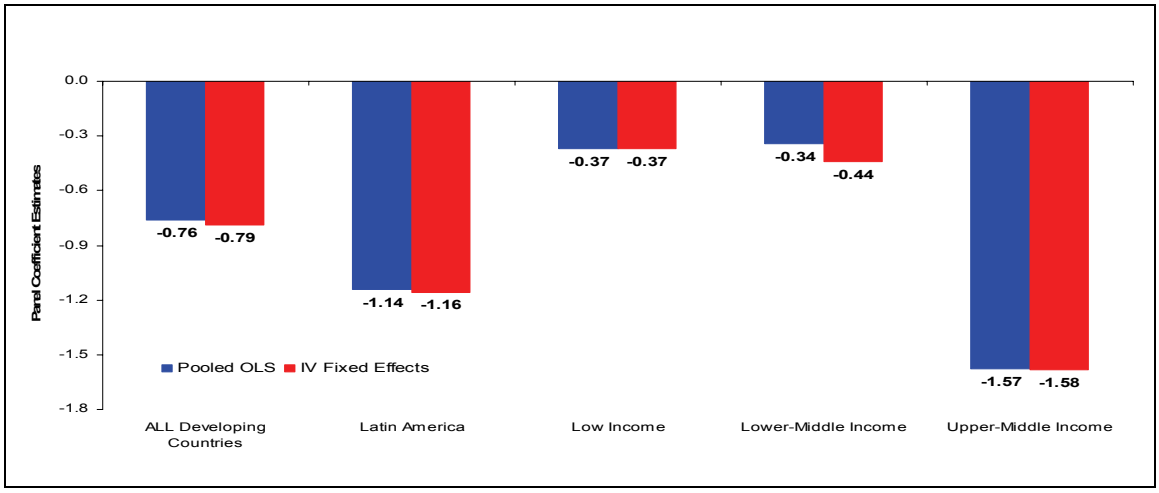
The magnitude of the estimated effect of remittances on growth, however, is relatively small in economic terms. For the average Latin American country in the sample, for instance, the increase in remittances from 0.7 percent of GDP in 1991–1995 to 2.3 percent of GDP in 2001–2005 is estimated to have led to an increase of only 0.27 percent per year in per capita GDP growth. Moreover, as seen in the final four columns of table 10, when domestic investment is included as an additional explanatory variable, the effect of remittances on growth ceases to be significant. This may imply that one of the main channels through which remittances affect growth is by increasing domestic investment. Direct estimates of the effect of remittances on the ratio of investment to GDP confirm this hypothesis. In particular, the results suggest that from 1991–1995 to 2001–2005, the increase in remittances to LAC was responsible for a 2 percent increase in the share of domestic investment to GDP, which would, in turn, correspond to about one-half of the estimated total impact of remittances on growth during that period.

[10] More specifically, columns (2), (3), (6) and (7) of Table 4 rely on two external instruments constructed by Aggarwal, Demirguc-Kunt, and Martinez Peria (2005), based on the real output per capita of the countries where remittances originate. The first instrument is the average output per capita of the top country destinations for migrants across the world weighted by the (inverse of the) distance between the remittance-sender and the remittances-recipient country. The second instrument is the average output per capita of the top five country destinations for migrants in the OECD weighted by the share of migrants of the recipient country in each of these five destinations. We refer to these two variables as the "Distance" and the "Migration" instruments, respectively.

VII. REMITTANCES AND OUTPUT VOLATILITY

One of the other channels through which remittances could affect growth is the reduction in aggregate volatility. Indeed, output fluctuations in developing countries are substantially more volatile than those in industrial economies. To the extent that remittances exhibit a countercyclical behavior, they could play a crucial role in smoothing out developing countries' output fluctuations, and helping to maintain macroeconomic stability. For this to be the case, remittances would have to be dominated by compensatory transfers, sent by migrants to their families in order to offset or prevent income shortfalls due to negative external shocks (for example, natural disasters and financial crisis, among others). However, it is also possible that remittances respond to profitable investment opportunities in recipient economies, thus operating as standard private capital flows and behaving pro-cyclically.

Figure 6. Remittances' Sensitivity to Output Fluctuations in Recipient Countries

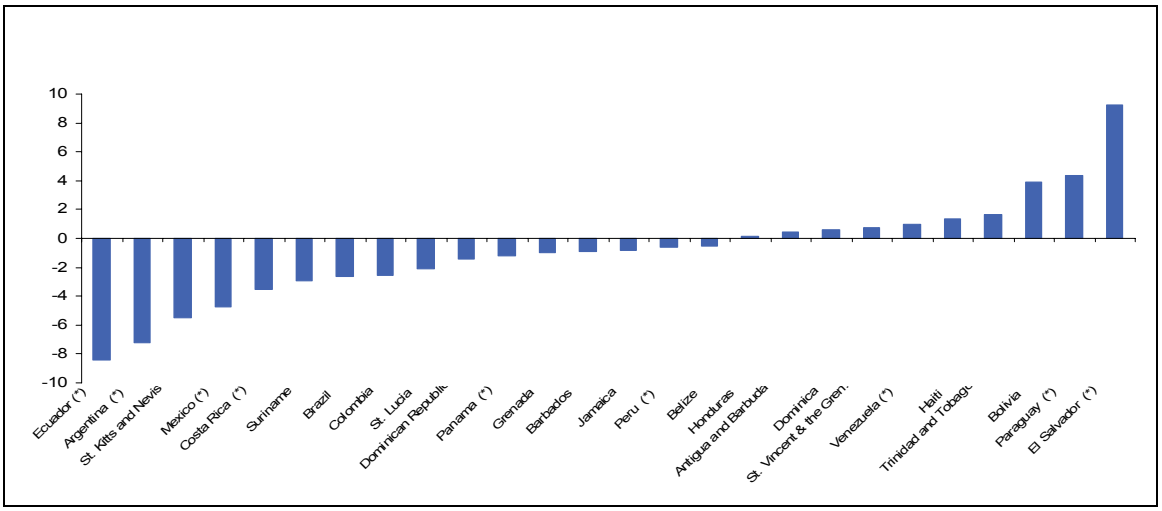


Source: World Bank (2006b).

To date, evidence on the business cycle properties of remittances flows is inconclusive.[11] However, a common shortcoming of previous attempts at determining the cyclical properties of remittances flows is that they have not controlled for the potential endogeneity of output fluctuations. In fact when one takes this into account, the data reveals a negative and significant relationship between remittances and real output in remittance-recipient countries, and a positive association between remittances and the real output of remittance-sending countries. Similar calculations for other developing countries show that the sensitivity of remittances to oscillations in the real output of both recipient and sending countries is larger in Latin America than in the rest of the developing world. Moreover, the countercyclicality of remittances appears to increase with income, being highest among upper-middle income countries (figure 6).

[11] Chami, Fullenkamp, and Jahjah (2005), Mishra (2005), and Sayan (2006) show that remittances tend to be countercyclical. On the other hand, Sayan (2004) finds that they are positively related to real output in Turkey, thus, appearing to behave pro-cyclically. Moreover, the evidence presented by Giuliano and Ruiz-Arranz (2005) suggests that in most cases remittances co-move directly with output fluctuations in recipient countries, with a higher degree of pro-cyclicality in countries with shallower financial systems.

Figure 7. Country Estimates of Remittances' Sensitivity to Own Output



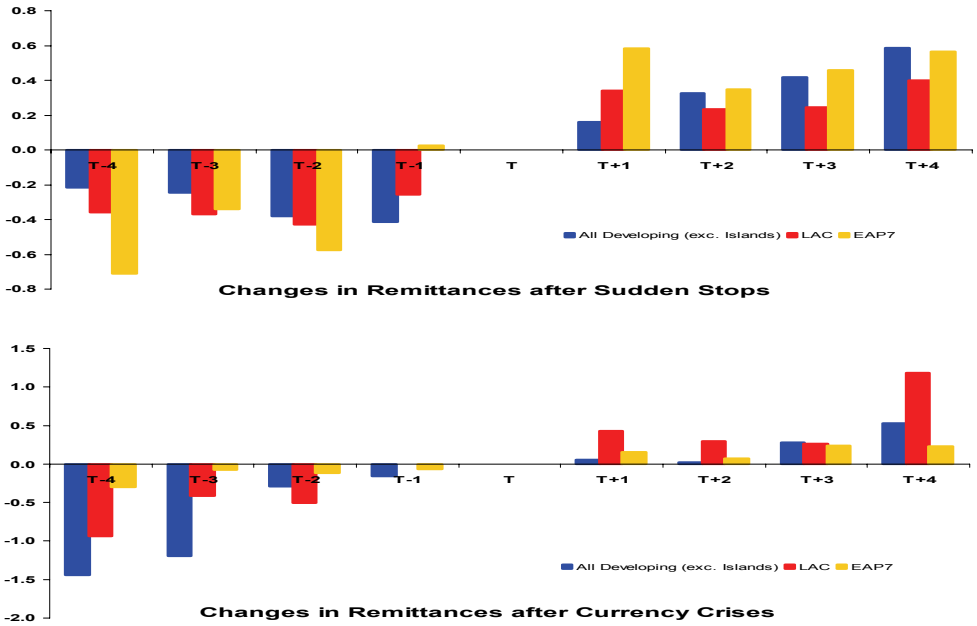
Source: World Bank (2006b).

One concern with the above estimates is that they may reflect average responses of remittances to output in the whole sample of LAC countries. Figure 7 reports time series estimates obtained country by country. Although these results are statistically significant in only 8 of the 26 countries, they suggest considerable heterogeneity across Latin American countries. Indeed, we find that in 16 out of 26 countries remittances behaved countercyclically, with an average coefficient for the output of the recipient country of -2.88. Countries where these estimates are significant include Ecuador, Argentina, Costa Rica, and Mexico. On the other hand, in the remaining group of 10 countries, remittances appear to behave procyclically, with significant positive output coefficients for El Salvador, Paraguay, and Venezuela. It thus appears that the extent to which remittances operate as compensatory transfers or profit-driven capital flows differs considerably across countries.

Notwithstanding these somewhat conflicting results on the business cycles properties of remittances flows in specific countries, World Bank (2006b) shows that in Latin America, as well as in the rest of the developing world, although remittances as a percentage of GDP have clearly declined in the periods preceding both types of severe negative shocks, they have increased considerably thereafter. In particular, as seen in figure 8, in the year after a sudden stop, remittances to Latin America have increased by 0.35 percent of GDP (0.43 percent for currency crises). By the fourth year the average increase with respect the level of remittances preceding the sudden stop is 0.75 percent of GDP (2.74 percent for currency crises). Not surprisingly, we also find evidence that countries with larger remittance flows tend to have less volatile (or more stable) real output fluctuations, even after controlling for standards determinants of growth volatility. Economically speaking, a one standard deviation increase in remittances (1.72) would reduce the standard deviation of growth in real output per capita by more than 10 percent, from a sample average of 3.01 to 2.67. However, the volatility-reducing effects of remittances increase with per capita income, being for instance twice as large for countries close to the 80th percentile of the distribution of per capita income (about $3,000), compared to countries with the sample's median income (about $1,000). Even more important, there is also evidence that external shocks, fiscal and monetary policy shocks, real exchange

overvaluations, and banking crises have a smaller volatility, increasing effect in countries with higher levels of remittances.

Figure 8. The Response of Remittances to Macroeconomic Crises



Source: World Bank (2006b).

VIII. REMITTANCES AND HOUSEHOLD SAVINGS

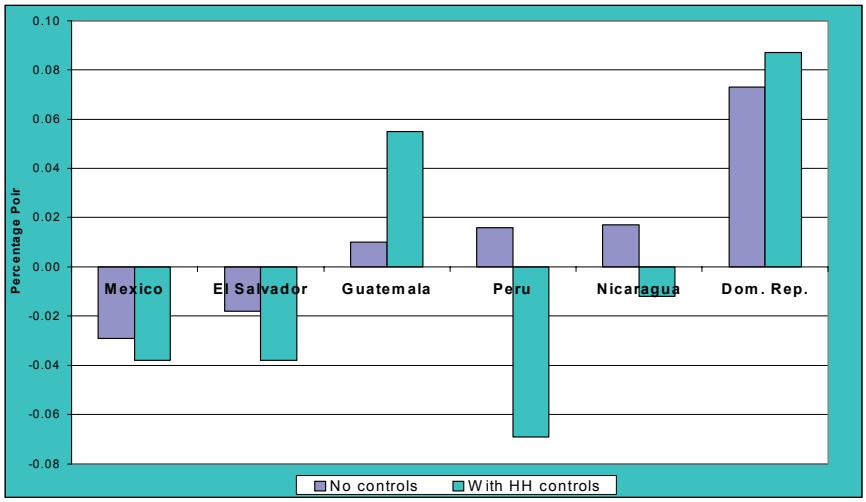
Do recipient households save a fraction of remittances income? Are remittances spent mostly on "conspicuous" consumption goods? Do households that receive remittances direct a larger fraction of their income to investments in housing? How do expenditures in education and health vary with remittances? The macro-level evidence presented above on the positive effect of remittances on investment rates indicates that aggregate savings are likely to be affected as well. Moreover, as shown below, both macro and micro data suggest that remittances tend to increase bank deposits, which suggests that recipient households are able to save some of the income from that source. Despite these indications, there is no direct evidence regarding the saving behavior of remittances recipients. World Bank (2006b) provides new evidence aimed at filling that gap on the basis of household surveys from six LAC countries that contain information on income (including remittances) and expenditures.

The darker bars in figure 9 below show the differences between the saving rates[12] of recipients and non-recipients: in four out of the six countries, recipients save more than non-recipients, the only exceptions being Mexico and El Salvador. However, to avoid potential spurious saving differentials between recipients and non-recipients, we estimate a simple model

[12] Saving rates are calculated as the difference between total income and expenditures as a fraction of total income.

of savings as a function of income quintiles—using the counterfactual pre-migration income variable calculated before—as well as other demographic characteristics of the household. The resulting differences in saving rates between recipients and other households are reported as the lighter bars in figure 9. Somewhat surprisingly, the saving rates of Mexican and Salvadoran recipients turn out to be even lower in comparison with those of non-recipients in similar income ranges and sharing other common characteristics. Moreover, in the cases of Peru and Nicaragua we now find lower saving rates for recipients.

Figure 9. Differences in Saving Rates by Remittance Recipient Status



Source: World Bank (2006b).

To examine how remittances affect saving behavior throughout the income distribution, we have also calculated saving rates for the various income quintiles and compared them by remittances status. In the six countries, recipients in lower income quintiles exhibit higher saving rates than non-recipients. However, these differences tend to diminish and become negative for households located higher up in the income distribution. One possible interpretation of this finding is that, for those in the lower quintiles, remittances operate more as a coping mechanism for meeting anticipated risk, while for those located in the upper quintiles remittances become significant *after* the corresponding households have been hit by negative income shocks that have reduced their saving capacity. Moreover, it is also possible that the number of absent income-generating migrants is larger among richer households.

It must be noted, however, that because some remittance recipients save less than other households with similar characteristics, this does not necessarily imply that they consume the income from remittances entirely (that is, that their saving rate is not positive). By itself, that result suggests only that the propensity to save out of the remittances income is lower than the corresponding saving rate from non-remittances income. Assuming that the saving rate out of non-remittances income is similar across recipients and non-recipients, it is possible to estimate the saving rates of the former out of their remittances income. In almost all cases, these calculations yield positive saving rates for the latter source of income, thus suggesting that recipients do not direct the entirety of remittances to consumption, a result that is consistent with the above findings regarding the positive impact of remittances on domestic investment and growth.

IX. REMITTANCES AND HOUSEHOLD EXPENDITURES

A few previous studies have addressed the links between remittances and patterns of household expenditures, under the assumption that this may shed light on the saving behavior of recipients. This is indeed the case if savings are defined in a broader sense, including not only the fraction of income that is not spent (as above), but also the one that is directed to expenses that probably include important saving components. This is the case, in particular, for the expenditures in consumer durables, education, and health.[13] Previous evidence on Latin America is restricted to the cases of Mexico and Guatemala. Using data on rural Mexico, Taylor (1992) has shown that remittances' recipient families tend to invest more in farm assets (for example, livestock). Similarly, Adams (2005) has found that Guatemalan families reporting remittances tend to spend a lower share of total income on food and other non-durable goods, and more on durable goods, housing, education, and health.

Close to Home complements the above studies by using household survey data for seven countries to test whether the share of different expenditure categories varies across recipient and non-recipient households that share similar demographic characteristics and are in the same quintile of the household income distribution (prior to migration). The main results of that analysis are reported in table 5. With the only exception of Jamaica, we find that remittances' recipients direct a smaller share of their total expenditures towards food, thus suggesting that Adams' (2005) findings for Guatemala also apply to other LAC countries with considerable remittances receipts.[14] The complement of the reduction in food expenditures among remittances recipients is an increase in expenses in other non-durable goods, durable goods, housing, education, and health.

However, the relative importance of these various increases varies considerably across countries. Thus, changes in non-durable goods consumption (excluding food) are significant only in Peru, El Salvador, and Guatemala. Moreover, only in the last two countries and in Mexico and Jamaica does the share of durable goods increase significantly among remittances recipients, and more frequent housing improvements are apparent only El Salvador and Jamaica, with the opposite effect found for Mexico. Increases in health expenditures, however, are present in six out of seven countries (the exception being Nicaragua). Finally, higher educational expenditures are found for four out of seven countries, with the opposite result found for Jamaica, and non-significant effects obtained for Mexico and Nicaragua.[15]

To the extent that savings and expenditure patterns vary with income (see previous section) the above estimates of averages effects on all remittances recipients could mask possible differences across households located in different parts of the income distribution. Indeed, allowing the impact of remittances on expenditures to vary across income quintiles leads to quite different remittances effects across segments of the income distribution. In the case of Mexico,

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[13] See Attanasio and Szekely (2000).

[14] In the case of Mexico, food expenses cannot be separated from those for other non-durable goods, which are lower among recipients.

[15] Relatively similar results—reductions in food shares compensated by increases in non-durables, durables, health and, education—are obtained when the per capita amount of remittances received by each household is taken into account, and when the possible endogeneity of remittances is controlled for.

for instance, recipients in the lower quintiles exhibit the same pattern observed for the overall recipient population—increased expenditures in durable goods, housing, and human capital, at the expense of non-durables. By contrast, their richer counterparts exhibit higher expenses in non-durable goods and lower expenditures in housing improvements and education.

Table 5. Access to Remittances and Expenditure Shares

Dependent Variable	Food	Non-Durables	Durables	Housing	Education	Health
Mexico[1]	-0.031*** (0.006)	N/A	0.014*** (0.004)	-0.006** (0.003)	0.003 (0.004)	0.021*** (0.003)
El Salvador	-0.038*** (0.004)	0.008** (0.003)	0.002* (0.001)	0.003** (0.001)	0.019*** (0.003)	0.006*** (0.001)
Guatemala	-0.034*** (0.006)	0.010* (0.005)	0.006** (0.002)	0.000 (0.002)	0.009*** (0.003)	0.009* (0.005)
Peru[2]	-0.043*** (0.008)	0.024*** (0.007)	-0.006 (0.004)	-0.001 (0.003)	0.009** (0.004)	0.016*** (0.005)
Nicaragua	-0.014* (0.007)	-0.002 (0.006)	0.000 (0.001)	0.003 (0.003)	0.008 (0.005)	0.005 (0.006)
Jamaica[3]	-0.002 (0.005)	-0.007 (0.005)	0.004*** (0.001)	0.003** (0.001)	-0.005* (0.003)	0.009*** (0.002)
Dominican Republic[3]	-0.013*** (0.004)	-0.002 (0.003)	0.000 (0.001)	0.000 (0.001)	0.003* (0.002)	0.012*** (0.003)

Notes: *** Significant at 1% level. ** Significant at 5% level. * Significant at 10% level.

[1] Food and other non-durable goods together.

[2] Only urban areas.

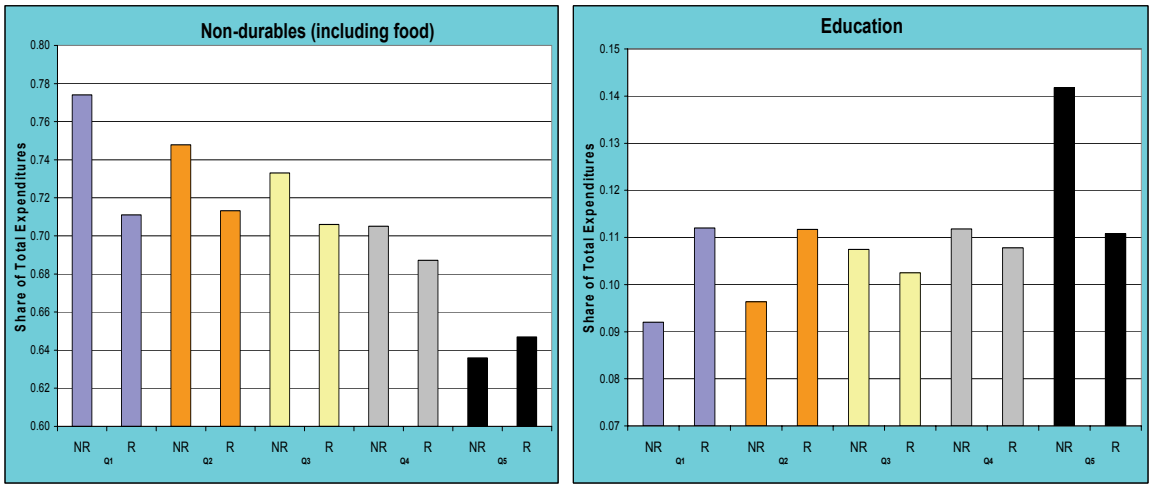
[3] Coefficients for housing in Jamaica and Dominican Republic are multiplied by 10.

Source: World Bank (2006b).

Thus, at least in Mexico, remittances appear to be used in a more productive way by poorer households, arguably because they relax budget constraints that limit the housing and human capital investments of poorer families. For richer households, on the other hand, the results suggest that the above budget constraints are not binding, so that remittances have the effect of increasing the consumption of food and non-durable goods. This is illustrated in figure 10, which shows that in Mexico recipients in the first quintile experience a reduction in food and non-durable goods expenses and an increase in educational expenditures in comparison with non-recipients of similar characteristics. However, both changes tend to become smaller—and even have their signs reversed—as one moves up in the income distribution.

In the remaining countries under analysis, a quite different pattern is observed across poorer and richer households. Thus, with the exception of Jamaica, whenever remittances are found to significantly increase educational and health expenditures of recipient households, the effects are restricted to those in the upper quintiles of the income distribution. For those richer families, higher human capital investments are achieved through lower expenditures in non-durable (three out of seven countries) as well as durable goods (four out of seven countries). On the other hand, poorer recipient households are found to reduce expenditures in education in Nicaragua and Guatemala, and they exhibit higher expenditures in non-durables in the

Figure 10. Expenditures in Non-Durables (Including Food) and Education by Remittance Recipient Status and Counterfactual Income Quintile: Mexico

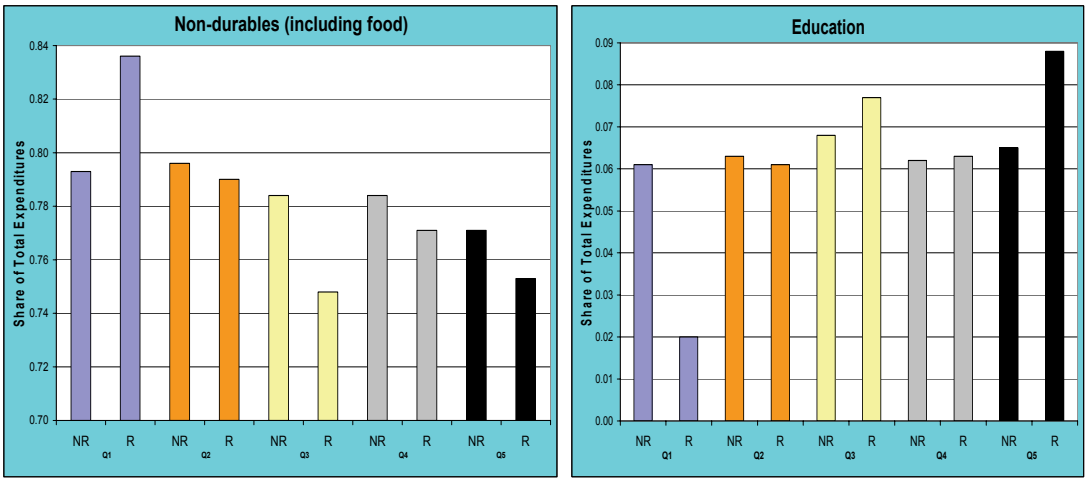


Source: World Bank (2006b).

Dominican Republic, Jamaica, and Guatemala. The contrast with the pattern for Mexico, mentioned in the previous paragraph, is well illustrated by the pattern observed in Nicaragua, where households located in the higher quintiles of the income distribution reduce food and non-durable expenses and increase educational expenditures, while those in the lower quintiles exhibit an opposite pattern—relatively lower educational expenses and higher expenditures in food and non-durables (figure 11).

Our overall results indicate that except for the case of Mexico, remittances only have the beneficial effect of changing consumption patterns towards higher educational and health expenditures among middle- and upper-class households. Among those in the lower quintiles of the income distribution, the results tend to confirm the popular perception that remittances tend to tilt household expenditures mainly towards non-durable goods, with some effects on durable consumption, but with a limited impact on housing and human capital investments. Putting this together with the results on the effect of remittances on savings (see previous section), the evidence indicates that poorer recipient households save a positive fraction of their remittances income, but they do not increase the share of their expenditures in saving-intensive items—physical and human capital assets. Richer recipients, on the other hand, tend to lower their saving rates in comparison with non-recipients, but they alter their expenditure patterns in the direction of goods and services with a high saving component.

Figure 11. Expenditures in Non-Durables (Including Food) and Education by Remittance Recipient Status and Counterfactual Income Quintile: Nicaragua



Source: World Bank (2006b).

X. REMITTANCES AND HUMAN CAPITAL

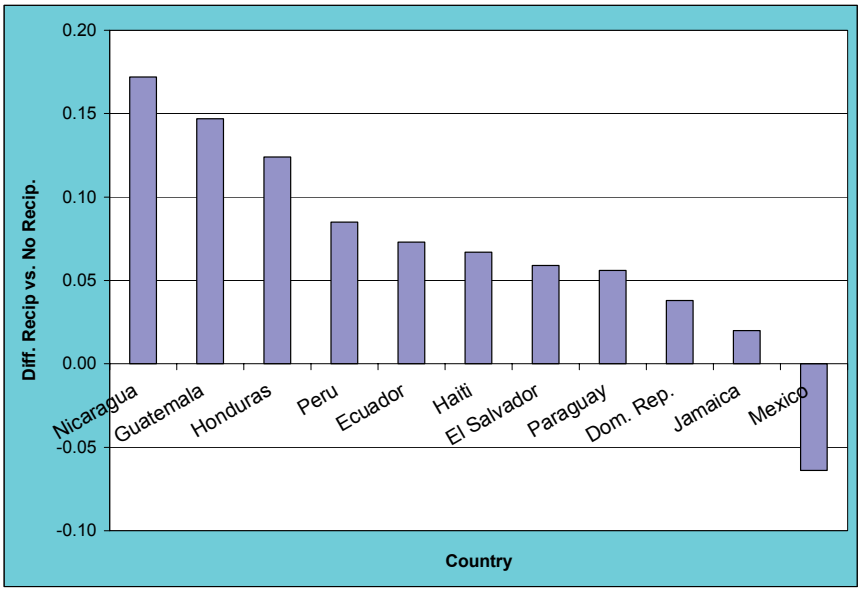
The results in the previous section indicate that, at least for some segments of the income distribution, remittances can help overcome borrowing constraints that limit human capital investments. However, *a priori*, this effect could be compensated for by the fact that migration can have disruptive effects on family life, with potentially negative consequences on the schooling of children. Moreover, to the extent that most migrants tend to work in occupations in their destination countries that require limited human capital, the returns from investments in education may be lower for those who are envisaging international migration.

Existing evidence on the impact of remittances on education in LAC is restricted to the cases of Mexico and El Salvador. For rural Mexico, Hanson and Woodruff (2003) find positive effects among 10–15 year-old girls whose mothers have low levels of schooling. Similarly, for the case of El Salvador, Cox-Edwards and Ureta (2003) and Acosta (2006) show that children from remittance-recipient households are less likely to drop out of school, a finding that those analysts attribute to the relaxation of budget constraints affecting poor recipient households. However, using Mexican municipalities' data, Lopez-Cordova (2005) reaches mixed conclusions, depending on the children's age—for example, the effects on schooling are negative for children aged 15 to 17. Likewise, McKenzie and Rapoport (2005) show that Mexican children aged 16 to 18 in households with migrants exhibit lower levels of educational attainment, and that this negative effect is amplified among children whose mothers have higher levels of schooling.

Data on 11 countries from the region show that with the exception of Mexico, children from families reporting remittances are more likely to remain in school (figure 12). The largest differences in enrollment rates are obtained for Nicaragua, Guatemala, and Honduras, where they are between 12 percent and 17 percent higher for recipient families. Some of these differences,

however, could be attributed to the fact that households that report remittances exhibit considerably different demographic and income characteristics from those of non-recipients. We estimate regression models that attempt to deal with this problem, using a specification that closely follows Hanson's and Woodruff's (2003), and focuses on the accumulated schooling of children aged 10 to 15. Our results suggest that access to remittances is positively and significantly associated with higher educational attainment in 6 out of 11 countries—the exceptions being Mexico, Paraguay, Peru, Jamaica, and the Dominican Republic.

Figure 12. Differences in School Enrollment Rates for Children 12–17 Years Old by Remittance-Recipient Status



Source: World Bank (2006b).

We have also allowed the effects of remittances on schooling to vary with the educational attainment of the children's parents. The results confirm those of previous papers on Mexico, suggesting that the positive effect of remittances on education tends to be larger when the schooling of parents is low (table 6). For instance, among rural girls in Mexico, Paraguay, and Peru,[16] we find a positive and significant effect for children whose mothers have at most three years of educational attainment, whereas for the remaining children the effect is estimated to be close to zero—although it is slightly negative in Mexico and Paraguay. Similarly, in Guatemala and Honduras, we find positive effects of remittances that are larger for children with uneducated mothers and considerably smaller for those whose mothers have at least four years of schooling. Overall, while there large differences by gender and urban status—for example, in some countries the effects are stronger for girls or for rural areas, while in others they also affect boys and urban areas—it appears that remittances tend to relax budget constraints that otherwise would force children to leave school, especially in households with low levels of adult schooling.

[16] In the case of Peru the sample includes both urban and rural children.

Table 6. Remittances and Children's Education by Mother's Education

Age Group		10-15 Years Old			
Dependent Variable		Accumulated Schooling			
Country	Variable	Rural		Urban	
		Boys	Girls	Boys	Girls
Mexico	Receive Remittances	-0.082	0.329**	-0.041	-0.573
		(0.192)	(0.141)	(0.329)	(0.553)
	Receive Remittances * Mother Educ 4 Years or More	-0.144	-0.417**	0.024	0.461
		(0.240)	(0.186)	(0.378)	(0.577)
El Salvador	Receive Remittances	0.511***	0.251**	0.365**	-0.191
		(0.129)	(0.115)	(0.170)	(0.186)
	Receive Remittances * Mother Educ 4 Years or More	-0.116	0.229	-0.203	0.297
		(0.212)	(0.176)	(0.197)	(0.206)
Guatemala	Receive Remittances	0.482**	0.223	0.412	1.109***
		(0.200)	(0.186)	(0.337)	(0.231)
	Receive Remittances * Mother Educ 4 Years or More	-0.179	0.450	-0.323	-1.336***
		(0.389)	(0.318)	(0.408)	(0.315)
Honduras	Receive Remittances	0.581***	0.662***	0.731***	0.554***
		(0.142)	(0.155)	(0.178)	(0.209)
	Receive Remittances * Mother Educ 4 Years or More	-0.317*	-0.328*	-0.564***	-0.247
		(0.193)	(0.184)	(0.193)	(0.220)
Ecuador	Receive Remittances	0.278	-0.106	0.502	0.805*
		(0.233)	(0.237)	(0.331)	(0.463)
	Receive Remittances * Mother Educ 4 Years or More	-0.138	0.386	-0.239	-0.547
		(0.277)	(0.287)	(0.344)	(0.475)
Paraguay	Receive Remittances	0.056	0.433*		
		(0.271)	(0.235)		
	Receive Remittances * Mother Educ 4 Years or More	-0.133	-0.476		
		(0.374)	(0.345)		
Haiti	Receive Remittances			0.043	0.273**
				(0.120)	(0.111)
	Receive Remittances * Mother Educ 4 Years or More			0.229	-0.111
				(0.237)	(0.220)
Peru	Receive Remittances			0.187	0.393***
				(0.296)	(0.144)
	Receive Remittances * Mother Educ 4 Years or More			-0.362	-0.343*
				(0.338)	(0.207)
Nicaragua [1]	Receive Remittances	0.577**	0.554**		
		(0.260)	(0.221)		
	Receive Remittances * Mother Educ 4 Years or More	-0.208	-0.296		
		(0.310)	(0.258)		
Jamaica [1]	Receive Remittances	0.510	-0.236		
		(0.465)	(0.435)		
	Receive Remittances * Mother Educ 4 Years or More	-0.668	0.253		
		(0.484)	(0.443)		
Dom. Rep. [1]	Receive Remittances	-0.148	0.301		
		(0.242)	(0.208)		
	Receive Remittances * Mother Educ 4 Years or More	0.282	-0.242		
		(0.263)	(0.230)		

Notes: *** Significant at 1% level. ** Significant at 5% level. * Significant at 10% level.
[1] Rural and Urban areas together.
Source: World Bank (2006b).

An additional topic of interest is the potential existence of positive links between international remittances and children's health. Few previous studies have addressed this topic, with the exception of those related mostly to infant mortality. Thus, Brockerhoff (1990) and Ssengonzi, De Jong, and Stokes (2002) have found that rural to urban migration significantly increases child survival in Senegal and Uganda, respectively. Similar conclusions have been reached for the case of Mexico by Kanaiaupuni and Donato (1999), Lopez-Cordova (2006), and Hildebrandt and McKenzie (2006), although the first of these papers concludes that migration by

itself actually increases infant mortality rates. Moreover, Hildebrandt and McKenzie (2006) find evidence that migration raises maternal health knowledge and the likelihood that the child was delivered by a doctor. On the other hand, preventative health care (such as breastfeeding, visits to doctors, and vaccinations) seems to be less likely for children from migrant households.

In this study, we focus on the links between remittances and anthropometric health indicators for children aged 1 to 5, the incidence of doctor-assisted births (in a sample of mothers that gave birth a year prior to the survey), and the probability that children aged 2 to 5 receive complete vaccinations sets. We use data from Guatemala and Nicaragua because the other household surveys used in this study do not provide information on the above health indicators. Plot densities of the above anthropometric indicators for children from remittance recipient and non-recipient households show that children from recipient households have both higher weight-for-age and height-for-age "z-scores." To test whether these results are driven by the differential characteristics of households with and without migrants, we estimate a regression model similar to the one used for educational attainment, allowing the effects of remittances to vary between the first, second, and higher quintiles of the income distribution—using the counterfactual income prior to migration.[17]

Table 7. Remittances and Health Outcomes

Country	Guatemala				Nicaragua			
Dependent Variable	Weight-for-Age Z-Score	Height-for-Age Z-Score	Received All Vaccines	Child Delivered by Doctor	Weight-for-Age Z-Score	Height-for-Age Z-Score	Received All Vaccines	Child Delivered by Doctor
2nd Income Quintile	0.117**	0.141**	0.011	0.006	0.154*	0.230**	-0.028	0.104*
	(0.058)	(0.060)	(0.011)	(0.015)	(0.085)	(0.091)	(0.047)	(0.060)
3rd Income Quintile	0.233***	0.385**	0.016	0.054***	0.077	0.327***	-0.011	0.085
	(0.060)	(0.067)	(0.013)	(0.025)	(0.099)	(0.109)	(0.054)	(0.070)
4th Income Quintile	0.325***	0.479**	0.010	0.023	0.263**	0.594***	-0.126	0.168*
	(0.073)	(0.076)	(0.016)	(0.023)	(0.117)	(0.113)	(0.062)	(0.079)
5th Income Quintile	0.594***	0.686**	0.026	0.013	0.352**	0.594***	-0.102	0.263**
	(0.091)	(0.098)	(0.018)	(0.025)	(0.138)	(0.136)	(0.078)	(0.082)
Remittances	0.211**	0.213	0.065**	0.255***	0.306	0.289	0.119	0.297**
	(0.089)	(0.228)	(0.021)	(0.160)	(0.394)	(0.347)	(0.225)	(0.090)
Remittances*Q2	-0.327	0.084	-0.082	-0.034*	-0.370	-0.079	0.034	-0.463*
	(0.283)	(0.264)	(0.079)	(0.007)	(0.457)	(0.421)	(0.275)	(0.225)
Remittances*Q3-Q4-Q5	-0.423	0.004	-0.041	-0.036***	-0.252	-0.148	0.071	-0.623***
	(0.272)	(0.253)	(0.071)	(0.006)	(0.418)	(0.385)	(0.252)	(0.114)

Notes: *** Significant at 1% level. ** Significant at 5% level. * Significant at 10% level.
Source: World Bank (2006b).

Table 7 reports our estimation results, including the coefficients on freestanding dummy variables for the second through fifth income quintiles. As confirmed by our estimates, both weight-for-age and height-for-age indexes tend to increase monotonically and significantly with household income, as does the likelihood of doctor-assisted deliveries in the case of Nicaragua. More importantly, controlling for pre-migration income, children from households that report receiving remittances tend to exhibit higher health outcomes than those from non-recipients households with similar demographic and socioeconomic characteristics. While the relatively

[17] We group the third through fifth quintiles due to the relatively small sample size for some of the estimations.

small sample sizes make most of the estimated interactives between remittances and income quintiles non-significant from a statistical point of view, the results in most cases clearly indicate that the impact of remittances on children health is concentrated on low-income households located in the first quintile of the income distribution.

XI. REMITTANCES, LABOR SUPPLY, AND ENTREPRENEURSHIP

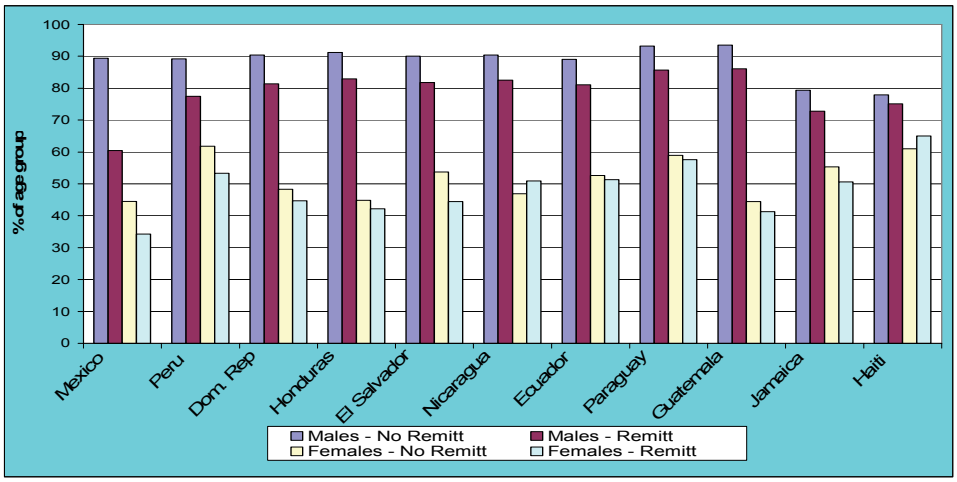
The impact of remittances on labor supply is, in principle, ambiguous. For individuals in households with migrants, the net additional income derived from remittances could have the "income effect" of increasing the demand for leisure and reservation wages, with a consequent reduction in labor force participation. However, out-migration also has the direct effect of reducing the size of the labor force, and the ensuing upward pressure on local wages could in turn create a "substitution effect" away from leisure, with a consequent increase in labor supply for those living in areas with high migration rates. In the case of Mexico, for instance, Mishra (2004) estimates that emigration raised average wages by 8 percent between 1970 and 2000. In addition to the above factors, in households with recent migrants the need to replace the income lost due to the migration of wage earners could reinforce the effect of higher market wages, resulting in an increase in the labor participation of non-migrants.

Previous research suggests that while remittances tend to reduce labor force participation in rural Mexico (Hanson, 2005) and El Salvador (Acosta, 2006), they do not have a significant effect in Nicaragua (Funkhouser, 1992). To determine whether previous evidence can be generalized to other LAC countries, we first compare labor force participation rates across individuals living in households with and without access to remittances. As seen in figure 13, with the exception of females in Haiti and Nicaragua, the rates for recipients are considerably lower than for non-recipients. The largest differences are obtained for Mexico, where nearly 90 percent of non-recipient males are working or looking for a job, while only 60 percent of their recipient counterparts are doing so—the corresponding rates for females are 45 percent and 34 percent, respectively. Differences by remittances-recipient status in other countries average 8 percent for males and 3 percent for females.

While these differences are considerable, they could be driven by individual and household characteristics associated with access to remittances and also with labor force participation decisions. To investigate whether this is indeed the case, we estimate regression models for hours worked outside the home, as well as for individuals' decisions to participate in the labor market, including access to remittances among other determinants.[18] The results are presented in table 8.

[18] In the case of hours, we employ a "tobit" specification that takes into account the fact that many individuals do not participate in the labor market and thus report zero worked hours. In the case of the labor participation decision, we employ a "probit" model which controls for the possible endogeneity of remittances using instrumental variables.

Figure 13. Labor Force Participation of Adults (20–59 Years Old), by Gender and Remittance Recipient Status



Source: World Bank (2006b).

Confirming previous evidence, our results suggest that in all the 10 countries for which data is available, remittances have the effect of reducing the number of hours worked per week. This negative effect is generally present in both urban and rural areas and for both males and females—even if in a differing degree depending on the country. Similar results are obtained for the impact of remittances on labor force participation, with the main exceptions of Guatemala, and urban areas in Mexico, Honduras, and the Dominican Republic, where that effect becomes non-significant. Moreover, in both Paraguay and Haiti, females living in urban areas are found to be more likely to participate in the labor force when receiving remittances.

Since remittances may be expected to have lower effects on the labor supply decisions of individuals with higher levels of schooling—for which remittances may represent a smaller fraction of total income—we also estimate separate labor participation effects for those who have at most three years of schooling and those with more than three years of schooling. The results indicate that in 8 out of 11 countries the reductions in labor supply caused by remittances are indeed much smaller among individuals with higher levels of schooling—the exceptions being El Salvador, the Dominican Republic, and Jamaica. Moreover, in the cases of rural females in Guatemala and Paraguay and rural males in Haiti, for those with at least four years of schooling the effect of remittances appears to be that of increasing labor supply, which is consistent with either social disruption effects or with changing labor market conditions that affect remittances recipients to a larger extent.

Regardless of the effect of remittances on labor force participation, one could argue that for those individuals who remain active in the labor market, remittances could potentially alter the choice between salaried work and entrepreneurial activities. Indeed, assuming that many would-be entrepreneurs are subject to credit constraints, one could expect remittances to provide the means for financing the opening or expansion of small businesses. In practice, however, this effect could be countervailed by other considerations, such as the fact that households with migrants have a smaller pool of potential non-paid family workers, and that those household

Table 8. Access to Remittances, Hours Worked, and Labor Force Participation

Age Group	20-59 Years Old				20-59 Years Old			
Dependent Variable	Hours worked last week				Labor Force Participation			
Sample	Rural		Urban		Rural		Urban	
	Males	Females	Males	Females	Males	Females	Males	Females
Mexico	-15.473***	-13.187***	-12.686***	-7.561***	-0.329***	-0.245***	-0.097	0.023
	(1.022)	(1.979)	(1.473)	(2.175)	(0.048)	(0.049)	(0.135)	(0.146)
El Salvador	-4.498***	-12.257***	-5.546***	-8.580***	-0.087	-0.598***	-0.032	-0.309***
	(0.986)	(2.089)	(0.847)	(1.115)	(0.070)	(0.083)	(0.101)	(0.100)
Guatemala	-0.969	-15.253***	-6.180***	-7.228***	0.007	-0.095	-0.228	-0.261
	(1.426)	(3.418)	(1.601)	(2.427)	(0.170)	(0.221)	(0.140)	(0.206)
Honduras	-3.052***	-12.813***	-6.307***	-10.067***	-0.006	-0.135**	-0.096	-0.095
	(0.704)	(2.046)	(0.816)	(1.152)	(0.068)	(0.067)	(0.094)	(0.095)
Ecuador	-2.186*	-4.399**	-3.391***	-5.622***	-0.228**	-0.154*	-0.310**	0.211
	(1.264)	(1.723)	(1.117)	(1.621)	(0.090)	(0.085)	(0.134)	(0.203)
Paraguay	-15.395**	-5.583	10.865	7.506	-0.009	0.052	-0.530*	0.908**
	(7.247)	(13.027)	(11.680)	(10.789)	(0.092)	(0.174)	(0.321)	(0.380)
Haiti	-8.410***	-2.925	-1.221	2.308	0.254	0.338**	0.114**	0.263***
	(2.831)	(3.069)	(1.170)	(1.412)	(0.164)	(0.165)	(0.051)	(0.088)
Peru			-12.711***	-7.455***			-0.334***	-0.284**
			(1.870)	(2.306)			(0.099)	(0.123)
Nicaragua	-3.096	-0.701	-7.216***	-7.776***	-0.181*	0.337	-0.211*	-0.008
	(1.889)	(5.208)	(1.643)	(2.134)	(0.099)	(0.208)	(0.127)	(0.140)
Jamaica	N/A	N/A	N/A	N/A	-0.047	-0.027	-0.128**	-0.056
					(0.051)	(0.051)	(0.064)	(0.061)
Dominican Republic	-5.278***	-8.844***	-7.240***	-10.245***	-0.222**	-0.010	-0.108	-0.131
	1.301	2.828	1.031	1.514	(0.092)	(0.126)	(0.071)	(0.082)

Notes: *** Significant at 1% level. ** Significant at 5% level.
* Significant at 10% level.
Source: World Bank (2006b).

members may be more risk averse, may have a background that is not favorable to entrepreneurial experience, or may have a higher probability of eventually migrating themselves. Previous evidence for Mexico and Nicaragua suggests that the relaxing of credit constraints appears to prevail as remittances tend to exert a positive influence on entrepreneurship.

However, the data for other countries from the region does not overwhelmingly support the above finding. Indeed, in 6 out of 11 countries self-employment is more common among non-recipients, and so is business ownership in 5 out of 11 countries. When comparing the incidence of self-employment and business ownership in a regression framework that controls for other personal and household characteristics, we find that remittances are significantly and positively associated with self-employment in only 6 out of 11 countries (El Salvador, Guatemala, Honduras, Ecuador, Paraguay, and the Dominican Republic). Moreover, in the cases of Jamaica and Haiti, a negative relationship is suggested by the data. As for the effects on business ownership, our estimates suggest positive and significant effects in only four cases: Mexico, El Salvador, Honduras, and Peru.

We also investigate whether the likelihood that remittance-recipient households engage in entrepreneurial activities varies with income. The results, reported in table 9, suggest that remittances tend to have a positive effect on the probability of individuals from poor households, those in the first income quintile, being business owners. However, this effect becomes increasingly smaller as one moves up in the income distribution, a pattern that is most clear in the cases of Mexico, El Salvador, Honduras, and Ecuador. By contrast, for the case of self-employment, the probability that a remittances recipient from the first quintile is self-employed is actually smaller than for non-recipients in 6 out of 11 countries—and is significantly smaller in three—but the effect of remittances increases with income and eventually becomes positive for the top quintiles. Overall, our results tend to confirm that access to remittances may positively affect the incentives for entrepreneurship in most income quintiles, with a larger effect on business ownership among individuals from poorer households, and a larger effect on self-employment in middle- to high-income households.

Table 9. Remittances and Entrepreneurship by Income Quintile

Sample		20-59 Years Old	
Dependent Variable		Self-Employment	Own Business
Mexico	Remittances	0.088**	0.048**
	Remittances*Q2	0.088*	-0.011
	Remittances*Q3	-0.038	-0.010
	Remittances*Q4	-0.026	-0.019**
	Remittances*Q5	0.148**	-0.020*
El Salvador	Remittances	-0.056***	0.092***
	Remittances*Q2	0.095***	-0.012
	Remittances*Q3	0.071**	-0.020
	Remittances*Q4	0.081***	-0.041***
	Remittances*Q5	0.115***	-0.050***
Guatemala	Remittances	0.091	0.034
	Remittances*Q2	0.050	-0.031
	Remittances*Q3	0.007	-0.013
	Remittances*Q4	-0.026	-0.028
	Remittances*Q5	0.012	-0.039
Honduras	Remittances	-0.033	0.119***
	Remittances*Q2	0.077	-0.020
	Remittances*Q3	0.058	-0.037**
	Remittances*Q4	0.090*	-0.051***
	Remittances*Q5	0.054	-0.062***
Ecuador	Remittances	-0.064	0.113***
	Remittances*Q2	0.142**	-0.046***
	Remittances*Q3	0.139**	-0.042***
	Remittances*Q4	0.079	-0.034**
	Remittances*Q5	0.110*	-0.048***
Haiti	Remittances	-0.065*	-0.002
	Remittances*Q2	0.018	0.023
	Remittances*Q3	0.053	-0.007
	Remittances*Q4	0.007	-0.006
	Remittances*Q5	0.047	-0.009
Peru	Remittances	-0.268	N/A
	Remittances*Q2	0.291	
	Remittances*Q3	0.274	
	Remittances*Q4	0.306	
	Remittances*Q5	0.368	
Paraguay	Remittances	-0.005	0.071
	Remittances*Q2	-0.012	-0.018
	Remittances*Q3	0.063	-0.029**
	Remittances*Q4	0.121	-0.030**
	Remittances*Q5	0.163	-0.020
Nicaragua	Remittances	0.121	0.048
	Remittances*Q2	-0.092	-0.007
	Remittances*Q3	-0.061	-0.017
	Remittances*Q4	-0.102	-0.006
	Remittances*Q5	-0.095	-0.066
Jamaica	Remittances	-0.081**	N/A
	Remittances*Q2	0.063	
	Remittances*Q3	0.028	
	Remittances*Q4	0.057	
	Remittances*Q5	0.113	
Dominican Rep.	Remittances	0.082	0.005
	Remittances*Q2	-0.018	-0.013
	Remittances*Q3	0.009	0.007
	Remittances*Q4	-0.065	-0.001
	Remittances*Q5	-0.084	-0.008

Notes: *** Significant at 1% level. ** Significant at 5% level.
* Significant at 10% level.

Source: World Bank (2006b).

XII. REMITTANCES AND FINANCIAL SECTOR DEVELOPMENT

Whether and how remittances might affect financial development is not readily apparent. The notion that remittances can lead to financial development in developing countries is based on the concept that money transferred through financial institutions paves the way for recipients

to demand and gain access to other financial products and services, which they otherwise might not have (Orozco, 2005). At the same time, providing remittance transfer services allows banks to "get to know" and reach out to "unbanked" recipients. Moreover, even if higher bank lending to remittance recipients does not materialize, overall credit in the economy might increase if banks' loanable funds surge as a result of deposits linked to remittance flows.

On the other hand, because remittances can help relax individuals' financing constraints, they might lead to a lower demand for credit and have a dampening effect on credit market development. Also, a rise in remittances might not translate itself into an increase in credit to the private sector if these flows are instead channeled to finance the government. Finally, remittances might not increase bank deposits if they are immediately consumed or if remittance recipients distrust financial institutions and prefer other ways to save these flows

Recent accounts of financial institutions' attempts to "bank" remittance recipients—by lowering remittance fees and by offering specially designed products—suggest that financial institutions perceive the likely impact of remittances on financial development to be positive.[19] However, little empirical research exists on the impact of remittances on financial development. One exception is a recently completed study by Aggarwal, Demirgüç-Kunt, and Martínez Pería, (2005) that, using aggregate BOP data for a large sample of developing countries, uncovers a positive relationship between remittances and financial development. *Close to Home* complements that study by investigating the association between remittances and financial development in the specific case of Latin America, using both at macro- and micro-level data and techniques.

Macroeconomic Evidence

As a first approximation, table 10 shows country-by-country correlations between remittances and two measures of financial development—bank deposits and bank credit to the private sector as a share of GDP.[20] The results indicate that for 16 countries out of 25 countries in the region there is a positive and significant association between financial development and remittances. On the other hand, for Belize, Dominica, St. Kitts, St. Lucia, and St. Vincent, we observe a negative correlation between remittances and both measures of financial development, and no clear macro-level relationship appears to exist between those variables for Argentina, Mexico, Haiti, and Panama.

While these correlations are helpful in describing the association between remittances and financial development, a more rigorous empirical approach is required to obtain a more definitive answer regarding the link between these variables. In particular, it is important to control for other factors that might affect both remittances and financial development and to correct for potential endogeneity biases that might arise as a result of measurement error, reverse causation, and omitted country characteristics. To this end, we model the relationship between remittances and financial development using a large panel of developing countries and allowing

[19] See Orozco and Fedewa (2005) for a summary of recent efforts by banks in Latin America to convert remittance recipients into bank clients.

[20] Bank deposits include all demand, savings, and time deposits held at deposit money banks as reported in the IMF's International Financial Statistics. Bank credit refers to claims on the private sector held by deposit money banks. These numbers also come from the IMF's International Financial Statistics.

for the relationship between remittances and financial development to be different for countries in the region vis-à-vis other developing countries.

Table 10. Correlation between Remittances and Indicators of Financial Development

Country	Remittances - Bank Deposits	Remittances - Bank Credit
Argentina	0.0861	-0.0728
Barbados	0.8969***	0.8703***
Belize	-0.6227***	-0.7265***
Bolivia	0.6298***	0.7099***
Brazil	0.8279***	0.7390***
Colombia	0.8074***	0.6256***
Costa Rica	0.3151*	0.4129**
Dominica	-0.2699	-0.4757*
Dominican Republic	0.8415***	0.6779***
Ecuador	0.8279***	0.9183***
El Salvador	0.7791***	0.5756***
Grenada	0.4880*	0.3213
Guatemala	0.3501*	0.278
Haiti	-0.3318	0.1037
Honduras	0.9408***	0.8753***
Jamaica	0.5255***	-0.1291
Mexico	-0.2216	0.0415
Nicaragua	0.7547***	-0.0628
Panama	0.3181	0.2859
Paraguay	0.9357***	0.8867***
Peru	0.9334***	0.8939***
St. Kitts and Nevis	-0.3610	-0.5200**
St. Lucia	-0.3952	-0.5752**
St. Vincent and the Grenadines	-0.6263***	-0.8606***
Trinidad and Tobago	0.3808**	0.2113

Source: World Bank (2006b).

Notes: Table reports pairwise correlations between remittances (as a share of GDP) and two indicators of financial development, for the period 1975–2003. *, **, *** denote significance at 10, 5, and 1 percent, respectively.

This econometric exercise indicates that remittances have a positive and significant impact on both bank deposits and bank credit. For the whole sample of developing countries, a one percentage point increase in the share of remittances to GDP results in approximately a five percentage point rise in bank deposits and credit to GDP. Other variables, such as log of GDP, GDP per capita, inflation, and financial liberalization are also significant and have the expected sign. Among LAC countries, however, we find that remittances have a smaller effect on financial development, with a one percentage point rise in remittances leading to at most a four percentage point increase in deposits and credit to GDP.

Table 11 reports results allowing remittances to have a different impact across the 16 countries for which we found a positive correlation between remittances and financial development (henceforth referred to as LAC16), the four countries for which the correlation between remittances and financial development was insignificant (LAC4), and the remaining five countries

(LAC5). For LAC16 and LAC4 countries, we find that remittances have a positive impact on credit and deposits. Among LAC16 countries, a one percentage point increase in remittances results in approximately a three percentage point rise in bank deposits/credit, while for LAC4 countries this effect is closer to two percentage points. On the other hand, among LAC5 countries remittances appear to have no statistically significant impact on financial development.

Table 11. Remittances and Financial Development (Panel Estimates)

	Bank Deposits to GDP		**Bank Credit to GDP**	
Remittances to GDP	15.367	15.41	13.074	18.153
	[2.39]**	[1.87]*	[2.42]**	[1.85]*
LAC16 × Remittances to GDP	-12.233	-13.656	-9.618	-15.428
	[2.08]**	[1.72]*	[1.95]*	[1.63]
LAC5 × Remittances to GDP	-28.898	-7.659	-27.9	-12.576
	[1.97]**	[0.53]	[2.22]**	[0.73]
LAC4 × Remittances to GDP	-13.251	-13.903	-10.599	-15.582
	[2.27]**	[1.84]*	[2.17]**	[1.73]*
Log of GDP	42.388	46.494	44.65	64.841
	[2.33]**	[1.83]*	[2.88]***	[2.15]**
GDP per capita	6.038	4.633	6.94	4.615
	[1.54]	[0.96]	[2.06]**	[0.80]
Inflation	-0.002	-0.002	-0.001	-0.001
	[1.27]	[1.44]	[0.92]	[0.77]
Dual exchange rate	-0.484	-0.924	-2.658	-3.5
	[0.16]	[0.33]	[1.03]	[1.04]
Other flows to GDP	-0.076	-0.021	-0.054	-0.042
	[0.99]	[0.30]	[0.82]	[0.50]
Exports to GDP	-0.104	-0.126	-0.192	-0.312
	[0.67]	[0.67]	[1.44]	[1.39]
Financial liberalization		6.05		6.927
		[1.70]*		[1.64]
Remittances LAC16	3.134	1.754	3.456	2.725
H0: Remittances for LAC16=0	3.19	1.48	5.21	2.52
P-Value	0.07	0.22	0.02	0.11
Remittances LAC5	-13.531	7.751	-14.826	5.577
H0: Remittances for LAC5=0	1.22	0.31	1.98	0.11
P-Value	0.27	0.58	0.16	0.74
Remittances LAC4	2.116	1.507	2.475	2.571
H0: Remittances for LAC4=0	2.71	1.6	5.03	3.27
P-Value	0.1	0.21	0.03	0.07
Observations	1150	910	1143	910
Country dummies	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes
Sargan test of overidentifying re	3.08	4.78	3.47	4.45
P-value for Sargan test	0.93	0.78	0.9	0.81

Source: World Bank (2006b).

Absolute value of t statistics in brackets, *, **, and *** denote significance at 10 percent, 5 percent, and 1 percent.

What explains the finding that remittances have a positive but smaller impact on financial development for Latin American countries relative to other developing economies? Although this is a hard question to tackle and one for which a definite answer is not possible given the data available, it is possible to suggest several explanations that further research could explore in more detail.

First, remittance recipients in Latin American countries may be less likely to use financial institutions because of greater distrust of these institutions relative to recipients in other countries, possibly because crises have been more recurrent and severe in Latin America.

Second, the impact of remittances on financial development in Latin America might be smaller if remittance recipients in these countries are less likely to receive remittances via banks—which is indeed the case in Latin America, as suggested by surveys of remittances senders performed by the Inter-American Development Bank. In fact, it is estimated that in 2004 only 7 percent of remittances were sent through banks (see also Section XVII below).

Third, remittances might not spur significant deposits or credit growth in Latin America if access to physical banking outlets is more limited in this region than in other countries. Data collected by Beck, Demirguc-Kunt, and Martinez Peria (2005) show that the number of bank branches per area in Latin America is the lowest among all regions, suggesting that perhaps distance to the nearest branch is an obstacle for remittance recipients to demanding and using financial services in Latin America.

Fourth, the impact of remittances on financial development in Latin America might be smaller than that observed for other countries if the costs of banking are higher in the region. Recently, collected data from Beck, Demirguc-Kunt, and Martinez Peria (2006) suggest that the costs of maintaining a bank account and the fees associated with loans are higher in Latin America than in most countries with the exception of some banks in South East Asia and Africa.

Finally, even if the supply of loanable funds increases with remittances, credit might not rise in Latin America because of weak creditor protection and poor contract enforcement. Legal rights rankings and statistics on the number of days to enforce a contract from the World Bank's Doing Business (2005) database reveal that Latin America ranks below all other regions along these dimensions.

Microeconomic Evidence

While it is useful to investigate the relationship between remittances and financial development using macro-level data, cross-country analyses have important limitations. In this section we use household-level survey data to investigate the association between remittances and financial development, equating the latter with greater use of financial services. Thus, we first use data from 19 surveys conducted in 11 Latin American countries—Bolivia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Nicaragua, Peru, and Suriname—to investigate whether the use of financial services differs between households that receive remittances and those that do not.

We find that the proportion of households with bank accounts for remittance recipients exceeds that for non-recipients in 11 out the 13 surveys for which deposit information is

available. However, these differences are statistically significant in only five surveys and four countries. In the case of the proportion of households that receive credit, we find that ratios are higher among remittance recipients in 9 out of 16 surveys. Differences are statistically significant in the right direction in only four cases. Finally, the proportion of remittance recipient households with credit outstanding from non-bank sources exceeds that for non-recipients in 7 out of the 12 surveys. However, these differences are only significant in one case.

All in all, household level data provides some evidence consistent with the hypothesis that the use of financial services is more prevalent among remittance-recipient households. This is particularly the case for deposit holdings and less so for credit. However, this evidence needs to be taken with a grain of salt for at least two important reasons. First, the tests conducted do not control for other household characteristics that might account for differences in the use of financial services. Second, these simple statistics suggest a correlation between remittances and the use of financial services, but are in no way proof of causality.

To mitigate the first problem, we use household survey data from three countries that have been analyzed elsewhere in the study—Guatemala, the Dominican Republic, and Haiti—to estimate simple "probit" models of the probability of having deposit accounts, outstanding bank credit, and non-bank credit, controlling for household income and other household characteristics—that is, age of the household head, educational attainment of adults, household size and composition, urban status of the locality, and province "dummy" variables. The estimates for the impact of remittances are shown in table 12, which also reports the coefficients of variables representing the second through fifth quintiles of the income distribution—using counterfactual pre-migration incomes as in Section V above. As expected, the results in the three countries show that the probability of having deposit accounts increases monotonically with income, as does the likelihood of having outstanding bank credit—except in the case of Guatemala. Moreover, within given income quintiles, households with access to remittances are significantly more likely to report deposit accounts. However, at least in Haiti and the Dominican Republic, recipients are also less likely to have bank and non-bank outstanding credit.

Table 12. Remittances and Access to Financial Services in Guatemala, the Dominican Republic, and Haiti

Country	Guatemala			Dominican Republic			Haiti		
Dependent Variable	Bank Deposits	Bank Credit	Non-Bank Credit	Bank Deposits	Bank Credit	Non-Bank Credit	Bank Deposits	Bank Credit	Non-Bank Credit
Remittances	0.114***	-0.011	0.013	0.078***	-0.022***	-0.012	0.055***	-0.001**	-0.022***
	(0.020)	(0.009)	(0.018)	(0.011)	(0.007)	(0.008)	(0.008)	(0.000)	(0.007)
Counterfactual Income Quintiles									
Q2	-0.016	-0.022***	0.016	0.084***	0.017	0.029***	0.036***	-0.001	0.018*
	(0.016)	(0.007)	(0.016)	(0.019)	(0.012)	(0.011)	(0.015)	(0.001)	(0.012)
Q3	0.033*	-0.012	0.022	0.160***	0.074***	0.032***	0.040***	0.001	0.024**
	(0.018)	(0.008)	(0.017)	(0.020)	(0.015)	(0.012)	(0.015)	(0.001)	(0.012)
Q4	0.116***	-0.014	0.020	0.235***	0.090***	0.033***	0.075***	0.001	0.047***
	(0.021)	(0.008)	(0.018)	(0.022)	(0.016)	(0.013)	(0.019)	(0.001)	(0.014)
Q5	0.238***	0.018*	0.008	0.378***	0.142***	0.008	0.194***	0.005***	0.040***
	(0.028)	(0.012)	(0.020)	(0.024)	(0.019)	(0.013)	(0.030)	(0.003)	(0.016)

Source: World Bank (2006b).

Notes: *** Significant at 1 percent level. ** Significant at 5 percent level. * Significant at 10 percent level.

We performed an additional, more detailed, analysis of the relationship between remittances and the use of financial services using data sets from El Salvador and Mexico that allowed us to control not only for household and local characteristics that might influence the use of financial services, but also for the possibility that remittances might be endogenous—through the use of instrumental variables estimation.

In the case of El Salvador, we use data from a nationally representative rural panel survey conducted by the Fundación Salvadoreña para el Desarrollo Económico y Social (FUSADES), and the Rural Finance Program at Ohio State University in the United States. Our estimations indicate consistently that households that receive remittances have a higher likelihood (between 0.12 and 0.16 percentage points higher) of owning a deposit account regardless of which household characteristics we control for and independently of whether we focus on households that appear in at least two or in all four of the rounds of the survey.

To investigate whether remittance recipients are more likely to use bank credit, we distinguish between the likelihood of applying for a loan during the survey period and the probability of having outstanding credit. Across all estimations, we consistently find that the likelihood of having outstanding bank debt does not seem to be affected by whether households receive remittances. The dummy for whether the household receives remittances is always insignificant. This is also true if we focus on non-bank credit instead, or on the likelihood of applying for a bank loan.

What role does the way in which remittances are received play in the results reported so far? The surveys for El Salvador contain information as to whether remittances are received via banks, money transfer operators, relatives, and so forth for two years: 1999 and 2001. We thus estimate the effect of remittances on the probability of having bank accounts, having outstanding credit, and soliciting loans, allowing for that effect to be different for those who received remittances through the banking sector. The results show that the likelihood that remittance recipients have bank accounts is twice as large if remittances are channeled through the banking sector. On the other hand, no such effect is present on the credit side.

A second detailed case study is performed for Mexico, which is Latin America's largest recipient of remittances in dollar terms. The potential for remittances to affect financial development is perhaps largest in this country. Indeed, though remittances are 2 percent of GDP, they amount to approximately 10 percent of banking sector deposits and credit. Also, in recent years both Mexican and foreign banks have taken steps to enter the remittance business and to cross-sell products to remittance senders and recipients, a move that, if successful, should be reflected in greater financial development.[21] To analyze the relationship between remittances and financial development for the case of Mexico, we combined information from the 2000 Mexican Census on the share of households across Mexican municipalities that receive remittances with municipal level information from the Comisión Nacional Bancaria y de Valores (CNBV) on the size of the commercial banking sector and use of their services across municipalities.

[21] See Hernandez-Coss (2004) and Orozco (2004) for a description of efforts by U.S. banks to penetrate the remittance business in Latin America.

As reported in table 13, after controlling for other municipal level characteristics that might affect financial development—for example, GDP per capita and the share of the population in rural localities—and controlling for the potential endogeneity of remittances, we find that municipalities where a larger percentage of the population receives remittances also tend to have higher ratios of deposit accounts per capita, larger deposit amounts to GDP, and a higher number of branches per capita. However, contrary to the findings on deposits and branches, there does not appear to be a significant association between remittances and credit to GDP across municipalities.

Table 13. Remittances and Financial Development across Mexican Municipalities

	Distance and rainfall deviation used as IVs (municipalities where distance >40 miles)				Distance and rainfall deviation used as IVs (municipalities where distance >50 miles)			
	Bank Deposits	Accounts	Branches	Bank Credit	Bank Deposits	Accounts	Branches	Bank Credit
Households Receiving Remittances	0.0034	2.2426	0.0146	0.0003	0.0032	2.2702	0.0143	0.0003
	[2.74]***	[1.91]*	[2.57]**	[0.79]	[2.50]**	[1.72]*	[2.42]**	[0.78]
GDP Per Capita	0.0064	10.1437	0.0545	0.0024	0.0069	9.3608	0.0526	0.0026
	[3.61]***	[6.41]***	[6.12]***	[5.28]***	[4.08]***	[6.26]***	[6.55]***	[5.43]***
Rural Localities	-0.0007	-0.5913	-0.0025	-0.0001	-0.0006	-0.5575	-0.0023	- 0.0001
	[4.15]***	[3.44]***	[3.50]***	[2.62]***	[4.17]***	[3.38]***	[3.59]***	[2.44]**
Constant	0.0408	26.8182	0.0609	0.0021	0.0362	24.652	0.0459	0.0005
	[2.09]**	[1.61]	[0.78]	[0.62]	[1.96]**	[1.59]	[0.66]	[0.16]
Observations	1772	1873	1765	1862	1656	1746	1648	1738
Adj. R-squared	0.16	0.2	0.24	0.11	0.15	0.19	0.21	0.12
First Stage F-Statistic	52.07	57.32	51.23	57.07	46.45	48.91	45.32	49.82
Test of Overidentifying Restrictions	0.06	0.95	0.95	0.00	0.22	1.12	1.33	0.00
P-Value	0.81	0.33	0.33	0.99	0.64	0.29	0.25	0.99

Source: World Bank (2006b).

Notes: The instrumental variables method (IV) estimates of the impact of the percentage of households receiving remittances on financial development in Mexico. Robust t-statistics are shown from estimations where standard errors are clustered by Mexican state. *, **, *** denotes significance at 10, 5, and 1 percent.

XIII. REMITTANCES AND THE REAL EXCHANGE RATE: ARE THERE DUTCH DISEASE EFFECTS?

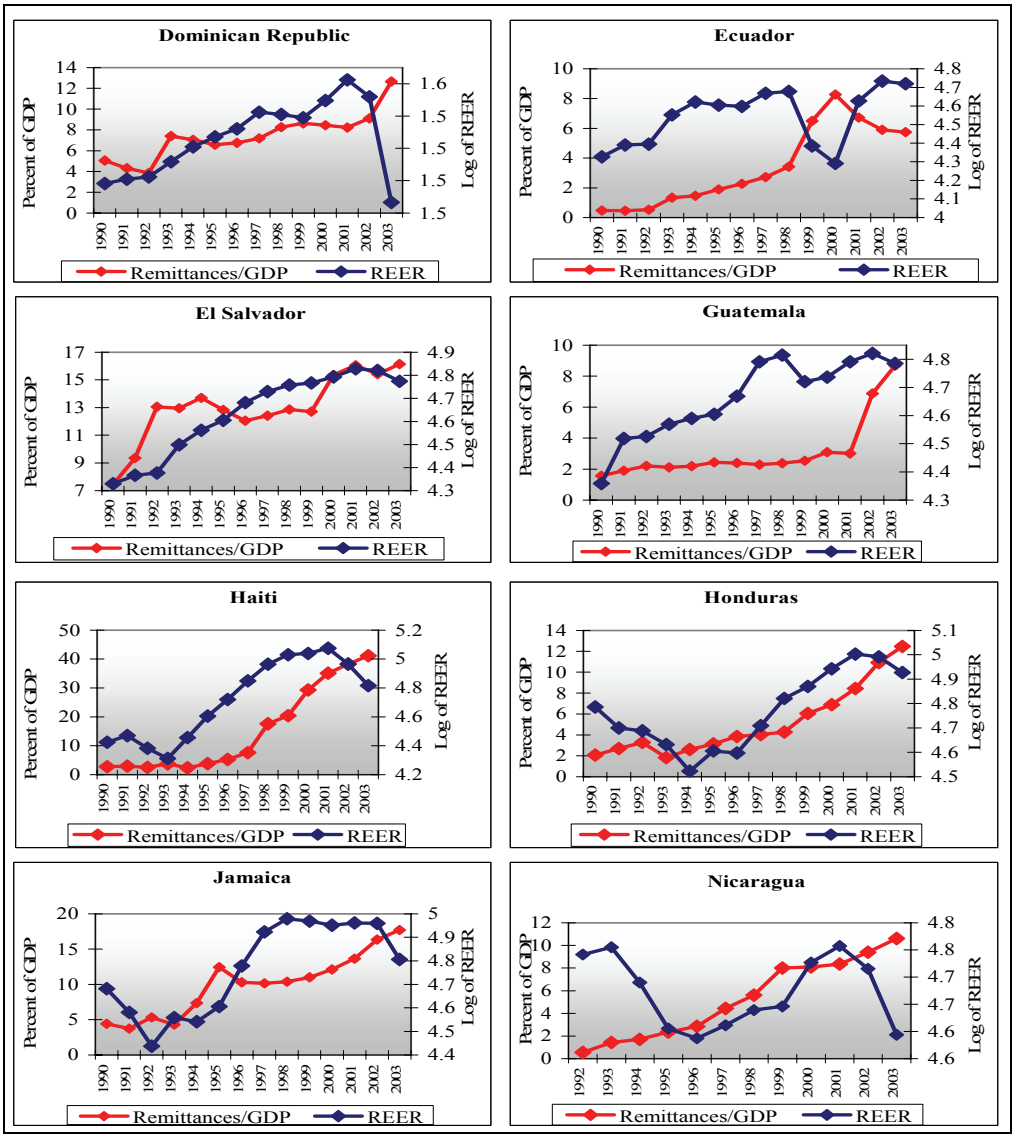
So far we have been arguing that the more remittances a country receives, the higher its welfare level will be. However, when flows are too large relative to the size of the receiving economies they may also bring a number of undesired problems. Among those, the most feared in this context is probably Dutch disease (i.e. the loss of external competitiveness resulting from a real exchange rate appreciation associated with a surge in remittances). Its rationale would be as explained below.

Given that remittances have a positive impact on the incomes of receiving households, they will tend to affect consumption in a positive manner. To the extent that some of this

consumption is directed towards the non-tradable sector where competition is likely to be somewhat limited, remittances tend to drive up the price of non-tradable goods relative to that of tradables and therefore contribute to a real appreciation of the exchange rate. In turn, a number of additional macroeconomic effects can result from a real exchange rate appreciation associated with remittances flows. They include: (i) adverse effects on the tradable sector of the economy; (ii) widening of the current account deficit; and (iii) weaker monetary control, inflationary pressures, and sectoral misallocation of investment.

Clearly, there are a number of potential challenges that in principle may be associated with a surge in workers' remittances. Accordingly, how do the data look, and what does the empirical literature say about the evolution of the exchange rate in countries that have experienced important increases of remittances?

Figure 14. Remittances and the Real Exchange Rate



Source: World Bank (2006b).

Note: increases in the REER index indicate a real appreciation.

Figure 14 compares the evolution of the real exchange rate to the evolution of remittances (as a share of GDP) over the 2000–2003 period for the eight Latin American countries with the highest ratio of remittances to GDP. Examination of this figure indicates that in most of the countries under analysis it is possible to observe a real exchange rate appreciation that runs parallel to an increase in the ratio of remittances to GDP. The only apparent exception to this rule would be Nicaragua, where the evolution of the real exchange rate over the early 1990s and 2000s appears to move in the opposite direction from what one could expect.

Have these tendencies in the evolution of the exchange affected the external competitiveness of the countries? Apparently so. In fact, World Bank (2006b) presents comparisons of the evolution of exports and imports of goods and services and the real exchange rate for those countries. For exports these comparisons indicate that the only countries where export volumes have significantly increased over the 1990–2003 period are El Salvador, a country where exports increased from about 19 percent of GDP in 1990 to close to 30 percent in 2003, and Ecuador, where exports increased by almost 20 percentage points to close to 55 percent of GDP. In Honduras and Nicaragua, export volumes would have been more or less stable over this period, oscillating between 30 percent and 40 percent of GDP in the case of Honduras and hovering around 25 percent in the case of Nicaragua (although with a large variance). In the rest of the countries under analysis, we observe declines in export volumes that in some cases are quite dramatic. For example, in Guatemala and Jamaica export volumes have fallen over the period under analysis by about 10 percentage points of GDP.

By contrast, on the imports front, there is only one country, Ecuador, where the ratio of imports to GDP fell over the period under analysis. In the remaining seven countries, imports increased. It is true that in some countries (Guatemala, Jamaica, and Nicaragua) imports increased only slightly (by less than 10 percentage points of GDP), but for others (Honduras and Haiti), the increase has been quite marked—15 percentage points of GDP in Honduras and close to 30 percentage points of GDP in Haiti.

More importantly, there is econometric evidence that supports the idea that the relationship between higher remittances and the evolution of the real exchange rate may be causal as well as casual. That is, the existing empirical evidence indicates that, at least in the Latin American context, remittances may indeed lead to real exchange rate appreciations. Depending on the specification of the model and the estimation method, a doubling of remittances would lead on average to a real exchange rate appreciation of between 3 percent and 24 percent. Of this impact, it is estimated that between 1 percent and 12 percent (or about half of the estimated appreciation associated with a surge in remittances) would be consistent with the evolution of economic fundamentals, while the rest would be related to transitory factors or temporary overvaluations. This is important because, as the estimates presented in Table 4 above indicate, an overvalued real exchange rate tends to reduce growth prospects so that, to the extent this overvaluation can be reduced, policy makers can enhance the development impact of remittances.

Against this background, a question arises: What should Latin American policy makers do about that real appreciation and, therefore, about the potential loses in international competitiveness that may come with large remittance flows to the region? Actions available to policy makers include:

Rein in fiscal policy. Fiscal restraint is one of the few tools that governments have to prevent an overheating of the economy and avoid a real exchange rate appreciation in the context of a surge in international workers' remittances. Beyond any theoretical reasoning in support of this tool, the estimates in World Bank (2006b) indicate that increases in the ratio of government consumption to GDP would be associated with real appreciations in the exchange rate. But those estimates also indicate that the impact of increases in that ratio on the real exchange rate tends to be much lower than the impact of remittances. In other words, the adjustment needed to stabilize the real exchange rate may be quite large and therefore be constrained by political economy considerations.

Avoid sterilization. A natural question in this context is the extent to which countries should try to sterilize the remittances inflows. However, if sterilizing operations are required on a sustained basis, they may prove infeasible for two main reasons. First, the magnitude of the remittances would make the quasi-fiscal costs of sterilizing these flows untenable. Large remittances inflows, coupled with Latin American spreads that, for the top-ten recipient countries range from 141 basis points in Mexico to almost 300 basis points in Jamaica, would in fact make this alternative extremely expensive (to the point that even assuming no pressure on the domestic interest rate, in a number of countries the cost of sterilizing the inflows in full would be measured in tenths of percentage points). Second, sterilization could put pressure on the domestic interest rates, a development that might attract other types of inflows in search of high returns, which, in turn, would put more pressure on the exchange rate. In this regard, if sterilization is implemented without fiscal adjustment, (that is, tight money plus loose fiscal policy) it would not be unlikely to observe a further appreciation.

Explore microeconomic interventions. Although responses to surges on capital inflows of any type (including remittances) may be considered to lie in the area of macroeconomic policy, there are a number of microeconomic interventions that governments can implement. For example, rigidities in labour and product markets could contribute to a real appreciation on the basis of Balassa-Samuelson arguments. Thus, efforts aimed at making domestic markets more efficient and more flexible could also ease exchange rate pressures. More generally, microeconomic interventions that make the economy more competitive could somewhat offset the real exchange rate pressures.

Accept some appreciation. Finally, taking together all the elements that can affect exchange rates, and recognizing the extent to which fiscal adjustment and microeconomic interventions may not be sufficient to correct the upward pressures in the real exchange rate, it is possible that Latin American policy makers will have to accept some real appreciation, especially in those countries with substantial inflows.

XIV. CAN FISCAL POLICY HELP TO MITIGATE SOME OF THE POTENTIAL NEGATIVE IMPACTS OF REMITTANCES?

In the previous section we argued that policy makers who are concerned with the potential negative impact of a surge of remittances on the real exchange rate should attempt to rein in fiscal policy as their first step. Similarly, we also argued for additional microeconomic interventions aimed at increasing the competitiveness of the economy. Clearly, fulfilling both of these objectives may be difficult if policy makers rely only on the spending side of the budget to raise public savings. In fact, it might appear somewhat inconsistent to argue on the one hand for less spending to improve the fiscal stance and, on the other hand, for more spending to finance the advocated microeconomic interventions.

Several considerations have to be taken into account in this context. First, for a given taxation structure the increase in national income associated with a surge in remittances would *ceteris paribus* result in higher tax revenues. Thus, it is possible that even without altering tax rates there would be some extra fiscal space to address, at least in part, new investment needs. However, to the extent that, as national income increases countries wish to increase spending in other priority areas, finding room in their budgets to finance competitiveness-enhancing interventions likely would require additional tax revenues.[22]

Second, countries should try to avoid taxes on incoming remittances[23] for two main reasons: (i) this type of actions likely would discourage the formalization of remittances flows; and (ii) directly taxing remittances would conflict with one of the general recommendations of *Close to Home*, namely making efforts to reduce the costs of sending remittances.

Third, even in those cases where policy makers facing a surge in remittances do not consider raising fiscal revenue a priority, it is possible that they could experience some competitiveness gains by shifting from payroll taxes to value-added taxes (VAT) or sales taxes. In fact, as discussed in Section XI above, remittances appear to have a negative impact on labor supply, something that in turn may exacerbate the real exchange rate appreciation and the loss in competitiveness of the economy. Thus, one way to mitigate this effect would be through a reduction of payroll taxes[24] that would lower employers' costs and increase the demand for labor. Evidence for Jamaica presented in Bussolo and Medvedev (2006) indicates that such a policy, accompanied by a compensatory increase in VAT rates, can maintain the government balance unchanged and sterilize most of the negative labor supply effect of rising remittances.

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[22] This would be particularly important in some of the Central American countries, such as El Salvador and Guatemala, where fiscal revenues are very low and where some entities have a legal right to receive a fixed proportion of the budget.

[23] Today, most remittance-receiving countries do not impose explicit taxes on incoming remittances, although there are some cases of implicit taxation in the form of financial services taxes.

[24] Note, however, that this is not the only way of increasing labor market flexibility and ultimately helps boost labor demand.

XV. PRIVATE AND PUBLIC TRANSFERS: IS THERE CROWDING OUT?

Conditional cash transfer (CCT) programs have become an important antipoverty tool in many Latin American countries. CCTs currently reach 60 million people, representing approximately 60 percent of the extremely poor in Latin America (Lindert, Skoufias, and Shapiro, 2005). In Mexico and Brazil alone, *OPORTUNIDADES* and *Bolsa Familia* take approximately 0.4 percent of these countries' GDP. To some extent, the popularity of CCT programs is well justified. As argued by Lindert, Skoufias, and Shapiro (2005), cash transfer programs tend to be well targeted and have strong performance in terms of their marginal contribution to social welfare, outranking not only social insurance schemes but also social assistance programs. Olinto (2004), on the other hand, reports that impact evaluations of conditional cash transfers in Mexico, Brazil, Honduras, and Colombia indicate that these programs have had large impacts on transition rates and secondary school enrollment (especially for girls) and in delaying student dropout.

However, could it be the case that CCTs crowd out private transfers, particularly remittances, which, in addition to representing an important source of foreign exchange for most countries in Latin America, also have a significant impact on poverty? In other words, could it be that what is gained from an expansion of CCTs is lost from a contraction in remittances? The idea that public spending may crowd out private spending is not new in economics literature. Martin Bailey (1971) first proposed that a unit of public consumption likely would be valued as much as q units of private consumption. That is, public and private consumption are imperfect substitutes, so that increases in the former will be accompanied by at least partial declines in the latter. Similarly, there is also ample literature analyzing, both theoretically and empirically, whether public investment substitutes or complements for private investment.

Note also that these issues are of more than an academic interest. In fact, the following paragraph, taken from a recent paper by Attanasio and Rios-Rull (2001) suggests that it is also of concern to policy makers, at least to some policy makers dealing with World Bank operational staff:

"*In a recent meeting between a World Bank official and a finance minister from a developing country in which the provision of an income support scheme or safety net was being discussed, the minister opposed strongly such a scheme. When questioned by the World Bank official about the reason for his opposition, the minister's reply indicated the worry that such schemes could jeopardize the existence of the support network provided by extended families. In this paper, we consider a model that justifies these worries."*

Theoretical concern has been compounded by the results of a number of recent studies that suggest some degree of substitution between public and private transfers. For example, Schoeni (1996) finds that private assistance in the form of both cash and time-help were crowded out by Aid to Families with Dependent Children (AFDC) benefits in the United States. Also, Schoeni (2002) concludes that unemployment insurance crowds out interfamilial transfers. Likewise, Cutler and Gruber (1996) find that the extension of Medicaid to pregnant women and children in the United States crowds out private insurance coverage. Cox, Eser, and Jimenez (1998) also find that social security benefits crowd out the incidence of private transfers in Peru.

More recently, evidence specific for CCT from studies utilizing experimental data provides more mixed results. Attanasio and Rios-Rull (2001) find some weak evidence supporting the crowding out hypothesis for PROGRESA, which was implemented in randomly selected communities. On the other hand, in a more thorough analysis employing two rounds of the PROGRESA evaluation data, Teruel and Davis (2000) more convincingly reject the crowding out impact of PROGRESA on private transfers.

Close to Home adds to the literature on this issue by exploiting experimental data from the evaluations of two CCTs in Central America—the *Red de Proteccion Social* in Nicaragua and PRAF-II in Honduras—to assess the link between the access to conditional cash transfers and the incidence and volume of private transfers. That is, we question the extent to which CCTs crowd out private transfers, at least in the Honduran and Nicaraguan context. Our findings here are in line with those of Teruel and Davis (2000) for PROGRESA: we find no evidence that CCTs crowd out private inter-household transfers in either Nicaragua or Honduras. These results should help dispel concerns that CCTs could be displacing private networks and informal insurance schemes and therefore add little to the utility of the recipient parties.

There are a number of potential reasons for this finding, which, we have to admit, somewhat contradicts previous researchers' findings. One is the typical accurate targeting of CCTs. As noted above, CCTs tend to be usually well targeted towards the most vulnerable citizens and those who are less likely to be receiving private transfers in the first place. This is confirmed by the low incidence of transfers in Nicaragua, but not in Honduras. In the case of Honduras, however, it is possible that the amounts given out by PRAF are too low to actually have any crowding out effects on private transfers. As discussed in Glewwe and Olinto (2004), PRAF transfers on average amount to only 4 percent of household annual expenditures, while other CCTs such as Progresa or Bolsa Familia range from 15 percent to 20 percent of household expenditures (Lindert, Skoufias, and Shapiro, 2006). Thus, as long as transferred amounts continue to be small, and programs are targeted to those who are more likely to be poor (and therefore less likely to receive remittances), CCTs are not likely to crowd out private remittances and other forms of private insurance.

XVI. POLICY COMPLEMENTARITIES: WHAT CAN POLICY MAKERS DO TO ENHANCE THE DEVELOPMENT IMPACT OF REMITTANCES?

A typical concern of development practitioners with studies on workers' remittances is that, while these types of studies typically present very good descriptions of the nature (that is, magnitude, origin, profile of recipients, and so forth) and impact (that is, poverty, growth, financial sector, and so forth) of these inflows, they often are not very useful for articulating clear policy recommendations beyond suggesting (either implicitly or explicitly) that countries should try to implement policies that reduce the actual cost of transferring international funds or that improve the payments system. That is, in many cases the main recommendation of these studies is that policy makers should aim at facilitating and increasing those flows.

We acknowledge that the concern mentioned in the previous paragraph is understandable because since remittances are transfers between private parties, it is difficult to imagine which type of policies governments should follow to enhance remittances' positive impact. For example, if recipients and senders jointly decide that, given the country's existing economic environment and their personal situations, remittances should be directed towards consumption rather than towards saving or investment (a typical concern of policy makers in recipient countries), then it is difficult to imagine which type of *direct* policy interventions may induce these individuals to do otherwise, other than forcing recipients to save, as a number of African countries (such as Lesotho or Mozambique) and Latin American countries (Mexico in the 1940s) have done in the past. In fact, the latter is probably the type of policy recommendation to avoid. As argued by Maimbo and Ratha (2005), forcing remittance recipients to save more and consume less tends to reduce rather than increase consumer welfare.

Yet this is not to say that governments cannot do anything to increase the development impact of remittances, especially if we consider *indirect* policy interventions, that is, policies that try to change the remittances recipients' incentives to use their resources in one way or another. For example, as noted by Burnside and Dollar (2002), the impact of aid flows on the growth rate of the recipient economy will depend on whether that particular transfer is invested or consumed. Whenever the income transfer is invested, it will positively affect growth, whereas, if consumed, it will have no impact.

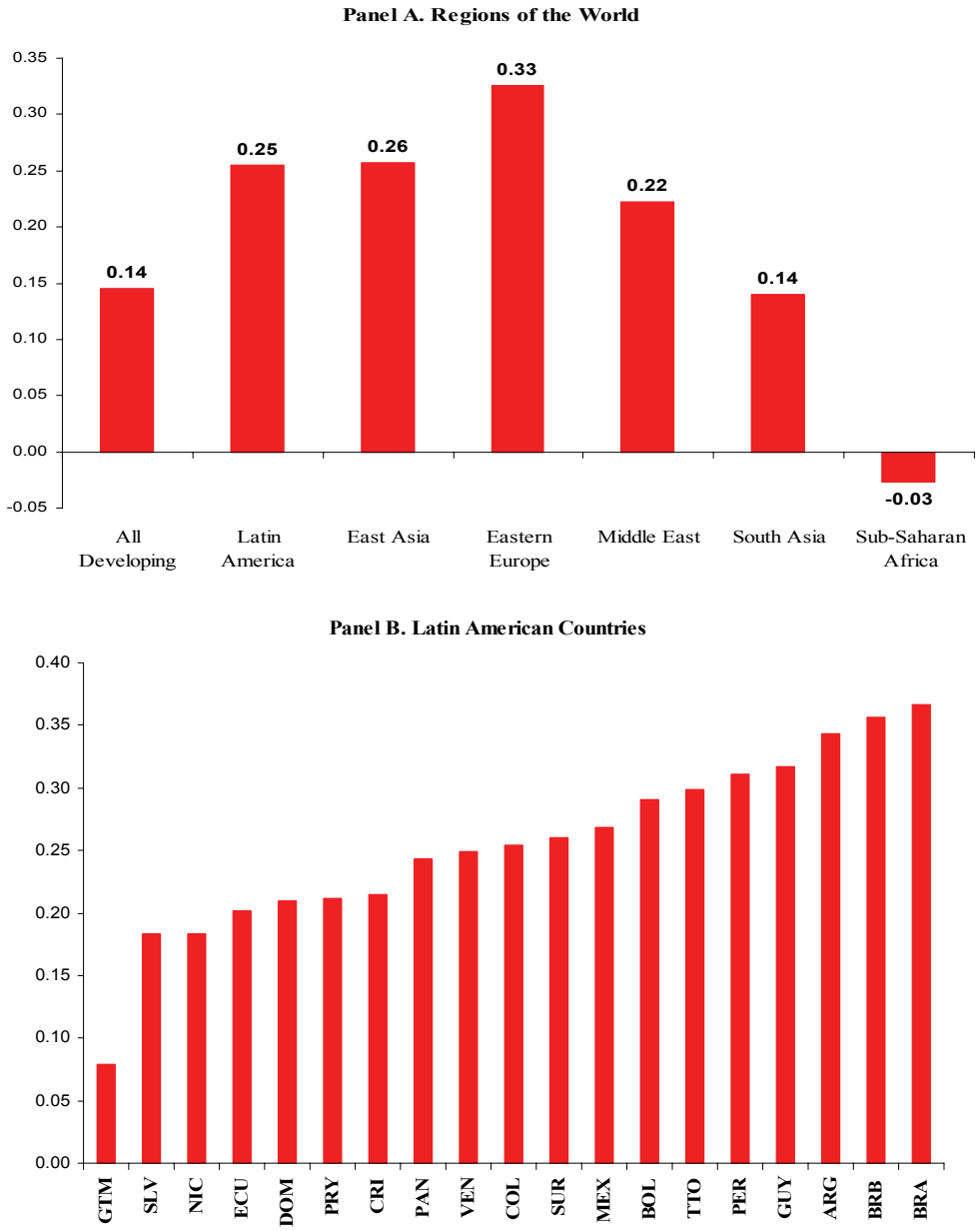
In turn, the incentive to invest the transfer, and any return on investment from such action and its subsequent productivity, will depend on the policy environment. Good policy environments will increase the return of investment and thus will raise the opportunity cost of consumption. On the contrary, a bad policy environment will drive down the return of investment (or increase the risk associated to a given return) and lower the opportunity cost of consumption. In other words, in the context of this simple model the impact of the international transfer on the growth rate will depend on the policies being implemented by the country. Policy makers therefore can potentially affect the impact that an international income transfer has on growth by introducing appropriate changes to the policy environment.

We have explored these issues from an empirical point of view, using an approach similar to the one in Burnside and Dollar (2000), but focusing on whether there may be complementarities between a surge of remittances (rather than aid) that are treated as an exogenous factor for policy makers, and the implementation of policies in a number of areas. That is, unlike in Section VI where we explored whether remittances generally accelerate growth rates, the concern now is whether developing countries could benefit from an "extra bonus" in terms of growth when remittances are accompanied by progress on a number of policy areas. In other words, the concern is whether remittances, together with good policies, are likely to result in more growth than remittances and good policies by themselves.

Indeed, it appears that policy makers have room to maneuver. More specifically, according to World Bank (2006b) remittances are more effective in both raising investment and enhancing growth in countries with higher levels of human capital, strong institutions, and good policy environments. In other words, countries that, while experiencing a surge in remittances flows, also promote sound economic policies and human capital development—and make progress in strengthening the institutional framework—will likely benefit in a variety of ways.

Thus the evidence in the study is consistent with a view of the development process where the whole can be more than the sum of the parts. For example, Panel A of figure 15 plots the growth response of higher remittances as a function of the level of secondary schooling across developing regions and across regions. It shows that, *ceteris paribus*, regions with higher rates of enrollment in secondary education display the largest potential growth benefits associated with a surge in remittances. An increase of one standard deviation in the ratio of remittances to GDP would raise the growth rate of Eastern Europe by 33 basis points per year while, on average, the annual growth in East Asia and Latin America would be higher by 0.26 percent and 0.25 percent per year, respectively.

Figure 15. The Impact of Remittances on Growth



Source: World Bank (2006b).

In panel B of figure 15, we repeat the same exercise, but now focus on Latin American countries. This panel indicates that there is substantial variation in the growth benefits of remittances across countries, a reflection of the significant differences in human capital within the region. For instance, 9 out of 19 countries with data on secondary enrollment rates for 2000 have a growth response to higher remittances below the average response for Latin America. Guatemala is the country with the smallest potential response—an increase in the growth rate of 0.08 percent per year. On the other hand, Brazil and Argentina would have the largest potential growth benefits owing to higher remittances (between 0.34 percent and 0.37 percent per year), with growth effects slightly larger than the ones observed by the average in Eastern Europe.

This finding is particularly important for the Latin American region because in the three areas that seem to complement the impact of remittances on growth, the Latin American region has significant progress to make. For example, as noted in *Closing the Gap in Education and Technology*, even if the Latin American picture regarding net primary enrollment rates is quite encouraging, most Latin American countries have massive deficits in net enrollments in secondary education, even after controlling for income levels. In fact, the secondary enrollment deficit would be estimated at about 19 percent. On the institutional front, *Poverty Reduction and Growth: Virtuous and Vicious Circles* notes that a majority of Latin American countries (the exceptions being Brazil, Chile, Costa Rica, Mexico, Nicaragua, Panama, Trinidad and Tobago, and Uruguay) score below what it would be expected in a combined index of the six institutional measures of the Kaufman, Kraay, and Mastruzzi (2005) database.

There is also empirical evidence that indicates that the region can improve on the macro front, at least in comparison to the other developing regions. In fact, on the basis of a macro-policy index constructed along the lines of Burnside and Dollar (2000) and comprising measures of inflation, trade openness, and excessive government burden, one could conclude that in the first half of the 2000s Latin America, together with the Middle East and Sub-Saharan Africa, would be the region at the bottom of the ranking. By contrast South Asia, East Asia, and Eastern Europe all would present better macroeconomic policy indicators.[25]

Another interesting area explored is whether a more developed financial sector may complement remittances, but the results in this case are more suggestive of substitution than of complementary effects. In other words, increases in remittances apparently have more of an investment and growth impact in countries with less developed financial sectors. One possible reason is that, as noted by Giuliano and Ruiz Arranz (2005), remittances can be seen as relaxing the budget constraints faced by the poor and that this constraint would be more relevant in countries with less developed financial sectors.

[25] Note that this should not be a surprise even when one takes into account the dramatic improvements in macroeconomic management that the region has experienced in recent years. The fact is that Latin America has relatively closed markets, and openness to international trade is one element that, in this index, is associated with a good policy environment.

XVII. THE REGULATORY FRAMEWORK: HOW TO FACILITATE REMITTANCES FLOWS

For migrants who send money home, remittance services are expensive, with fees of up to 20 percent of the principal sent, depending on the size and type of the transfer and destination.[26] Fees structures themselves have been opaque (with hidden charges and poor exchange rates) and have penalized transfers of small amounts of the type commonly made by migrants. Moreover, cost savings achieved through technological advances in payment systems have not necessarily translated into lower prices for remittance services.[27] Not surprisingly, reducing the price of remittances services has been a major target for many multilateral initiatives and regulatory efforts. However, authorities have shied away from imposing direct price controls, instead favoring mechanisms aimed at enhancing competition in the system, increasing transparency, and reducing barriers for users to access a wider range of service providers.

In addition to reducing the expense of remittances services, regulators and multilaterals are concerned with the risk of remittance channels being used for illegal purposes, including money laundering and financing of terrorism. Regulation aimed at avoiding misuse of the system commonly requires service providers to positively identify their clients and to assess the legality of their transactions. Compliance with these regulations is costly, increasing the price of the service for users and posing barriers to entry or formalization of new remittance service providers (RSPs). Similarly, these regulations have made many financial institutions reluctant to service sectors of the population that cannot demonstrate lawful residency in host countries. In this respect, the main challenge for authorities is to ensure the integrity of the system by restricting the opportunities for misuse while minimizing the disruption and cost of the service for bona fide participants.

Multilateral Initiatives

In January 2004, the Presidents of the Americas expressed a commitment to take actions that, by 2008, would reduce at least by half the average cost of remittances services. A similar pledge "to reduce the impediments that raise the cost of sending remittances" was expressed at a meeting of G–7 Finance Ministers and Central Bank Governors in February 2004. These commitments were ratified at the G–8 Summit in June 2004, where those countries stated their intent to work with the World Bank and the IMF to improve data on remittance flows, lead efforts to reduce the remittances costs, and enhance their developmental impact by increasing financial options for recipients. Against this background, the World Bank and the Committee on Payments and Settlement Systems (CPSS), in November 2004, convened a Task Force to address the needs of international policy coordination for remittance systems. The output from this Task Force forms a basis for the development, regulation, and oversight of remittance systems in the future.

[26] Frias (2005).

[27] See *Global Economic Prospects 2006*.

Following its mandate, the Task Force in March 2006 produced a report on "General Principles for International Remittances Services,"[28] describing key features and functions that should be satisfied by remittance systems, providers, and financial intermediaries (Box 1). In parallel with finalization of the General Principles, the Bank is developing, together with other international financial institutions (IFIs), a Guidance Note with detailed guidelines and actions for the implementation of the General Principles. Remittance systems in sending and receiving countries will assessed against this framework. The Bank, in cooperation with other International Financial Institutions, will also support the implementation of policy recommendations and action points that stem from these assessments. In this regard, any necessary actions will be integrated in the context of the reform of national payment systems, a process in which the Bank has been involved in more than 70 countries over the past 12 years.

Box 1. The General Principles and Related Roles

The general principles are aimed at achieving safe and efficient international remittance services. To this end, the markets for remittances services should be contestable, transparent, accessible, and sound.

Transparency and consumer protection

General Principle 1. The market for remittance services should be transparent and have adequate consumer protection.

Payment system infrastructure

General Principle 2. Improvements to payment system infrastructure that have the potential to increase the efficiency of remittance services should be encouraged.

Legal and regulatory environment

General Principle 3. Remittance services should be supported by a sound, predictable, non-discriminatory, and proportionate legal and regulatory framework in relevant jurisdictions.

Market structure and competition

General Principle 4. Competitive market conditions, including appropriate access to domestic payments infrastructures, should be fostered in the remittance industry.

Governance and risk management

General Principle 5. Remittance services should be supported by appropriate governance and risk management practices.

Roles of remittance service providers and public authorities

A. The role of remittance service providers. Remittance service providers should participate actively in the implementation of the General Principles.

B. The role of public authorities. Public authorities should evaluate what action to take to achieve the public policy objectives through implementation of the General Principles.

[28] Henceforth referred to as "the General Principles."

Enhancing Competition

One of the main challenges faced by policy makers is reducing the high fees charged by RSPs. Prices for remittances have decreased in the last few years in some Latin American corridors served by multiple RSPs—for example, the United States–Mexico corridor—but they have remained stable or even increased in less competitive corridors—for example, those between the United States and Colombia, Honduras, and Guatemala.[29]

While the incentives for incumbent RSPs to realize cost savings and reduce prices may be naturally limited in smaller corridors where the limited volume of operations represents a natural barrier to entry to new operators, many of the benefits of competition can be realized through increased market contestability. In this respect, the role of the authorities encompasses, (i) eliminating unnecessary regulatory entry requirements to new operators, and (ii) ensuring appropriate access to domestic payments infrastructures in fair conditions.

The most common regulatory barriers to entry relate to the process for authorization for new RSPs to set up business[30]. These barriers are higher in countries where remittances originate than in recipient countries, and have helped to enhance and maintain the market position of incumbent RSPs. According to the Financial Action Task Force on Money Laundering (FATF),[31] the main objective of the formalization of RSPs activities through either licensing or registration is to enhance the security in the system, impose anti-money laundering and combating the financing of terrorism (AML/CFT) requirements, and, in some cases, enable the monitoring of money transfer activities.

However, the FATF also advocates flexibility and consistency in formalization requirements in order to avoid creating excessive hurdles to the flow of remittances and uneven entry conditions to different operators. In turn, adequate and efficient rules are expected to encourage entities currently in the informal sector to come under the regulatory regime. Unfortunately, in practice formalization requirements are far from being consistent, even within the same country, which demonstrates that they are still not based on objective security considerations, and do not create adequate incentives for the formalization of operators.

According to the FATF, countries should define the adequacy of licensing or registration requirements based on their specific circumstances. Licensing provides the authorities with the power to perform a pre-qualification due diligence—as well as periodic reviews—on the RSPs' operational and basic security systems. Registration, on the other hand, poses significantly lower entry barriers to new RSPs and its main objective is to encourage all RSPs to identify themselves and commit to comply with AML/CFT requirements. However, since registered RSPs are not required upfront to have systems or procedures in place for basic security, authorities are required to set up monitoring mechanisms to ensure compliance throughout RSPs' on-going

[29] Orozco (2004).

[30] World Bank (2006).

[31] IMF (2005).

operations.[32] Regulatory requirements should thus be set up in a realistic way considering not only the benefits of increased security but also the consequent costs for the authorities.

In any case, as argued by the General Principles, regulatory requirements to set up a new RSP should be clear, non-discriminatory, and commensurate with the type and size of the operations of the RSP. The issue of proportionality of regulation is essential to ensure a fair and competitive market. Over-regulation or unduly high requirements into entry in the remittance market increases costs that are passed over to users through price increases and may indirectly promote the growth of informal RSPs.

Improving Payment Systems

A complementary crucial component of efforts directed at reducing remittances costs by increasing market contestability is the improvement of payment and settlement systems. The degree of development of those systems, and the extent to which new RSPs can access them, largely determines the potential for competition in the market. In this respect, technological barriers for the access of new RSPs to existing payment systems are less important than formal restrictions. Indeed, direct access to national payment systems is normally granted only to well capitalized and established banking institutions.

In this context, regulation of payment and settlement systems should ensure that indirect access to RSPs—for example, through banks—is provided in fair conditions. However, there are concerns that indirect access could be unduly constrained due to competition (when both the stand-alone RSPs and banks provide remittance services) or regulatory concerns. For non-bank RSPs operating in the United States, for instance, accounts with commercial banks are their only way to access the official payment and settlement systems and hence are an essential component in their operations. However, RSPs frequently report limited access to banks' settlement systems and problems opening and maintaining accounts with U.S. banks. This may be linked to the fact that many banks are concerned that participation in remittance activities could make them subject to heightened regulatory oversight and costs, even though authorities have expressed that this is not the case.

An additional challenge is that of building cross-border payment systems. Indeed, in addition to improvements in the domestic payment infrastructure, the safety and efficiency of cross-border remittances may be further improved by the coordination and/or adoption across the relevant payment systems of, for example, communications standards and payment message formats that facilitate greater interoperability as well as rules, procedures, and operating hours that support straight-through processing. Moreover, given, first, the diverse nature of the institutions involved and thus the potential for conflicting interests and, second, the uncertainty about the scale of future flows, cross-border initiatives may require a high level of bilateral (or possibly multilateral) cooperation on technical, regulatory, and oversight matters.

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[32] It is important to consider that regulatory activities such as surveillance and enforcement of regulation pose significant resource requirements for authorities, given the number of RSPs that can operate at any given time. Regulatory requirements should then be set up in a realistic way, considering the costs and benefits for the authorities.

In Latin America, efforts to develop cross-border payment and settlement systems have been conducted through private or public initiatives with different degrees of success. For example official efforts to link U.S. payments and settlement systems to Mexican banks (FEDAch)[33] to eliminate costly wire-transfers have failed to raise significant interest from commercial banks, largely due to revenue expectations.[34] Conversely, private efforts to link networks of Credit Unions appear to be successful at attracting new entrants and providing remittances services at a significantly lower cost.

However, these arrangements can create barriers to new competitors if they require exclusivity. This is especially the case when the disbursing RSP has a large network such as those of the post office, telecom companies, or large store chains. While exclusivity agreements between private businesses are difficult to prevent, local governments should ensure that public networks are open to different RSPs rather than being limited by exclusivity agreements.

A sound and appropriate legal framework is also generally considered crucial for a sound and efficient system of payments, including remittance services. However, while laws are normally the appropriate means to enforce a general objective in the payments field, in some cases regulation by the overseers or specific agreements among participants might be efficient ways to react to a rapidly changing environment. In May 2005 the CPSS published a report devoted to payment system oversight in G–10 countries. Among its main conclusions is the assertion that effective cooperation among market participants, between regulators and market participants, and among regulators is essential for the development of a sound and efficient payments system.

Transparency

To ensure that users can make informed decisions and have the ability to choose their best service option, the elimination of unnecessary barriers to entry for RSPs and the development of an efficient and fair payment system must be complemented by measures directed at guaranteeing transparency and accessibility in the remittances market. As discussed below, this is a responsibility for both the authorities and service providers.

Even in among the most competitive corridors, there is still a wide divergence in pricing of services, which can largely be attributed to lack of transparency. In particular, remittance senders are often unaware of the different direct and indirect costs and fees charged by RSPs and therefore ignore the total price of their remittance transaction until the money is delivered to their relatives. Direct fees are the most explicit component of the price and frequently do not vary with the amount of the transaction, which works in detriment of smaller remittances. Exchange rate differentials represent a second important component of remittances costs. It is often the case that the RSP with the lowest fees charges a high exchange rate differential (see figure 16). Given the fact that many users are not aware of this additional cost, advertisement of fees by RSPs provides incomplete information and can be misleading. RSPs can also earn revenues by

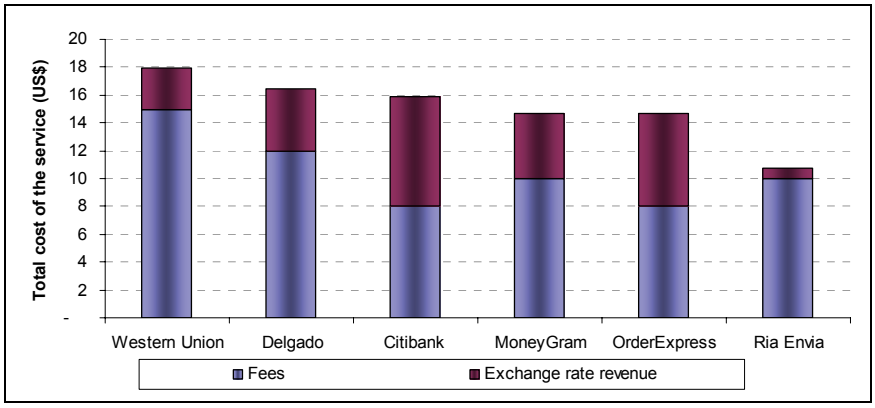
[33] The Federal Reserve Bank's Automated Clearing House system for Mexico.

[34] Exchange rate differentials in operations through the FEDAch facility are kept by the Central Bank. At the same time, many large commercial banks in Mexico can achieve higher profitability in remittances transactions when they use their own internal cross-border systems (as many are subsidiaries of foreign banks) or closed agreements with capturing agents in the United States.

holding the remittance funds for a period longer than needed and investing them in overnight transactions. Accordingly, the speed of the service is also a factor determining the overall cost of the remittance. Additional fees may be charged by at disbursement, especially when this is done by agents rather than through branches of the capturing RSP.

According to the General Principles, RSPs should disclose the total price of their remittance services and the conditions and the characteristics of those services in a way that is clear and easy for their common users to understand. However, the General Principles do not call for direct regulation of providers regarding disclosure of price information. Rather, they suggest that other mechanisms such as self-regulatory efforts or definition of best practices at an industry level may prove more efficient as ways to enhance transparency. The authorities, on the other hand, should actively facilitate transparency through the collection and publication of comparative prices and conditions of service among different RSPs. These efforts can be complemented by the provision of basic financial literacy to users.

Figure 16. Fees and Exchange Rate Costs[35]



Source: World Bank (2006b).

Accessibility to Formal Remittance Services

As mentioned above, the existence of numerous providers of remittance services in a given corridor does not ensure market efficiency This is illustrated by the wide divergences in prices still observed among RSPs, even in quite competitive corridors—for example, the United States–Mexico corridor. While this can be partially explained by lack of transparency, price divergences can also be caused by differentiated access to specific service providers, in both countries of origin and destination countries.

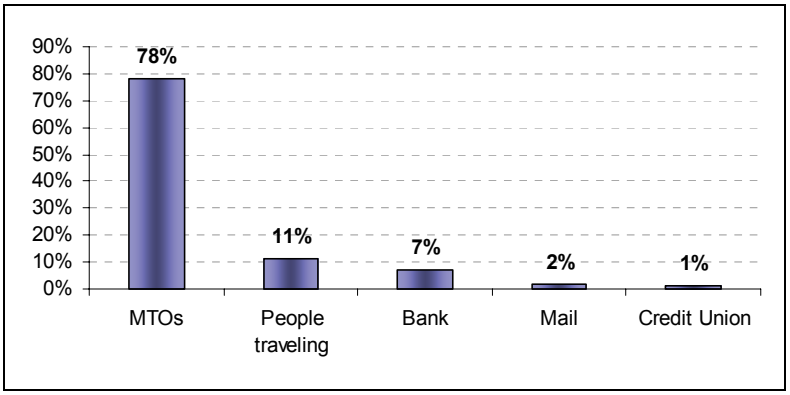
Over the past two decades, remittances transactions have evolved from labor-intensive physical transmission and courier services to a market dominated by cash-to-cash wire transfers through Money Transfer Operators (MTOs). As seen in figure 17, MTOs currently dominate the Latin American remittances market. However, the recent entry of financial institutions has made available more cost-efficient transactions such as account-to-cash and account-to-account

[35] Based on a US$300 remittance from New York to Mexico calculated with data as of March 6, 2006. The exchange rate cost was calculated using the differential between the exchange rate applied by each RSP and the average interbank exchange rate of the same date (MXP 10.5958 per USD$1).

remittances, which are slowly gaining market share but are constrained by the fact that a large percentage of migrants do not have access to banking facilities.[36]

At least in the case of the United States, migrants' limited access to bank accounts has been limited by both regulatory and non-regulatory constraints. Indeed, U.S. regulations require financial institutions to verify the identity of applicants when opening up new bank accounts. While federal regulation does not expressly forbid the provision of financial services to undocumented applicants, this issue is far from being clear, creating concerns among both financial institutions and a large segment of prospective clients.[37]

Figure 17. Channels for Sending Remittances to Latin America and the Caribbean (2004)[38]



Source: World Bank (2006b).

There have been significant efforts by both the private and the public sector to reduce accessibility constraints for migrants. In 2002, the Treasury Department advised Congress that, under the terms of the regulation to ensure security in the system (U.S. Patriot Act), an official identification issued by the Mexican government (the consular identity card) can be used as a valid form of identification to open an account with a financial institution. However, there are also non-regulatory constraints to accessibility, including illegal migrants' perception that banks might share their information with immigration authorities, which would expose them to deportation. Another factor is the cost of financial services, which can be significant given the relatively low income of many migrants.

Accessibility issues and the quality of the financial services infrastructure in recipient countries are also critical to ensure security and efficiency of remittances services. Accessibility can be improved by enabling more financial institutions to participate in the remittances market. In particular, savings and loans, credit unions, and microfinance companies may be well positioned to act as disbursing agents, as their networks may be closer to the usual recipients of remittances than those of large commercial banks. In this sense, authorities in recipient countries

[36] A survey of remittance senders in 2002 showed that in only 26 percent of the cases did both sender and recipient of the remittance have a bank account.

[37] According to some estimates (Lowell and Suro, 2002), at least two-fifths of the adult Latino immigrant population is made up of individuals not authorized to be in the United States.

[38] Based on a survey of 3,802 remittance senders in 37 states of the United States and the District of Columbia in 2004.

should ensure that there are no unduly burdensome regulatory constraints to the participation of these entities.

Security Issues

Remittance channels can and have been used for illicit purposes, which include money laundering as well as fraud and financing of terrorism activities. The risk of misuse of remittance channels is highest among informal remittance providers that are completely unknown to the regulatory or supervisory bodies. Accordingly, the FATF considers that security in the system can be enhanced through efforts by national authorities to encourage and enable the use of formal systems (such as banks) by lowering the costs and increasing access to these systems to all users, as well as by putting in place a regulatory framework that includes licensing or registration together with AML/CFT requirements for money transfer providers.[39]

An additional challenge is to ensure that security regulations are adequately enforced, especially at the local level. This may be a challenging task, requiring a balance between strict enforcement, proportionality to the risk of misuse and avoidance of disruption caused by unduly burdensome requirements. According to the General Principles, AML/CFT regulations should be equally applicable to all RSPs irrespective of their legal form (that is, financial institutions or commercial companies) in order to avoid creating loopholes that could be used for illicit purposes and also could create competitive disadvantages for regulated entities. However, countries should ensure that oversight is commensurate with the risk of misuse to avoid unnecessary costs and inefficiency. As expressed by the General Principles, any regulation of remittances should balance the benefits of increased safety of the system with the potential costs and inefficiencies created.

XVIII. CONCLUSION: THE DEVELOPMENT IMPACT OF REMITTANCES IN LATIN AMERICA AND THE CARIBBEAN

On the whole, what have we learned from this study? There are seven main points that we would like to highlight.

1. Workers' remittances have an overall positive impact on recipient economies. Remittances seem to accelerate growth rates and reduce poverty levels. One potential channel that has been highlighted in this study is the impact of these flows on financial sector development, savings, and investment. Beyond the pure income dimension of social welfare, however, remittances also reduce risk, as evidenced by lower output volatility, and they increase educational attainment and contribute to improvements in health indicators. It is thus understandable that policy makers are increasingly interested in seeing an increase in the amount of remittances flowing to their countries.

[39] The main AML/CFT regulations are the Bank Secrecy Act, the U.S. Patriot Act, and directives from the Office of Foreign Assets Control (OFAC) in the United States.

2. It must be emphasized, however, that the impact of remittances on poverty and growth is, in many cases, modest. Although there is significant heterogeneity in the Latin American sample, both our cross-country and micro-based estimates indicate that, on average, an increase of one percentage point in the ratio of remittances to GDP would be associated with a decline in poverty of about 0.4 percent. On the growth front, we have presented estimates indicating that the increase in remittances from 0.7 percent of GDP in 1991–1995 to 2.3 percent of GDP in 2001–2005 experienced by the typical Latin American country may have contributed to a growth acceleration of a mere 0.27 percent. Moreover, the impact of remittances on household welfare—for example, through higher savings, educational outcomes, and increases in entrepreneurship—often is limited to specific socioeconomic groups and varies considerably across countries.

3. The study has also shown that the impact of remittances on financial development is weaker in Latin America than in the rest of the developing world. Although more research is needed to better understand what drives this finding, our results suggest some tentative conclusions and policy implications. First, further efforts to continue to "bank" migrants are important, since they will increase the likelihood that migrants send their remittances through bank accounts. This involves efforts by U.S. banks and credit unions, to continue to facilitate access to their services by lowering costs and tailoring products to meet migrants' needs. At the same time, governments in migrant-recipient countries, in partnership with those in Latin America, need to continue to work on programs to foster financial access for migrants, and to link them with financial institutions from their home countries. Similarly, the incipient actions taken by banks in Latin America to "bank" remittance recipients need to be stepped up. Governments can contribute to this process by minimizing regulatory obstacles for opening branches and other outlets to serve recipients, as well as by allowing non-traditional methods of delivering banking services—for example, through arrangements with post offices, retailers, or cooperatives. Finally, issues such as weak creditor rights, inefficient contract enforcement mechanisms, lack of collateral, and crowding out as a result of the government demand for credit might all be factors that will have to be considered and tackled by governments seeking to leverage the impact of remittances on financial development.

4. Surges in remittances may also have negative effects and thus be accompanied by a number of policy challenges. Two have been highlighted in this study. On the internal front, remittances seem to negatively affect labor supply (the number of hours worked per week and, in a number of countries, also labor force participation). On the external front, remittances seem to be accompanied by real exchange rate appreciation pressures. While these effects are consistent with adjustments towards new equilibriums following a positive shock (that is, the surge in remittances), the evidence in this study suggests that some of the observed appreciations are linked to real exchange rate misalignments, which justifies the desire by policy makers to take mitigating actions in order to minimize competitiveness losses due to remittances.

5. In addition to addressing potential external competitiveness problems, policy makers can take actions to enhance the development impact of remittances. This study has

shown that progress on a number of fronts, namely education, institutional quality, and the policy environment, can help to increase the positive impact of remittances. While deepening reforms on these areas would be desirable even in the absence of remittances, it becomes even more important when those flows are significant.

6. With respect to the regulatory environment for remittances services, in consonance with recent high-level multilateral initiatives promoted by Latin American Presidents and the G–8, the regulation of RSPs should be primarily aimed at reducing the costs of sending remittances while avoiding criminal misuse of remittance channels. In this context, authorities should ensure contestability in their local markets by establishing regulatory requirements that balance the need to maintain security in the system with the goal of eliminating unnecessary hurdles to bona fide entrants, as well as by removing unduly burdensome regulatory barriers to the use of payment and settlement systems (either directly or indirectly). However, since increased market contestability by itself may not necessarily lead to lower transaction costs, authorities should take an active role in the collection and dissemination of information on comparative prices of different RSPs, and in increasing accessibility to financial services among remittances senders and recipients. This, in turn, requires reviewing the merit and need for existing regulatory constraints, eliminating artificial constraints to accessibility linked to the misinterpretation of regulations, and reducing under-utilization of financial services by immigrants. Finally, accessibility to financial services in recipient countries could be improved by opening access to remittance services to smaller financial institutions such as credit unions, savings and loans, and microfinance companies.

7. The basic conclusion of this study is that remittances are an engine for development but they are neither "manna from heaven" nor a substitute for sound development policies. First, the migration flows that logically precede surges in remittances are not without costs, both for the households directly affected and their countries. For instance, once reductions in households' earning generating potential are taken into account, net income increases fall well below observed remittances inflows—simply because the migrant was usually economically active. As a result, the poverty and inequality reduction potential of remittances is, in most cases, quite modest. Similarly, while there are some positive growth-enhancing effects associated with remittances—for example, higher savings, human capital investments, increased entrepreneurship, and higher bank deposits—the bottom-line effects on investment rates and per capita GDP growth are relatively small. Second, the way countries benefit from remittances appears to be positively related to the countries' own institutional and macroeconomic environments, so that countries that rank low on these fronts should expect even more modest impacts. If one also considers that remittances may reduce labor supply and lead to real exchange rate over-valuation, it becomes clear that countries experiencing large remittances inflows will also face considerable policy challenges that may require corrective actions. Thus, given the positive effects of remittances, the private nature of remittances flows, and the fact that they may be here to stay, it appears that a healthy stance is that of combining measures to minimize negative effects on competitiveness, with a focus on complementary growth-enhancing policies and improvements in the regulatory environment that are directed toward promoting secure and low-cost remittances services.

REFERENCES

Acosta, P. (2006): "Labor Supply, School Attendance, and Remittances from International Migration: The Case of El Salvador" World Bank Policy Research Working Paper 3903, The World Bank, Washington, DC.

Acosta, P., C. Calderon, P. Fajnzylber, and H. Lopez (2006 a): "Remittances and Development in Latin America" *World Economy* 29: 957-87.

Acosta, P., C. Calderon, P. Fajnzylber, and H. Lopez (2006 b): "What is the Impact of International Remittances on Poverty and Inequality in Latin America?", mimeo, The World Bank, Washington, DC.

Adams, R. (2004): "Remittances and Poverty in Guatemala." World Bank Policy Research Working Paper 3418, The World Bank, Washington, DC.

Adams, R. (2005): "Remittances, Household Expenditure and Investment in Guatemala" World Bank Policy Research Working Paper No. 3532, The World Bank, Washington, DC.

Adams, R. (2006): "Remittances and Poverty in Ghana." World Bank Policy Research Working Paper 3838, The World Bank, Washington, DC.

Adams, R., and J. Page (2005): "Do International Migration and Remittances Reduce Poverty in Developing Countries?", *World Development* 33: 1645-1669.

Aggarwal, R., A. Demirguc-Kunt, and M. S. Martinez Peria (2005): "Do Workers' Remittances Promote Financial Development?" mimeo, The World Bank, Washington, DC.

Ahmed, S. (1986): "Temporary and Permanent Government Spending in an Open Economy: Some Evidence for the United Kingdom", *Journal of Monetary Economics* 17, 197-224.

Alberola, E., S. G. Cervero, H. López, and A. Ubide (1999): "Global equilibrium exchange rates: euro, dollar, 'ins,' 'outs' and other major currencies in a panel cointegration framework", IMF Working Paper No. 175, International Monetary Fund, Washington, DC.

Alberola E., S. G. Cervero, H. López and A. Ubide (2002): "Quo vadis euro?", *European Journal of Finance* 8 (4), 352–70.

Alberola, E. and H. López (2001): "Internal and external exchange rate equilibrium in a cointegration framework. An application to the Spanish peseta", *Spanish Economic Review*, 3(1), 23-40.

Amuedo-Dorantes, C. and S. Pozo (2004): "Workers' Remittances and the Real Exchange Rate: A Paradox of Gifts", *World Development* 32: 1407-1417.

Andreassen, O. (2006): "Remittance Service Providers in the United States: How remittance firms operate and how they perceive their business environment", The World Bank, Washington, DC.

Anibale, B. (2005): "Balancing Competition and Regulation in the Remittance Market", Citibank, remarks at the IDB International Forum on Remittances 2005, Washington, DC.

Arellano, M. and O. Bover (1995): "Another Look at the Instrumental Variable Estimation of Error Component Models". *Journal of Econometrics* 68: 29-51.

Aschauer, D. (1985): "Fiscal Policy and Aggregate Demand" *American Economic Review,* 75, 117-27.

Attanasio, O. and M. Székely (2000): "Saving in Developing Countries: Inequality, Demographics and all that", mimeo, University College London, London.

Attanasio, O. and V. Rios Rull (2000): "Consumption smoothing in island economies: Can public insurance reduce welfare?", *European Economic Review*, 44, 1225-58.

Bailey, M.J. (1972): "The Optimal Full Employment Surplus", *Journal of Political Economy*, 80, 649-61.

Bair, S. C. (2005): "Improving access to the U.S. Banking System among recent Latin American immigrants", Center for Public Policy and Administration, University of Massachusetts and The Multilateral Investment Fund, Washington, DC.

Balassa, B. (1964): "The Purchasing Power Parity Doctrine: A Reappraisal," *Journal of Political Economy*, 72, 584–96.

Banco de la República de Colombia (2004): "Principales Resultados de la Encuesta de Costos de Transacción de Remesas de Trabajadores en Colombia".

Banerjee, A. and E. Duflo (2003): "Inequality and Growth: What Can the Data Say?", *Journal of Economic Growth* 8, 267-299.

Banerjee, A.V. and A.F. Newman. (1993): "Occupational Choice and the Process of Development." *Journal of Political Economy* 101, 274-298.

Barham, B., and S. Boucher (1998): "Migration, Remittances, and Inequality: Estimating the Net Effects of Migration on Income Distribution", *Journal of Development Economics* 55: 307-331.

Barro, R.J. and J.W. Lee, (2001): "International Data on Educational Attainment: Updates and Implications." *Oxford Economic Papers 53(3)*, 541-63.

Beck T., A. Demirguc-Kunt, and R. Levine, (2000): "A New Database on Financial Development and Structure", *World Bank Economic Review* 14 (3), 597-605.

Beck, T., A. Demirgüç-Kunt and M. S. Martinez Peria (2005): "Reaching out: Access to and Use of Banking Services Across Countries". World Bank Policy Research Working Paper No. 3754, Washington, DC.

Beck, T., A. Demirgüç-Kunt and M. S. Martinez Peria (2006): "Banking Services for Everyone? Barriers to Bank Access Around the World", mimeo, The World Bank, Washington, DC.

Bekaert, G., H. Campbell and C. Lundblad, (2005): "Growth Volatility and Financial Liberalization." *Journal of International Money and Finance*, forthcoming.

Bendixen & Associates (2001): "Survey of Remittance Senders: U.S to Latin America", Bendixen & Associates, Coral Gables, Florida.

Blejer, M. I., and M. S. Khan (1984): "Government Policy and Private Investment in Developing Countries"*, IMF Staff Papers,* 31(2), 379-403.

Borensztein, E., J. De Gregorio, and J.-W. Lee, (1998): "How Does Foreign Direct Investment Affect Economic Growth?", *Journal of International Economics* 45(1), 115–35.

Brockerhoff, M. (1990): "Rural-to-Urban Migration and Child Survival in Senegal", *Demography*, 27, 601-616.

Burnside, C.A., and D. Dollar, (2000): "Aid, Policies, and Growth." *American Economic Review 90(4)*, 847-868.

Burnside, C. and D. Dollar (2004): "Aid, Policies, and Growth: Revisiting the Evidence", Policy Research Working Paper Series 3251, The World Bank, Washington, DC.

Butelmann, A. and F. Gallego (2001): "Estimaciones de los Determinantes del Ahorro de los Hogares en Chile (1988-1997)", in *Análisis Empírico del Ahorro en Chile*, ed. by F. Morandé and R. Vergara, Banco Central de Chile and Centro de Estudios Públicos, forthcoming.

Calderón, C., and R. Fuentes, (2005): "¿Cuánto explican las reformas y la calidad de las instituciones el crecimiento chileno?" Central Bank of Chile Working Paper 314, Santiago de Chile.

Calderon C., P. Fajnzylber and H. López (2006): "Remittances, growth, and policy complementarities", mimeo, The World Bank, Washington, DC.

Calderon C., P. Fajnzylber and H. López (2006 a): "Remittances and growth volatility: an investigation into the business cycle properties of workers' remittances", mimeo, The World Bank, Washington, DC.

Caprio, G. and D. Klingebiel (2003): "Episodes of Systemic and Borderline Financial Crises 1970s-2002", The World Bank, Washington, DC.

Cavallo, E. and J. Frankel (2004): "Does Openness to Trade Make Countries Less Vulnerable to Sudden Stops? Using gravity to Establish Causality", NBER Working Paper 10957, National Bureau of Economic Research, Inc.

Chami, R., C. Fullenkamp and S. Jahjah (2003): "Are immigrant remittance flows a source of capital for development", IMF Working No 03/89, International Monetary Fund, Washington, DC.

Cheikhrouhou, H., R. Jarque, R. El-Swaify, and A. Villanueva-Villareal (forthcoming): "The U.S-Guatemala Remittances Corridor Analysis", The World Bank, Washington, DC.

Clarke, G. and S. J. Wallsten. (2003): "Do Remittances Act Like Insurance? Evidence from a Natural Disaster in Jamaica", The World Bank ,Washington, D.C.

Cox, D., Eser, Z., and E. Jimenez (1998): "Motives for Private Transfers Over the Life Cycle: An Analytical Framework and Evidence for Peru", *Journal of Development Economics*, 55(1), 57–80.

Cox-Edwards, A., and M. Ureta (1998): "International Migration, Remittances, and Schooling: Evidence from El Salvador", *Journal of Development Economics* 72: 429-461.

Coutinho, L (2006): "Networking: The Case of Bansefi", mimeo, The World Bank, Washington, DC.

Cutler, D. M. and J. Gruber (1996): "Does Public Insurance Crowd our Private Insurance," *Quarterly Journal of Economics,* 112(2), 391-430.

De Ferranti, D. G. Perry, I. Gill, J.L. Guasch, N. Schady, W. Maloney and C. Sanchez Paramo (1992): "Closing the Gap in Education and Technology", The World Bank, Washington, DC.

De la Torre, A., J. Gozzi, and S. Schmukler (2006): " Innovative Experiences in Access to Finance: Market Friendly Roles for the Visible Hand?", The World Bank, Washington, DC.

Derham, M. (2005): "Every Dollar Counts", LatinFinance 173 (December).

De Luna Martinez, J. (2005): "Workers' Remittances to Developing Countries: A survey with Central Bank on selected policy issues", The World Bank, Washington, DC.

Demirgrüç-Kunt, A. and M. S. Martinez Peria (2006): "Remittances and the Use of Banking Services. Evidence from El Salvador" mimeo, The World Bank, Washington, DC.

Demirgrüç-Kunt, A., E. Lopez-Cordova, M. S. Martinez Peria, and C.Woodruff (2006): "Remittances and Financial Development. Evidence from Mexican Municipalities" mimeo, The World Bank, Washington, DC.

Docquier, F. and A. Marfouk (2005): "International Migration by Educational Attainment (1990—2000)," Chapter 5 in C. Ozden and M. Schiff (eds.) *International Migration, Remittances and the Brain Drain*. Palgrave McMillan Press (for the World Bank). New York

Dollar, D. (1992): "Outward-Oriented Developing Economies Really Do Grow More Rapidly: Evidence from 95 LDC's, 1976-1985," *Economic Development and Cultural Change* 40(3), 523-44.

Easterly, W., C.A. Rodriguez and K. Schmidt-Hebbel (1994): "Public Sector Deficits and Macroeconomic Performance", Oxford University Press, New York.

El Qorchi, M., S. Maimbo and J. Wilson (2003): "Informal Funds Transfer Systems: An Analysis of the Informal Hawala System", *IMF Occasional Paper* No. 222, Washington, DC.

Evans, P. and G. Karras (1996): "Convergence Revisited", *Journal of Monetary Economics*, 37, 249–65.

Faini, R. (2002) : "Development, Trade, and Migration", *Revue d'Économie et du Développement*, Proceedings from the ABCDE Europe Conference, 1-2: 85-116.

Faini, R. (2002): "Migration, Remittances and Growth." *manuscript,* University of Brescia, Brescia, Italy.

Fatas, A. and I. Mihov (2003): "The Case for Restricting Fiscal Policy Discretion", *Quarterly Journal of Economics* 118(4), 1419-47.

Forbes, K. (2000): "A Reassessment of the Relationship between Inequality and Growth", American Economic Review 90(4), 869-87.

Frankel, J. and A. Rose (1998): "The Endogeneity of the Optimum Currency Criteria," Economic Journal 108, 1009–25.

Frenkel, J. and M. Mussa (1985): "Asset Markets, Exchange Rates, and the Balance of Payments", in R.W. Jones, P.B. Kenen (eds.) Handbook of International Economics Vol. 2, Ch. 14.

Frias, M. (2005): Supervisory Insights, "Linking International Remittance Flows to Financial Services: Tapping the Latino Immigrant Market", Federal Deposit Insurance Corporation.

Frumkin, S. (2005): "Remittances: A gateway to banking for unbanked immigrants", Comptroller of the Currency Administrator of National Banks.

Funkhouser, E. (1992): "Migration from Nicaragua: Some Recent Evidence", World Development 20: 1209-18.

FUSADES (1995): "Uso productivo de las remesas familiares", Fundación Salvadoreña para el Desarrollo Económico y Social, La Libertad, El Salvador.

Gallego, F., and N. Loayza. (2002): "The Golden Period for Growth in Chile: Explanations and Forecasts." In *Economic Growth: Sources, Trends, and Cycles*, edited by Norman Loayza and Raimundo Soto, Central Bank of Chile, Santiago de Chile.

Galor, O. and J. Zeira (1993): "Income Distribution and Macroeconomics." *Review of Economic Studies* 60, 35-52.

Giuliano, P. and M. Ruiz-Arranz (2005): "Remittances, Financial Development and Growth". IMF Working Paper 05/234, International Monetary Fund, Washington, DC.

Glewwe, P. and P. Olinto (2004): "Evaluating of the Impact of Conditional Cash Transfers of Schooling: An Experimental Analysis of Honduras' PRAF Program" USAID.

Goldstein, M. G., L. Kaminsky, and C. M. Reinhart. (1999): "Assessing Financial Vulnerability: An Early Warning System for Emerging Markets". Institute for International Economics, Washington, DC.

Hanson, G. (2005): "Emigration, Remittances, and Labor Force Participation in Mexico", mimeo, University of California, San Diego, California.

Hanson, G. H. and C. Woodruff (2003): "Emigration and Educational Attainment in Mexico" mimeo, University of California, San Diego, California.

Heckman, J. J. (1979): "Sample selection bias as a specification error", *Econometrica* , 47, 153-161.

Hernandez-Coss, R. (2004): "Lessons from the United States-Mexico Remittances Corridor on Shifting from Informal to Formal Transfer Systems". The World Bank, Washington, D.C.

Hildebrandt, Nicole and David McKenzie (2006). "The Effects of Migration on Child Health in Mexico." *Economia*, *Journal of the Latin American and Caribbean Economic Association*, forthcoming.

Honohan, P. and D. Klingebiel (2003): "The Fiscal Cost Implications of an Accommodating Approach to Banking Crises" *Journal of Banking and Finance* 27(8), 1539-60.

Hysenbegasi, A., and S. Pozo. (2002): "What Prompts Workers to Remit? Evidence using a Panel of Latin American and Caribbean Nations." Citigroup, Irvin Texas and Department of Economics, Western Michigan University.

Ibarraran, P. and D. Lubotsky (2005): "Mexican Immigration and Self-Selection: New Evidence from the 2000 Mexican Census", NBER Working Papers No.11456, National Bureau of Economic Research, Inc.

Inter-American Development Bank (2002): "Survey of Remittance Senders: United States to Latin America", Inter-American Development Bank, Washington, DC.

——— (2003): "Remittance Senders and Receivers: Tracking the Transnational Channels", Inter-American Development Bank, Washington, DC.

——— (2004): “Sending money home: Remittance recipients in the Dominican Republic and Remittance Senders from the United States”, Inter-American Development Bank and Columbia University, New York.

——— (2004a): “State by state survey of remittance senders: United States to Latin America”, Inter-American Development Bank, Washington, DC.

——— (2004b): “Remittance flows to Latin America and the Caribbean, 2004”, Inter-American Development Bank, Washington, DC.

——— (2006): “Remittances 2005: Promoting Financial Democracy”, Inter-American Development Bank, Washington, DC.

——— (2006a): “Enviando Dinero a Casa: Marcador de la Industria de Remesas”, Inter-American Development Bank, Washington, DC.

International Monetary Fund (2005): “Balance of Payment Statistics Yearbook”, International Monetary Fund, Washington, D.C.

——— (2005a): “World Economic Outlook” International Monetary Fund, Washington, DC.

——— (2005b): “Approaches to a regulatory framework for formal and informal remittance systems: experiences and lessons”, IMF, Washington, DC.

——— (various issues): “Annual Report on Exchange Arrangements and Exchange Restriction”, International Monetary Fund, Washington, DC.

——— (various issues): “Balance of Payments Statistics Yearbook”, International Monetary Fund, Washington, D.C.

——— (various issues): “International Financial Statistics”, International Monetary Fund, Washington, DC.

Kanaiaupuni, S., and K. Donato (1999): “Migradollars and Mortality: The Effects of Migration on Infant Survival in Mexico”, *Demography* 36: 339-353.

Kaminsky, G. L. and C. M. Reinhart (1999): “The Twin Crises: The Causes of Banking and Balance-of-Payments Problems”, *American Economic Review* 89(3), 473-500.

Kapur, D. (2004): “Remittances: The New Development Mantra?”, G-24 Discussion Paper No.29, UN Conference on Trade and Development, Geneva, Switzerland.

Kaufman, D., A.Kraay and M.Mastruzzi (2005): “Governance Matters IV: Governance Indicators for 1996-2004”, Policy Research Working Paper 3630, The World Bank, Washington, DC.

Khan, M. S. and C. M. Reinhart (1990): “Private Investment and Economic Growth in Developing Countries”, *World Development*, 18, 19-27.

King, R. and R. Levine (1993): "Finance and Growth: Schumpeter Might be Right", *Quarterly Journal of Economics,* 108, 717-37.

Knowles, S. (2005): "Inequality and Economic Growth: The Empirical Relationship Reconsidered in the Light of Comparable Data", The Journal of Development Studies, 41, 135-159.

Kormendi, R. (1983): "Government Debt, Government Spending, and Private Sector Behavior", *American Economic Review*, 73, 994-1010.

Levin, A. and L. K. Raut (1997): "Complementarities between Exports and Human Capital in Economic Growth: Evidence from the Semi-industrialised Countries", *Economic Development and Cultural Change*, 46 (1), 155-74.

Lindert, K., E. Skoufias and J. Shapiro (2005): "Redistributing Income to the Poor and the Rich: Public Transfers in Latin America and the Caribbean", Regional Study Working Paper, The World Bank, Washington, DC.

Lindert, K., E. Skoufias and J. Shapiro (2006): "How effectively do public transfers in Latin America redistribute income?" Regional Study Working Paper, The World Bank, Washington, DC

Loayza, N., P. Fajnzylber, and C. Calderon (2005): "Economic Growth in Latin America and the Caribbean: Stylized Facts, Explanations and Forecasts", The World Bank, Washington, DC.

López Córdova, E. (2005): "Globalization, Migration and Development: The Role of Mexican Migrant Remittances" *Economia*, *Journal of the Latin American and Caribbean Economic Association*, forthcoming.

López, H. and L. Molina (2006): "Remittances and the real exchange rate: Are there reasons to be concerned about Dutch Disease in Latin America?", mimeo, The World Bank, Washington, DC.

Lopez, H., and L. Servén (2006): "A Normal Relationship? Poverty, Growth and Inequality". World Bank Policy Research Working Paper 3814, The World Bank, Washington, DC.

López, H., K. Schmidt-Hebbel, and L. Servén (2000): "How effective is Fiscal Policy in raising National Saving?" *The Review of Economics and Statistics* LXXXII (2), 226-38.

Lowell, B. L. and R. Suro (2002): "How Many Undocumented: The numbers behind the United States—Mexico", Migration Talks, Pew Hispanic Center, Washington, DC.

Maimbo S., and D. Ratha (2005): "Remittances: Development Impact and Future Prospects", The World Bank, Washington, DC.

Maluccio, J. A. (2004): "Education and Child Labor: Experimental Evidence from a Nicaraguan Conditional Cash Transfer Program", forthcoming, in Child Labor in Latin America, P. Orazem,

G. Sedlaceck, and Z. Tzannatos (editors), International Food Policy Research Institute, Washington, D.C.

Maluccio, J. A., and R. Flores (2004): "Impact evaluation of a conditional cash transfer program: The Nicaraguan Red de Protección Social", Food Consumption and Nutrition Division Discussion Paper (forthcoming), International Food Policy Research Institute, Washington, DC.

Massey, D., and E. Parrado (1998): "International Migration and Business Formation in Mexico", *Social Science Quarterly* 79: 1-20.

Mattoo ,A., I.C. Neagu and C. Ozden (2005): "Brain Waste? Educated Inmigrants in the U.S. Labor Market", World Bank Policy Research Working Paper No. 2581, The World Bank, Washington, DC.

McKenzie, D. and H. Rapoport (2005): "Migration and Education Inequality in Mexico", mimeo, Inter American Development Bank, Washington, DC.

Mesbah-Khavari, D., A. Evans, and J.Klaehn (2005): "Credit Union Remittance Services in Guatemala: Expanding the Access of Low-Income Remittance Recipients to Financial Institutions", United States Agency for International Development (USAID).

Mishra, P. (2003): "Emigration and Wages in Source Countries: Evidence from Mexico" *manuscript*, Department of Economics, Columbia University, New York.

Mishra, P. (2005): "Macroeconomic Impact of Remittances in the Caribbean", forthcoming, *IMF Working Paper*, International Monetary Fund, Washington, DC.

MoneyGram (2006): "Anti-Money Laundering Compliance Guide", MoneyGram, Minnesota, U.S.

MoneyGram (2006a): "Agent Compliance Manual", MoneyGram, Minnesota, United States

Morris, P., G. Duncan and C. Rodrigues (2004): "Does money really matter? Estimating impacts of family income on children's achievement with data from random assignment experiments", Paper prepared for the "Next Generation" project, MDRC, New York.

Mundaca, G. (2005): "Can Remittances Enhance Economic Growth? The Role of Financial Markets Development", mimeo, Department of Economics, University of Oslo, Oslo.

Mussa, M. (1984): "The Theory of Exchange rate Determination", in J. Bilson, and R. Marston (eds), *Exchange Rate Theory and Practice, NBER Conference Report*, University of Chicago Press, Chicago.

North, D. (1990): "Institutions, institutional change, and economic performance", Cambridge U. Press, Cambridge.

Olinto, P. (2006): "Do Conditional Cash Transfer Programs Crowd Out Private Transfers? Evidence from Randomized Trials in Rural Honduras and Nicaragua", mimeo, The World Bank, Washington, DC.

Organization for Economic Co-Operation and Development (2005): "Database on Immigrants and Expatriates" OECD, Paris, France.

http://www.oecd.org/document/51/0,2340,en_2825_494553_34063091_1_1_1_1,00.html

Orozco, M. (2003a): "Changes in the Atmosphere? Increase in Remittances, Price Decline and New Challenges", Inter-American Dialogue, Washington, DC.

Orozco, M. (2004): "The Remittance Marketplace: prices, policy and Financial Institutions", Pew Hispanic Center Report, Georgetown University and Institute for the Study of International Migration, Washington, DC.

Orozco, M. (2005): "Markets and Financial Democracy: The Case for Remittance Transfers", *Journal of Payment Systems Law,* 2, 166-215.

Orozco, M. and Fedewa, R. (2005): "Leveraging Efforts on Remittances and Financial Intermediation" Report Comissioned by the Inter-American Development Bank, Washington, DC.

Osili, U.O. and A. Paulson (2004a): "Prospects for Inmigrant-Native Wealth Assimilation: Evidence from Financial Market Participation" Working Paper No. 18, Federal Reserve Bank of Chicago.

Ozden, C. (2006): "Migration Patterns in Latin America and the Caribbean: An Overview of Destination, Age, Education and Occupation Profiles", mimeo, The World Bank, Washington, DC.

Ozden, C., and M. Schiff (2006): "International Migration, Remittances, and the Brain Drain", The World Bank, Washington, DC.

Page, J., and S. Plaza (2005): "Migration, Remittances, and Development: A Review of Global Evidence", mimeo, The World Bank, Washington, DC.

Pallage, S., and M.A. Robe. (2003): "On the Welfare Cost of Economic Fluctuations in Developing Countries", forthcoming, *International Economic Review*.

Passel, J. (2006): "The Size and Characteristics of the Unauthorized Migrant Population in the United States", Pew Hispanic Center, Washington, DC.

Perotti, R. (1996): "Growth, Income Distribution and Democracy", *Journal of Economic Growth*, 1, 149-87.

Perry, G., O. Arias, H. Lopez, W. Maloney, and L. Servén (2006): "Poverty Reduction and Growth: Virtuous and Vicious Circles", The World Bank, Washington, DC.

PROFECO (1998): “El Mercado de envio de dinero de Estados Unidos a Mexico”, Procuraduria Federal del Consumidor, Mexico City.

PROFECO (2004): “Programa quien es quien en el envio de dinero de Estados Unidos a Mexico, origen y evolucion”, Procuraduria Federal del Consumidor, Mexico City.

Rajan, R., and A. Subramanian (2005): “What Undermines Aid’s Impact on Growth?”, mimeo, International Monetary Fund, Washington, DC.

Ratha, D. (2003): “Workers' Remittances: An Important and Stable Source of External Development Finance," in Global Development Finance 2003, The World Bank, Washington, DC.

Ratha, D. and J. Riedberg (2005): “On reducing remittance costs”, The World Bank, Washington, DC.

Rodriguez, E. R. (1998): “International Migration and Income Distribution in the Philippines”, *Economic Development and Cultural Change,* 46(2), 329–50.

Rodriguez, E. and E. Tiongson (2001): “Temporary Migration Overseas and Household Labor Supply: Evidence from Urban Philippines”, *International Migration Review,* 35, 1185-204.

Ruiz-Arranz, M., and P. Giuliano (2005): “Remittances, Financial Development, and Growth”. IMF Working Paper No. 05/234, Washington, DC.

Samuelson,P.A. (1964): “Theoretical Notes on Trade Problems,” *Review of Economics and Statistics*, 46, 145–54.

Sander, C. and S. Mainbo (2003): “Migrant Labor remittances in Africa: Reducing obstacles to developmental contributions”. Working paper No. 64, Africa Region Working Paper Series, The World Bank, Washington, DC.

Sayan, S. (2004): “Guest Workers’ Remittances and Output Fluctuations in Host and Home Countries”, *Emerging Markets Finance and Trade*, 40(6), 68-81.

Sayan, S. (2006): “Business Cycles and Workers’ Remittances: How do Migrant Workers Respond to Cyclical Movements of GDP at Home?”, IMF Working Paper No. 06/52, Washington, DC.

Schoeni, R. (2002): “Does Unemployment Insurance Displace Familial Assistance.” *Public Choice.* 110, 99-119.

Schoeni, R. F. (1996): “Does Aid to Families with Dependent Children Displace Familial Assistance?”, Rand Working Paper, DRU-1453-RC.

Skoufias, E. (2005): “PROGRESA and Its Impact on the Welfare of Rural Households in Mexico”, Research Report 139, International Food Research Institute, Washington, DC.

Solimano, A. (2003): "Remittances by Emigrants: Issues and Evidence", WIDER Discussion Paper No. 2003/89, World Institute for Development Economics Research,

United Nations University, Helsinki.

Spatfora, N. and C. Freud (2005): "Remittances: Transaction Costs, Determinants and Informal Flows", World Bank Policy Research Working Paper 3704, The World Bank, Washington, DC.

Ssengonzi, R., G. De Jong, and C. Stokes (2002): "The Effect of Female Migration on Infant and Child Survival in Uganda", *Population Research and Policy Review*, 21, 403-431

Stark, O., J. Taylor, J., and S. Yitzhaki (1986), "Remittances and Inequality", *Economic Journal* 96, 722-740.

Suro, R. (2005): "Survey of Mexican Migrants: Attitudes about Immigration and Major Demographic Characteristics", Research & Publications, Pew Hispanic Center, Washington, DC.

Suro, R. and S. Bendixen (2002): "The Remittance Process and the Unbanked", Pew Hispanic Center and Multilateral Investment Fund, Washington, DC.

Suro, R., S. Bendixen and D. Benavides (2002): "Billions in motion: Latino immigrants, remittances and banking". Pew Hispanic Center Report, Georgetown University and Institute for the Study of International Migration, Washington, DC.

Taylor, J. (1992): "Remittances and Inequality Reconsidered: Direct, Indirect, and Intertemporal Effects", *Journal of Policy Modeling* 14, 187-208.

Taylor, J. E., J. Mora, R. Adams, and A. Lopez-Feldman (2005): "Remittances, Inequality, and Poverty: Evidence from Rural Mexico", mimeo, University of California.

Teruel, G., and B. Davis (2000): "Final Report: An Evaluation of the Impact of PROGRESA Cash Payments on Private Inter-Household Transfers", International Food Policy Research Institute, Washington, DC.

U.S. Bureau of the Census (2000): "International Data Base", Washington, DC.

United Nations (2005): "Human Development Report" United Nations Development Programme, New York, NY.

WOCCU (2004): "A technical guide to remittances", World Council of Credit Unions, Inc., Washington, DC.

WOCCU (2006): "How to serve undocumented individuals", World Council of Credit Unions, Inc., Washington, DC.

Woodruf, C. and R. Zenteno (2004): "Remittances and Microenterprises in Mexico", mimeo, University of California, San Diego, California.

World Bank (2002): "World Development Indicators database", The World Bank, Washington, DC.

——— (2003): "World Development Report 2003: Sustainable Development in a Dynamic World", The World Bank, Washington, DC.

——— (2005): "World Development Indicators database", The World Bank, Washington, DC.

——— (2005a): "Doing Business", The World Bank, Washington, DC.

——— (2005b): "Economic Growth in the 1990s, Learning From a Decade of Reform", The World Bank, Washington, DC.

——— (2005c): "The United States-Mexico Remittances Corridor Analysis", The World Bank, Washington, DC.

——— (2006): "Global Economic Prospects: Economic Implications of Remittances and Migration", The World Bank, Washington D.C.

——— (2006a): "The United States-Guatemala Remittances Corridor Analysis", forthcoming, The World Bank, Washington, DC.

——— (2006b): "The Development Impact of Workers' Remittances in Latin America", Report No. 37026, The World Bank, Washington, DC.

World Bank and Committee on Payment and Settlement Systems (2006): "General principles for international remittance services, consultative report", Bank for International Settlements and The World Bank, Washington, DC.

Yang, D. (2006): "Coping with Disaster: The Impact of Hurricanes on International Financial Flows, 1970-2001", mimeo, University of Michigan, Ann-Arbor.

Yang, D. and H. Choi. (2005): "Are Remittances Insurance? Evidence from Rainfall Shocks in the Philippines", Ford School of Public Policy Working Paper Series No. 2005/005, University of Michigan, Ann Arbor.