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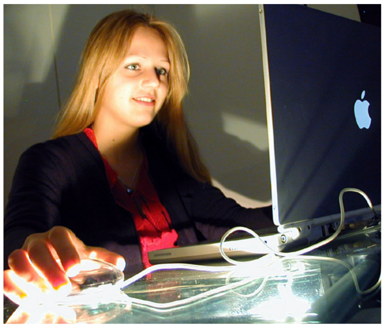
Central America: Remittances and the Macroeconomic Variable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Inter-American Dialogue
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Introduction
This report provides an analysis of the relationship between remittances and the local economies in Central America, with special attention to Nicaragua and Guatemala. Based on time series quarterly data and nationwide surveys, the report looks at the impact of remittances on growth, exchange rates and savings in Central America. The report also provides some policy recommendations to leverage and mitigate the impact of remittances.

The study finds that the impact of remittances on growth is positive and finds no correlation with the exchange rate with the exception of Nicaragua. The study also shows other factors influencing domestic currency appreciation. More importantly the study shows the relevance of remittances when compared to other important sources of foreign earnings. In looking at the Nicaraguan case, remittances are estimated to reach US$900 million in 2006. Based on two nationwide surveys in Guatemala and Nicaragua the study shows that *remittances increase savings among households receiving money, but owning bank accounts is not influenced by remittances, a factor that may be associated to other constraints in the banking system.*

The study offers a number of recommendations dealing with reducing cash to cash transfers to deal with any potential effects on exchange rate appreciation, while increasing savings, by supporting technologies that modernize payments in low income areas. Other recommendations include greater intervention of financial intermediation to expand financial access and thus mobilize savings to promote local investment.

I. Central America: Migration and Remittances
Central America's position in the geopolitical and economic context makes it a region vulnerable to external dynamics and economic asymmetries that strengthen its dependency on outside forces. This situation is true in the case of migration and remittances. Labor mobility has emerged as a key factor of economic integration into the global economy leaving important effects on the home countries. In turn, the earnings migrants remit as a strategy to cope with lower quality of life and poverty in their homes, improves their families condition in the short term. This section briefly looks at some characteristics of migration and remittances to the region and highlights the broad contribution the latter has on those receiving foreign savings.

a) Migration Trends
Civil war, political instability, human rights violations, and natural disasters influenced many Salvadorans, Guatemalans, Hondurans, and Nicaraguan's to migrate to the United States and Canada in the onset of the 1980's. Though Central American migrants are considered a young diaspora, dating from around 20 years ago, their labor mobility has assisted them in addressing socioeconomic problems in their native countries through their transnational ties between home and host communities.

The waves of Central American migration continued to increase in the 1990's and has been characterized by a more stable and continuous flow since, with the majority choosing the United States as their major destination. Table 1 consists of official United Nations population figures that show the distribution of Central American migrates in the United

States and the rest of the world. Today, there are nearly 5 billion Central Americans living abroad from the seven countries that make up the region. The United States is the primary destination, with a share of between 70 and 80 percent of migrants. It is worth noting that the principle destination of Nicaraguans is nearly split evenly between the United States and Costa Rica. Canada, Mexico, and Spain follow as host countries and mobility within Central America is also an important phenomenon that is represented in these figures.

Though these numbers are official approximations, the number of migrants may be higher. In fact, the author's estimates for five countries in the region, shown in Table 2, indicate a higher number of migrants for all countries with the exception of Guatemala and Nicaragua.

Table 1: Geographic Distribution of Migrants from Six Central American Countries

	Costa Rica	%	El Salvador	%	Guatemala	%	Honduras	%	Nicaragua	%	Panama	%
USA	127035	69.6	942842	81.8	1028951	79.9	706085	79.6	314643	42.5	146371	79.2
Costa Rica	(NE)	(N.E.)	9926	0.9	4196	0.3	7179	0.8	316658	42.8	1027	5.6
Canada	4296	2.4	44744	3.9	29971	2.3	11151	1.3	1336	1.8	2555	1.4
Mexico	3496	1.9	6022	0.5	49467	3.8	8699	1	3462	0.5	1605	0.9
Spain	2336	1.3	18179	1.6	17374	1.3	11354	1.3	4572	0.6	2252	1.2
Belize	115	0.1	6886	0.6	3089	2.4	12089	1.4	390	0.1	39	0
Germany	2482	1.4	10417	0.9	12591	1	9097	1	6797	0.9	2144	1.2
Honduras	1608	0.9	11299	1	10873	0.8	(NE)	(N.E.)	12581	1.7	460	0.2
Nicaragua	8202	4.5	2561	0.2	1991	0.2	24293	2.7	(NE)	(N.E.)	369	0.2
Guatemala	1072	0.6	12136	1.1	(NE)	(N.E.)	11424	1.3	6721	0.9	169	0.1
El Salvador	1313	0.7	(NE)	(N.E.)	8849	0.7	19648	2.2	2784	0.4	287	0.2
Other	30633	16.6	87872	7.5	120980	7.3	66433	7.4	70665	7.8	27622	9.8
Total	182588	100	1152884	100	1288332	100	887452	100	740609	100	184900	100

Source: United Nations, obtained from Development Research Centre on Migration, Globalisation and Poverty (Migration DRC).

Table 2 Central Americans Living Abroad – Author's estimates

Country	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua
Migrants	186.286	1.159.819	1.061.124	1.147.051	537.334

Source: Author's estimates from Central Bank remittance quarterly figures and quarterly average amount of remittance sent.

Compounding this situation is the fact that the region has a predominantly young population, bringing its productive force to less than 40%. Moreover, the way in which Central America kept up with the demands of the global economy has not offered opportunities to increase productivity throughout the region, but rather has focused on enclave economies in tourism, non-traditional exports or maquila exports. These sectors are highly vulnerable to external fluctuations that are usually out of the control of these economies and oftentimes exhibit lower distributive effects than other activities with greater value added components.

Moreover, natural disasters have also had an adverse effect in many of these countries, particularly in those in the Caribbean Basin. A series of events have severely affected the region in the last few years, including the decline in coffee prices, drought, hurricanes, and earthquakes. These events devastated the local populations and economies. The impact of

Hurricane Felix on the Atlantic Coast of Honduras and Nicaragua is the latest installment on devastation to the region.

Along with the coffee crisis, Central America was hit with a drought in early 2000 that significantly affected four countries in particular: Guatemala, El Salvador and, even more dramatically, Honduras and Nicaragua. According to the United Nations World Food Program, nearly 1.6 million Central Americans were affected, half of them from Honduras. Many Central Americans faced starvation. In Guatemala, more than one hundred peasants died during the first six months of 2001 as a result of the drought. In other countries the death toll was even higher.

Table 3: Drought in Central America: Population affected

Country	Population affected
Guatemala	113,596
El Salvador	412,064
Honduras	791,970
Nicaragua	187,645

Source: World Food Program, WFO, UN.

Following the drought in 2001, two earthquakes in El Salvador affected the economic and housing infrastructure of more than one hundred thousand households. Five years later, the country is still recovering and rebuilding from that disaster. Between 2002 and 2006, the region has also faced other natural disasters, which have added to the strains on the economy and increased flow of migrants.

b) A demand for foreign labor in the global economy

Foreign labor market's demand for immigrant workers coexists with the push factor of poor economic performance in Latin America. That is, migration has also been shaped by a foreign labor market demand among industrialized countries facing their own challenges in meeting the demands of a competitive global economy. This foreign labor force works in service industries that are intrinsically connected to the global economy, demanding cheap labor and activities that other players in the economy are not prepared to carry out. This is a labor force that often lives under poor conditions and works in various labor intensive industries such as hospitality, cleaning, construction, and retail.

Andrade-Eekhoff[1] argues that this process of labor "integration" suffers relatively high levels of exclusion and marginalization due to the undocumented nature of many of its migrants who respond to economic push-pull and transnational networks and linkages. For example, migrants in the poultry industry in the US South working for Tysons Foods[2] live under

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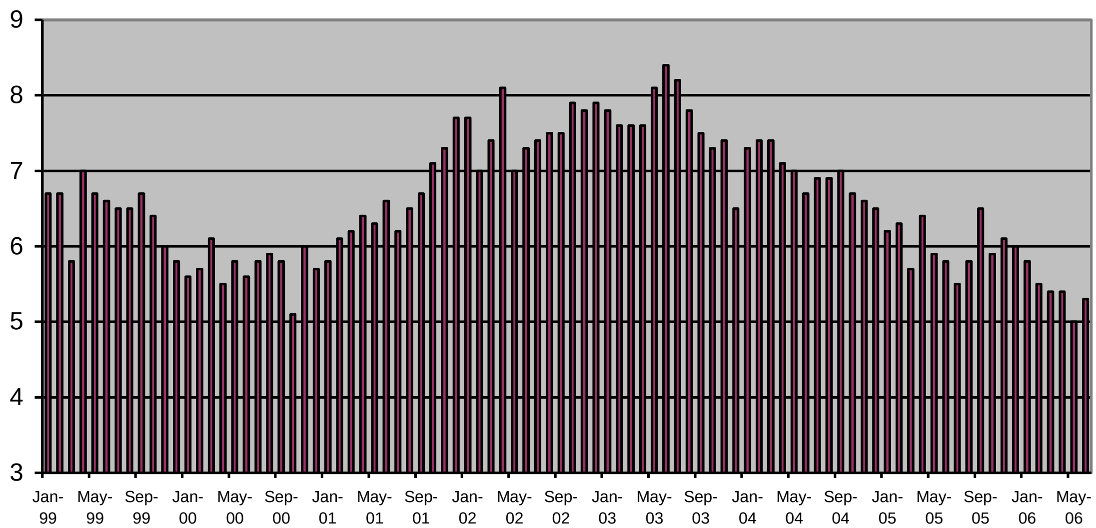
1 (Andrade)-Eekhoff, Katharine. Globalization of the periphery: The challenges of transnational migration for local development in Central America. El Salvador: FLACSO Programa, April 2003.

2 Fink, Leon, The Maya of Morgantown: work and community in the Nuevo new south, Chapel Hill: The University of North Carolina Press, 2003, p. 200. and Striffer, Steve, "We're all Mexicans Here: Poultry Processing, Latino Migration, and the Transformation of Class in the South" in The American South in a

precarious circumstances, working long hours with a limited social safety net. Similar conditions can also be found among foreign part time workers in the so called 'logistics sector', such as FedEx, delivering packages on time from all over the world.[3] Interestingly, this demand for this kind of foreign labor in the United States has not changed dramatically over the past seven years. For example, unemployment among Hispanics has declined as the economy improved after the 2000-2002 economic recession.

Figure 1: Unemployment among Hispanics in the United States



Source: US Bureau of Labor Statistics

c) Remittance Flows and Characteristics

Remittances reflect ongoing developments in migration and signal the transition of Central American countries from agro-exporting economies to labor-exporting transnational societies. These transfers have significant macroeconomic effects as they represent a great source of foreign savings and have contributed to growth in the different countries of the region. Since 1980, GDP growth and GDP per capita growth have increased significantly, and the income ratio between each country and the United States has decreased. This macroeconomic impact of remittances will be discussed further in the following sections of the report.

Table 4: Economic Indicators for Central America

Global World, edited by James Peacock, Harry Watson, and Carrie R. Matthews, Chapel Hill: The University of North Carolina Press, 2005.

[3] Smith, Barbara Ellen, Marcela Mendoza and David H. Ciscel, "The World on Time: Flexible Labor, New Immigrants, and Global Logistics" in The American South in a Global World, edited by James L. Peacock, Harry L. Watson and Carrie E. Matthews, Chapel Hill: The University of North Carolina

Country	Year	GDP growth (annual %)	GDP per capita (constant 2000 US$)	Rural population (% of total pop)	Income ratio to US's pc GDP
Costa Rica	1980	0,75	3.184.02	56,9	0,14
	1990	3,90	3.114.13	49,3	0,11
	2005	5,95	4.499.45	38,3	0,12
El Salvador	1980	-11,77	1.897.95	55,9	0,08
	1990	4,83	1.638.46	50,8	0,06
	2005	2,75	2.126.76	40,2	0,06
Guatemala	1980	3,76	1.684.98	62,6	0,07
	1990	3,10	1.449.11	58,9	0,05
	2005	3,24	1.734.33	52,8	0,05
Honduras	1980	0,67	950.93	65,1	0,03
	1990	0,10	885.75	59,7	0,03
	2005	4,05	985.25	53,5	0,03
Nicaragua	1980	4,61	1.054.39	49,7	0,05
	1990	-0,09	712.28	46,9	0,03
	2005	3,98	888.86	41	0,02
Panama	1980	1,10	3.176.29	49,6	0,14
	1990	8,10	2.941.59	46,1	0,10
	2005	6,38	4.408.32	29,2	0,12

Source: World Bank Development Indicators. 2007.

The volume of remittances to this region is indicative of the transnational ties formed by Central Americans in the diaspora with their families in their countries of origin. Mainly coming from the United States, the amount of remittances has grown exponentially since 1980, when remittances amounted to over $100 million. In 1990 these numbers reached over $700 million, rose to $3 billion in 2000, and in 2006 remittances to Central America surpassed $10 billion. However, it is important to note that the magnitude and effects of remittances varies among the countries in the region. For example, recent remittances to El Salvador and Guatemala total over $3 billion annually in each country whereas in Belize they reach $59 million.

Table 5: Remittances to Central America (US$)

	1980	1990	2000	2006
Belize	(N.D.)	(N.D.)	$27.789.149	$59.014.595
Costa Rica	$4.000.000	$47.703.000	$120.383.770	$485.263.785
El Salvador	$10.880.000	$322.105.088	$1.750.700.000	$3.315.691.990
Guatemala	$26.000.000	$106.600.000	$563.438.700	$3.609.813.100
Honduras	$2.000.000	$50.000.000	$409.600.000	$2.245.300.000
Nicaragua	$11.000.000	$73.554.000	$320.000.000	$655.500.000
Panama	$65.000.000	$110.000.000	$160.000.000	$126.000.000*
Central America	**$118.880.000**	**$709.962.088**	**$3.351.911.619**	**$10.496.583.470**

**Figure from 2005*. Source: Central Banks of Countries.

Nonetheless, the importance of Central American remittances cannot be underestimated. These flows have become one of the most important sources of revenue for Central American economies. Transfers currently constitute an average of 11 percent of GDP, for

instance, ranging in impact from 1 percent in Panama to 28 percent in Honduras. Furthermore, transfers have increased earnings for 20 percent of Central Americans; at least one in ten receive money. Additionally, migrant remittances have also helped to reduce socioeconomic issues, such as in the reduction of poverty. Since a little less than half of Central American populations live in rural impoverished areas, the significant amount of remittances sent to there is an important socioeconomic assistance. In macro terms, these transfers ease government pressures on employment generation and raised revenue from sales taxes from increased consumption.

In terms of the cost of sending transfers, data shows that in countries where annual flows are lower and thus represent a smaller percentage of GDP, the cost of sending transfers is highest. This is shown in the cost to send money Belize, Panama and Costa Rica, the highest in the region. An opposite pattern is found in the other four countries, which have higher annual flows. These figures point to the need to engage in efforts to reduce costs across the entire region, as the cost is still very high in some countries.

Table 6: Remittances and Key Economic Indicators for Central America

	Remittances			
Country	as percent of GDP (%)	Per capita (US$)	Cost per transfer* (%)	Average transfer* (US$)
Belize	4	149	9	220
Costa Rica	2	92	9	301
El Salvador	17	411	5	339
Guatemala	9	238	6	363
Honduras	28	245	6	225
Nicaragua	12	155	5	133
Panama	1	62	11	196

Source: World Bank Development Indicators. 2005 figures. * Orozco Scorecard Report. 2006.

Remittance income often serves as a supplement to current income, usually augmenting household consumption, though a small percentage is saved or invested. These transfers have also affected or influenced the socioeconomic standing of women in Central America. Various surveys or research conducted on remittances recipients in this region has shown that the majority, or 2/3 of recipients, are women. Consequently, about half of Central American recipient households spend their money on health and education. Women as the main decision-makers of these receiving households greatly affect the way money is spent, as evidenced by the prevalence of social spending.

Equally notable is the relationship between remittances reception and formal financial services, particularly bank account ownership. Research shows that there are higher amounts of bank account ownership among recipients compared to non-recipients (with the exception of Nicaragua). This trend poses a great financial potential for not only the population and financial institutions in Central America, and thus for the economies of the countries. Overall, these financial indicators are still low, which points to the need for the financial sector to outreach more to the population in this region.

Table 7: Some Characteristics of Recipients (%)

Country	Live in rural areas	Female	Spend on health and education	Have a bank account	Non-recipients with Bank Accounts	Have Investments
El Salvador	40	72	50	31	19	11
Guatemala	(N.D.)	80	59	41	17	5
Honduras	(N.D.)	(N.D.)	(N.D.)	(N.D.)	16	4
Nicaragua	45	72	54	10	10	27

Source: Data compiled by author from multiple surveys. 2005.

Table 8: Some Characteristics of Senders (%)

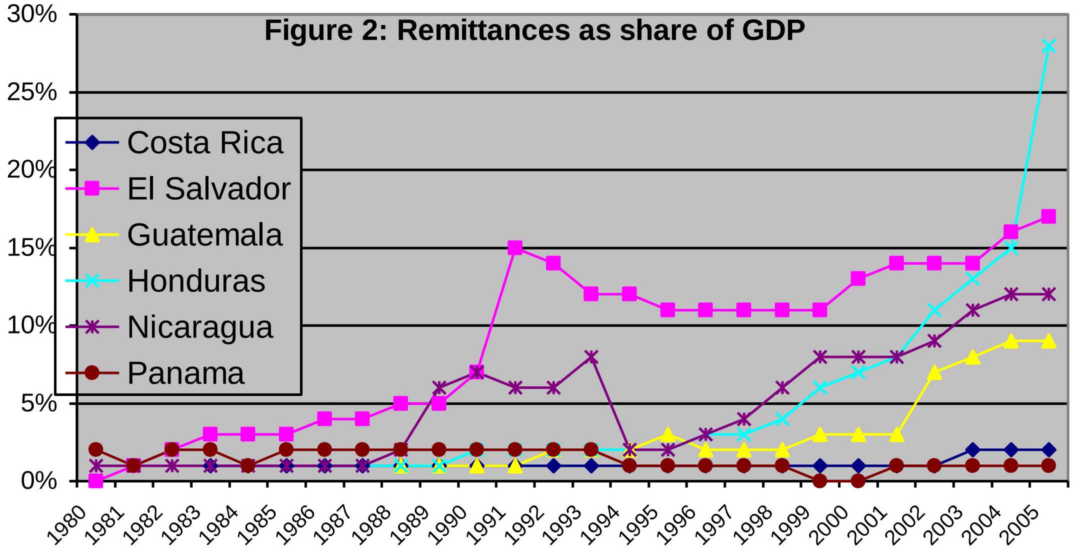
Country	Female	Investments
El Salvador	46	3
Guatemala	29	2
Honduras	37	4
Nicaragua	44	3

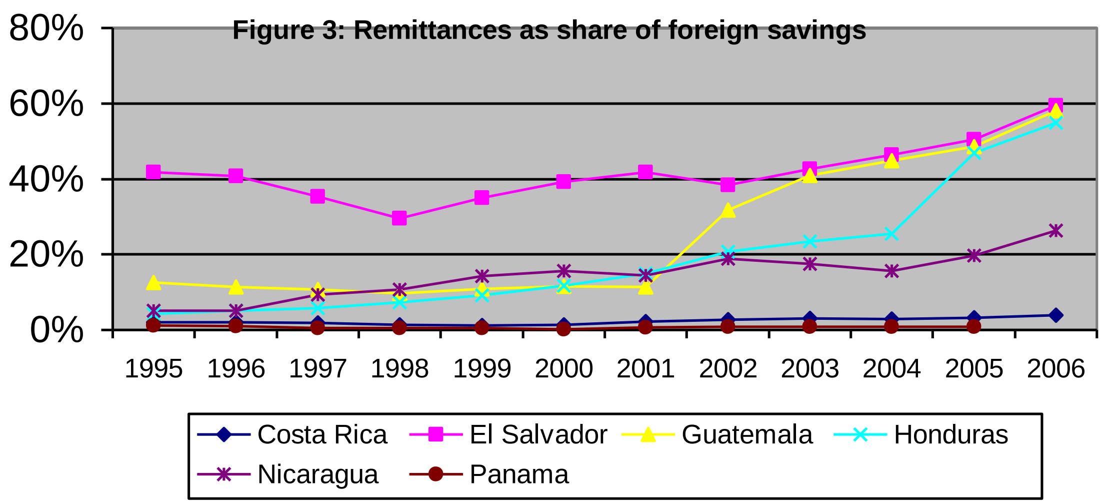
Source: Data compiled by author from multiple surveys. 2005.

The figures above highlight growing migration patterns and characteristics of remittances and their affects in the Central American countries. Migrants are important economic, social, political agents vis-à-vis the transnational links they have built with their home and host communities. Remittances are one part of this phenomenon and their impact on the macroeconomy takes on many forms. Thus, it is important to understand how the economies of Central America can effectively absorb these transfers in order to promote increased growth and opportunities for development in the region.

II. Economic Growth and remittance transfers

The flows described above have a relevant position in relationship to national output and growth. With the exception of Panama, remittances to Central America are growing in proportion to national income and becoming a significant important source of income as the share to GDP has increased over time. From a macroeconomic perspective the issue of the impact of these flows relates to whether these foreign savings have positive effect on economic growth and do not alter some key macroeconomic indicators such as inflation or exchange rates.





These flows, not unlike aid, trade, technology transfer or investment, also have varying macroeconomic impacts. In general terms, foreign savings may affect three variables: 1) growth (by decreasing or increasing output), 2) financial trends (by increasing or decreasing financial resources), and 3) domestic currency and pricing (by appreciating or depreciating national currency and consumer prices). Macroeconomically, as a unilateral transfer, the volume of remittances can influence or be influenced by economic growth, foreign exchange reserves, or other macro determinants such as inflation or interest rates. Remittances can also exhibit a multiplier effect at the macroeconomic level as their flows interact with the productive base of the local economy.

The adoption of appropriate theoretical assumptions and methodologies informing the relationship between remittances and their macroeconomic impact is critical to the analysis of the macroeconomic effects of remittances. Unfortunately, economic theory does not offer a specific analytical framework for remittances. There is a small but growing amount of literature on remittances and their intersection with an economy. This literature is based on

macroeconomic analyses of aggregate data and, in general, agrees that remittances have positive impacts on growth, finances, or foreign exchange. However, some studies also warn of possible adverse effects related to productivity. The first part of this section offers an analytical review of the literature and the second part provides an empirical analysis of the intersection between remittances and economic growth.

a) The literature on the macroeconomics of remittances

Few studies in the remittance literature have looked at remittances as one macroeconomic determinant. These studies have argued that remittances as a source of national income have a positive effect on economic growth, and generally analyze remittances as a factor influencing the national income.

Economic growth—One of the first studies on this relationship was conducted by Solimano.[4] He looked at remittances in the Andean region and their effect on growth. Using remittances as an independent variable among other factors, such as exports and government expenditure, Solimano found that they have a positive effect on GDP growth in Colombia and Ecuador.

A more recent World Bank report analyzing the effect of remittances on growth in Latin America and the Caribbean found that an increase in remittances from 0.7 percent of GDP in 1991 to 2.3 percent of GDP in 2001-2005 resulted in an increase of 0.27 percent in per capita GDP growth per year.[5]

Loser et al find that the overall outcome of analyzing the macroeconomic effects of remittances is a complex one. In looking at the intersection between production factors and macroeconomic indicators, they find mixed results. As remittances increase, exchange rates and interest rates appreciate. But at the level of the balance of payments, export growth may decrease while import growth increases with higher flows, which may reverse the effects of remittances on exchange rate and interest rates.[6] Overall, they also show the countercyclical nature of remittances, with remittances increasing during economic downturns.

Remittances and Capital—Another strand in the literature analyzes the impact of remittances on specific production factors, rather than on the aggregate income equation. Specifically, economic analyses are conducted on the relationship between remittances and capital inflows. The World Bank study, for example, tested investment and aggregate volatility as other factors affected by remittances. The authors found that remittances are associated with increased rates of domestic investment and a reduction in growth volatility, both directly and by diminishing the impact of external and macroeconomic policy shocks on the economy. What is more, the authors find that about one half of the impact of remittances on growth takes place through increased rates of domestic investment.

In a similar trend of analysis, Buch and Kuckulenz[7] show a positive correlation between remittances and official capital inflows and between official capital inflows and private

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[4] Solimano 2003.
[5] World Bank 2006.
[6] Loser et al and Lockwood with Minson 2006.
[7] Buch and Kuckulenz 2004. The authors employ a model that incorporates remittances into the macroeconomic flows of a country. Their equations integrate remittances into income as well as adding savings from remittances and

capital. This means that an increase in remittances supports an increase in official capital flows, making capital more accessible in the country. They also find that remittances, for the most part, behave differently than private and official capital flows over time and represent a more stable inflow of money.

Other analyses highlight the macroeconomic impact remittances have through increases in deposits, with the caveat that such impact is more pronounced in less developed financial systems. For example, using balance of payments data on remittance flows to 99 countries over a 28-year period, Aggarwal et al, find that remittances have a positive and significant impact on both bank deposits and bank credit to the private sector.[8] Similarly Giuliano and Ruiz-Arranz's study using a cross-country data series for 73 countries between 1975 and 2002 shows that, "By relaxing liquidity constraints, remittances have compensated for the lack (or the inefficiency) of the financial system and have helped to channel resources toward productive investments."[9] Therefore, remittances function in lieu of other financial services, such as credit and insurance, to promote growth.

In more developed financial systems, growth from remittances is less important. In fact, Giuliano and Ruiz-Arranz show that in countries with well developed financial sectors, the impact of remittances eventually turns negative. In these environments, demand for financial investments is met through other means such as credit and insurance, and therefore, remittances are used on activities that do not foster growth.

Remittances and Foreign Exchange—Another strand in the literature on the macroeconomic impact of remittances deals with the relationship between remittances and foreign exchange. One of the original studies on this issue was done by El-Sakka who looked at the case of Egypt and the effect of remittances on parallel exchange rates.[10] More recently studies have also analyzed the relationship between these flows and foreign exchange rates within the context of what is known as the Dutch Disease, defined as currency appreciation resulting from increased inflows, which makes the manufacturing sector less competitive, and can even result in job losses.

According to the World Bank's report on Latin America, workers' remittances can be viewed as a capital inflow that can produce the Dutch Disease. Remittances have a positive impact on the incomes of receiving households and therefore tend to positively impact consumption. As a result, remittances may drive up the price of non-tradable goods relative to that of tradables, leading to exchange rate appreciation. In turn, there are some additional macroeconomic effects that can result from a real exchange rate appreciation associated with remittance flows:

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subtracting remittance-related imports. In terms of expenditure, remittance-related consumption is included. The authors run cross-section regressions that use macroeconomic factors as explanatory variables; dependent variables are workers' remittances and private capital flows, both in logs and relative to GDP. Specifically, they resort to panel data to run regressions using remittances over GDP and remittances per capita as dependent variables.

[8] Aggarwal et al 2006.

[9] Giuliano and Ruiz-Arranz's 2005. They employ a system generalized method of moments (SGMM) approach that takes controls for the endogeneity of remittances and financial development.

[10] El-Sakka 1999.

- Possible negative impact on the tradable sector of the economy, including the loss of international competitiveness, especially if remittances also fuel inflation, or if the higher prices result in economy-wide increases in wages
- Widening of current account deficit, resulting from an increase in demand for imports added to the loss of international competitiveness of domestic firms
- Weaker monetary control, inflation, and sectoral allocation of investment, particularly in real estate
- Upward pressure on wages may result in job losses in the tradable sector, while in the nontradable sector the increased cost of labor is passed on to consumers through increased prices.

b) Economic growth and remittances in Central America

To what extent have these flows have had an effect on economic growth in the region? Within the broader context of the international political economy, Central America and the Caribbean have sought to integrate themselves into the world economy through four dynamics: nontraditional exports, the maquila industry,[11] immigration, and tourism. As it has diversified in these four areas, Central America has ceased to be an exclusively agro-exporting region or a so-called after-dinner economy – that is, an exporter of coffee, sugar, and rum. Rodas-Martini (2000: 17) stresses this point in the relation between integration into the global economy and integration with the north. This is reflected in terms of "the commercial flows (manufactures, agricultural products, and tourism) and the flow of factors of production (illegal migration and foreign investment)."

From a more critical perspective, Robinson (2001: 529) argues that global changes in the form of flexible capital accumulation and the global division of labor have "resulted in an increased heterogeneity of labor markets in each location." In more specific terms, Robinson argues about *transnational accumulation* whereby one form is observed in the entrance of new activities mixed with the model of global accumulation. Robinson's analysis coincides with Mittleman's (2000) perspective that argues that foreign labor is circumscribed within a "global division of labor and power" which he describes as composed by "a spatial reorganization of production among world regions, large-scale flows of migration among and within them, complex webs of networks that connect production processes and buyers and sellers, and the emergence of transnational cultural structures that mediate among these processes." As a response to this division of labor and power, migration emerges in developing countries with people seeking better opportunities in industrialized countries by joining labor-intensive activities or low-skill service industries. Mittelman stresses, "that heightened competition among and within regions, mediated by such micropatterns as ethnic and family networks, accelerates cross-flows of migrants" (2000, 65). In turn, this cross-flow of migration produces economic effects in the labor exporting country.

For Robinson, the transnational model in Central America is observed through "production of export-processing factories (of clothes in particular), transnational services (especially

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[11] Establishing offshore plants (e.g. in Mexico) that carry out part or all phases of an industrial process for the parent company (e.g. located in the united States). This phenomenon often reduces the costs of production – costs of labor, energy, water, and raw materials.

tourism), export of non-traditional agricultural products, and remittances sent by Central Americans working in the United States" (p. 539). In fact, in most countries of the region, almost half of GDP depends on these four factors, which have had a multiplying effect on other areas (see table below).

Table 9: Central America in the Global Economy, 2005, in Million $

Sector	Guatemala	El Salvador	Honduras	Nicaragua	Costa Rica	D.R.
Remittances	2,992.8	2,830.2	1,763	850	362.0	2,410.8
Merchandise Exports (not including maquiladora)	5,028.6	1381.47	875.0	857.9	2,954.0	1,397.9
Maquiladora	352.4	1,920.7	886.4	682.1	4,072.3	4,734.6
Official Development Assistance*	218.4	211.5	641.7	1,232.4	13.5	86.9
Income from Tourism	868.9	542.9	472.2	207.1	1,598.9	3,519.7
GDP	27,400.0	17,244.0	8,000.0	5,000.0	20,014.5	29,333.2
R+X+A+T/GDP	35 %	40 %	58 %	72 %	45 %	41 %

Note: * 2005.
Source: Central Bank of each country.

Using quarterly data from 1999 to 2006 we proceed to test Robinson's thesis, which in turn looks at the effect of remittances on economic growth. The analysis uses quarterly rather than annual data because fluctuations in economic trends are better captured within years than with annual aggregate flows. Moreover, the international economy has greater cyclical and short term influence on those foreign savings and therefore can help explain quarterly fluctuations on growth. The model excludes Panama because remittance flows are insignificant both in relation to national output and to foreign savings. Moreover, data on quarterly trends was not found for this country.

Unlike the other studies, we perform the data analysis separately on seven countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Jamaica and Dominican Republic) and use quarterly rather than annual aggregate flows. The model employed uses OLS log values on GDP, maquila, remittances, non-traditional exports, tourism and investment. We add investment as another source of economic growth through foreign savings. Due to missing data, non-traditional exports are not included in some of the countries analyzed.

<u>Model and Regression Results of GDP and Income factors</u>

Model :

$$GDP = Maquila_{t-1} + Remits_{t-1} + Non\text{-}trad\ exp._{t-1} + Tourism_{t-1}$$

Where maquila = exports of maquila;
Remits = remittance transfers;
Non-trad exp: Nontraditional exports;
Tourism = earnings from inbound tourism
Investment = foreign direct investment

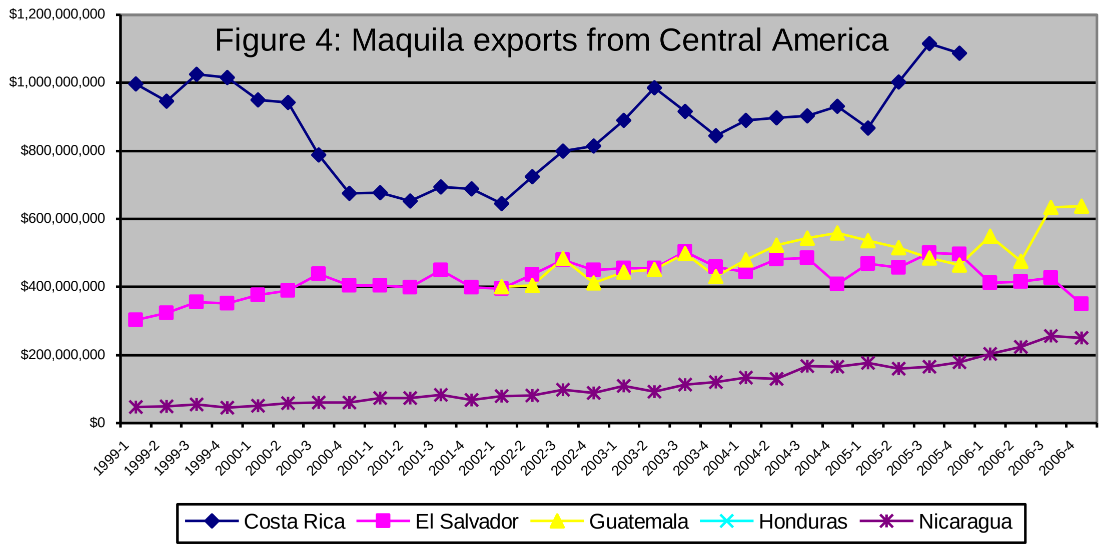
Table 10: Model results on economic growth and main sources of foreign earnings

	Costa Rica		El Salvador		Guatemala		Honduras		Nicaragua	
	Beta	Std. error	Beta	Std. error	Beta	Std. error	Beta	Std. error	Beta	Std. error
Constant	14.43	0.74	13.87	0.81	4.54	2.71	16.78	1.39	10.42	1.41
Maquila	0.20	0.02***	0.04	0.05	-0.11	0.10			0.16	0.04***
Tourism	0.11	0.02***	0.08	0.02***	0.19	0.08***			0.10	0.06*
Remittances	***0.25***	***0.02****	***0.29***	***0.04*****	***0.09***	***0.07*****	***0.20***	***0.01*****	***0.12***	***0.06*****
Investment	0.62	0.04***			0.70	0.21***	-0.03	0.04***	0.18	0.05***
Non-trad x / USM			0.01	0.06***	0.38	0.31***	0.06	0.07		
r2	0.98		0.99		0.98					

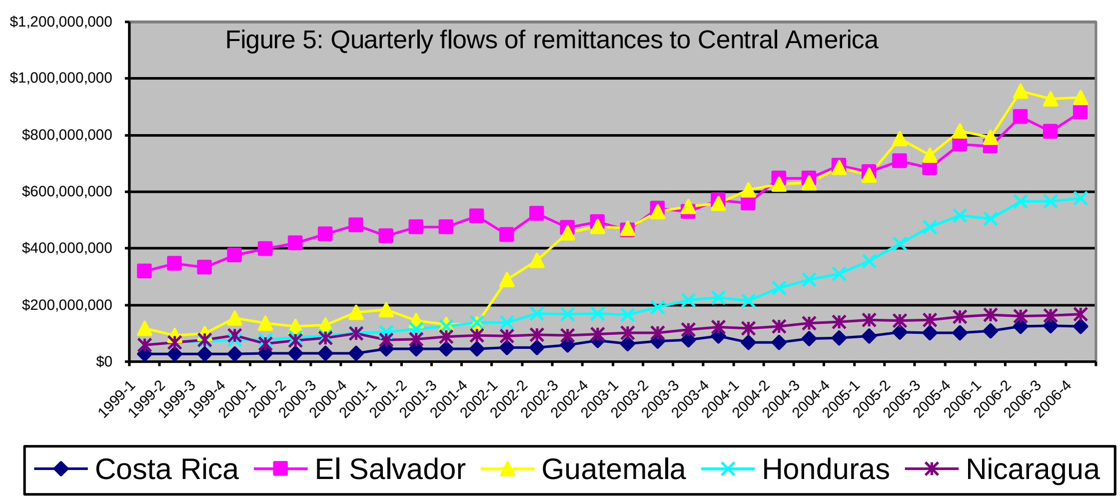
	Dominican Rep.		Jamaica	
Variables	B	Std. Error	B	Std. Error
Constant	-15.366	6.875**	9.658	.878***
Remittances	.147	.319*	-.357	.054
Non-trad. Exp.	NA	NA	.132	.073**
Maquila	2.772	.933***		
Tourism	.528	.362*	-.206	.161*
R2	0.59		0.88	

N=32 per country except the DR and Jamaica: 28 per country; ***P<0.001, **p<0.01, *p<0.1

The regression offers mixed results. Our first finding is that the impact of these factors on growth is not even. For one, an allegedly strong sector such as maquila, it is only statistically significant in Costa Rica and Nicaragua. Costa Rica's significance of maquila strives in the salient role electronics outsourcing has been playing in the country since 1999, whereas in Nicaragua, maquila is a much recent phenomenon which is leveraging the country's growth, at least for the present time. Tourism is statistically significant in all countries and confirms Robinson's thesis that the hospitality industry is a key force in the region. Nontraditional exports are also statistically significant when the data is available. In the case of Honduras, we used instead US imports of Honduran goods as a proxy for maquila and nontraditionals because most of bulk of these activities goes to the U.S. economy.



When looking at the effects of remittances on growth the results also vary across these three countries. Despite the fact that these countries shave similar economies and relatively similar remittance to income ratios, the effects of remittances on growth are positive in all of Central America. In the Dominican Republic there is no statistical significance, and in Jamaica the effect is negative. The findings in the Dominican Republic case may be associated with the country's financial crisis in 2003, which distorted all economic indicators. Jamaica's economy on the other hand may suffer from the effects of an enclave economy that depends on rent seeking resources such as tourism and mining activities. Remittances in turn may not contribute enough to those sectors and may alter growth prospects in the other economic sectors because it occurs independent from them. This situation may highlight issues relating to the capacity of the local economy to absorb remittances. I'm not following the last couple sentences.



A critical issue to point however is that the transnational capital model holds valid for Central America and points out to a reality of the role of enclaves, an issue that may also have incidence with regards to remittances: labor export can be successful provided that the return to the earnings benefit the whole of the society, through different mechanisms, such

as the multiplying effect, currency strength and poverty reduction. The absence of policies in the presence of migration and remittances can have adverse effects in the long term after this input to the economy consolidates as a primary revenue source.

Another critical issue is that the weakness of maquila as a growth generator does not correspond with the political and economic discourse that has been accompanied in support of strengthening CAFTA. There is need to reconsider economic policies that may include de-emphasizing some strategies and attending others such as remittances.

III. Macroeconomic performance and effects from remittances

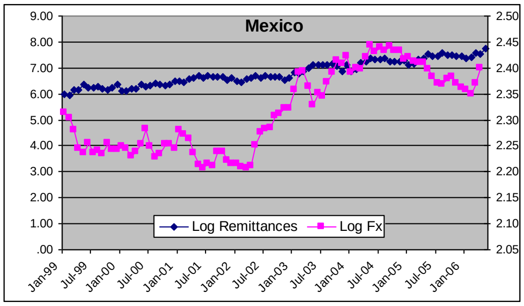
Section two mentioned that some foreign savings have an effect on local currency appreciation and may have an effect on the economy. A World Bank report mentioned above in section II finds that remittance flows seem to affect the real exchange rate in Latin America and the Caribbean.[12] The results indicate that a one percentage point increase in the remittances to GDP ratio would lead to a real effective exchange rate appreciation of three percent. However, the authors argue that these problems are part of a natural adjustment process that accompanies any favorable shocks and should not be of particular concern to policymakers. This approach coincides with the work by Loser et al who argue that the countercyclical trend of remittances produces mixed macroeconomic results, which, on balance, do not cause severe distortions in the economy. The report also indicates that, in theory, remittances may replace wage income and decrease the labor supply. However, the report does not provide empirical evidence to this effect.

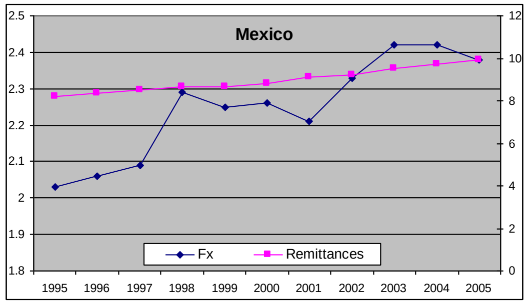
These analyses provide initial cues as to the relationship between remittances and macroeconomic trends. They also pose possible questions as to their explanatory power. For example, can one generalize on exchange rate appreciation by using aggregate annual data? Can this literature and its corresponding analyses control for other factors such as internal handling of foreign currency by banks, or investment in nontradables? Can remittances be responding rather than effecting fluctuations in inflation or foreign exchange?

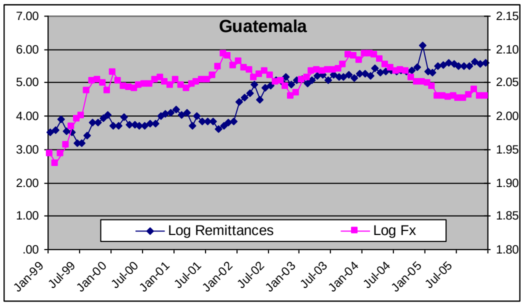
First, annual exchange rate variations differ substantially from monthly variations, which are more realistic of local economic performance. Running a statistical analysis of monthly trends will show different exchange trends that may not be related directly to remittances flows. The charts below compare the trends among flows of monthly exchange rate fluctuations with annual exchange rates.

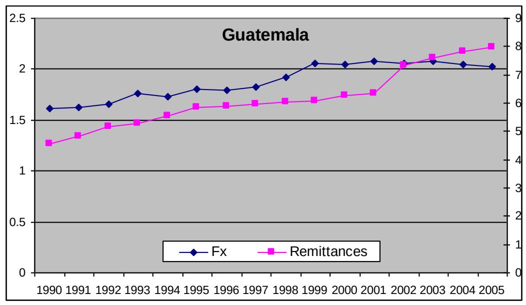
Figure 6: Monthly and Annual Exchange Rate Fluctuations and Remittances

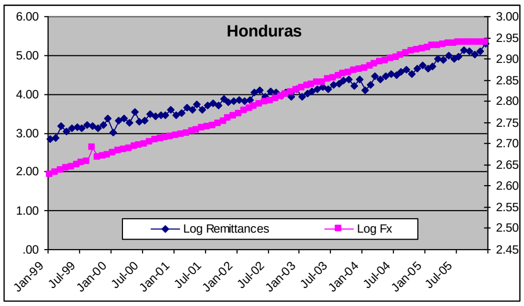
[12] The authors examined the Dutch Disease phenomenon using a large cross-annual national data set rather than limiting the number of countries, allowing them to test for regional differences.

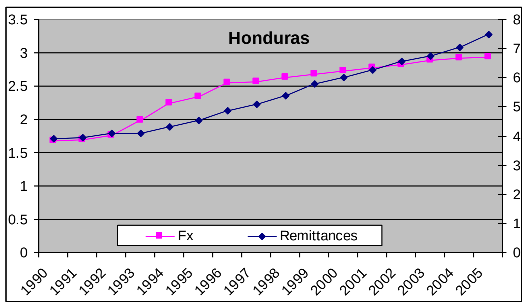


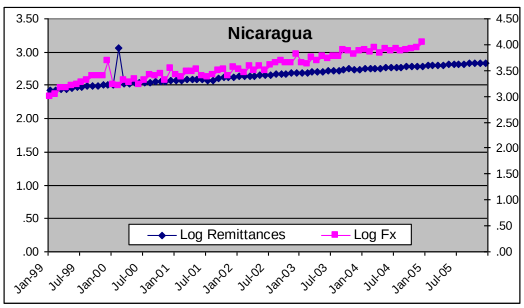


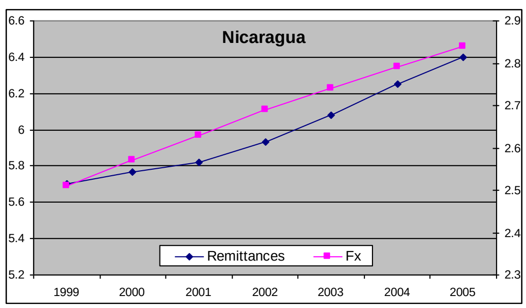


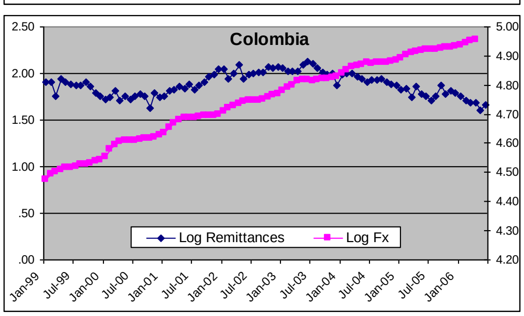


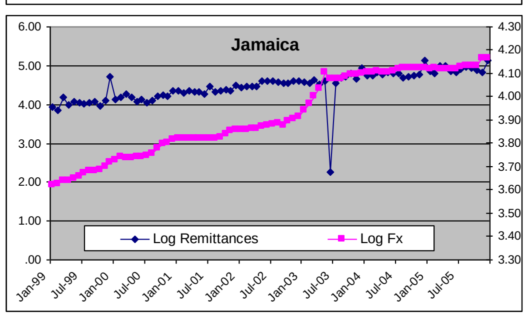








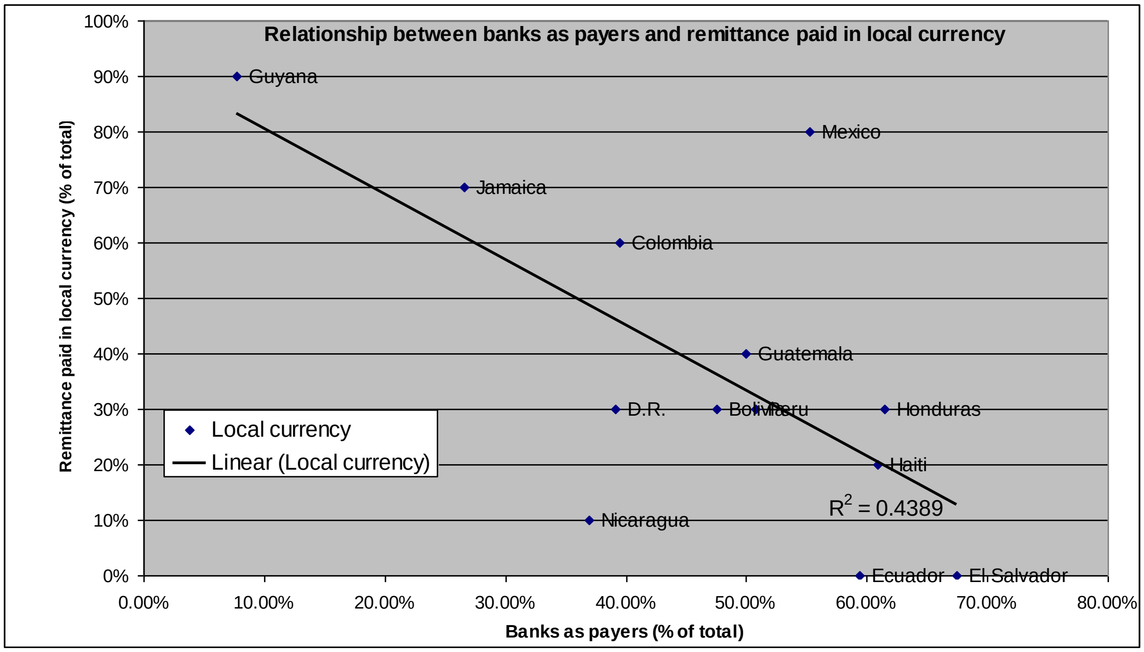




Second, another question is whether these models can explain the internal dynamics underlying the remittance industry in recipient country economies. For example, foreign currency appreciation is related to the extent to which that the inflow of money, in this case from remittances, is directly paid in local or foreign currency: Appreciation is more likely to

occur when remittances are directly paid in dollars. When they are paid in dollars, the problem is not one simply of remittance inflow but of dollarization. Research on how remittances are paid suggests that banks are more likely to pay in foreign currency, thus increasing the supply of foreign currency in the streets, and putting upward pressure on the exchange rate.

Figure 7: Banks paying and local currency



Third, the diverse characteristics of the productive bases of local economies also appear to contribute to substantial variations in local currency appreciation, inflation and effects on non-tradable goods. The productive bases of local economies where migration has occurred have historically struggled to compete and generate employment while facing increasing costs of living—which are now even more pronounced as energy prices exact a heavy toll on many of these societies. In turn, not only migration has occurred but new forms of economic activity have been adopted that are oriented more towards services industry than agriculture and manufacture. Two examples illustrating this reality are real state investment by domestic banking industry and foreign realtors. Many Latin American countries have experienced a substantial increase in construction and sales of real state associated to coping mechanisms by the financial sector to invest in nontradables due to the low profitability agriculture and manufacture offer. Moreover, in Mexico, Central America and the Caribbean, US realtors have invested heavily on property as baby boomers look for retirement in places where their dollar will last longer than in the United States. In both situations, the value of property has risen having a direct effect on appreciating the local currency.

Fourth, Loser's observation is non-negligible. That is, he argues that the inflow of foreign currency may increase demand for local currency and thus appreciate its value, but in turn such appreciation is offset by the demand for foreign goods and imports, which imply a

demand for foreign currency. Moreover increasing consumption most probably can inflate prices and again depreciate of domestic currency.

Finally, could remittances actually be responding to inflation and foreign exchange rates? rather than influencing these factors? An analysis of the macroeconomic determinants of remittances by Orozco and Lowell shows that remittances do, in fact, respond to changes in foreign exchange rates or inflationary pressures.[13] Their analysis looked at Mexico, Colombia, the Dominican Republic, El Salvador, Guatemala, Colombia, Ecuador and Jamaica. All of these nations have been affected by the 2001 recession and drop in tourism after the terrorist acts of 9/11 that hit the United States. Mexico has been impacted by unfavorable changes in U.S. demand for imports. The Dominican Republic was hurt by a severe economic recession associated with a decline in tourist revenue but, more importantly, a banking crisis that bankrupted several institutions and affected foreign exchange, savings, and access to capital. Moreover, Latinos in the US have been severely affected by the recession that started in 2001 which increased their unemployment rates and decreased their earnings (Kockar, 2005). The periods prior to and after the crises serve as a test to explore whether variations in exchange rate, inflation, or interest rates may affect the decision to send remittances (see exhibit 3C for model and regression results).

In this section we test the exchange rate appreciation against common analytical variables, including remittances. To test both theories the regression time series analysis for five Central American countries was conducted with nominal exchange rate as a dependant variable. The analysis is based on quarterly data within 1999-2006 period obtained from differences sources. The main indicators used are remittances in US dollars, US Consumer price Index, US Special Drawing Rights (SDR), and trade balance. One of the issues not discussed on the appreciation of currencies is the steady decline of the U.S. dollar in the past three years. Therefore we use the IMF SDR as a measure to control for other variations that can affect appreciation of the currency, specially in a region that is dollar dependent. Trade balance is presented by two measures: net foreign trade (total exports minus total imports) and net US trade (exports to the US minus imports from the US).

The analysis is not limited by looking at nominal exchange rate as a main indicator of macroeconomic shocks. Since the is no floating exchange rate regime in the most of the countries and some of the countries are dollarized the nominal exchange rate can not be a good instrument for analysis because it's unable to capture change in demand for currency, therefore another group of models is built with domestic CPI as a dependent variable.

Table 11: Data Sources on macro-economic indicators

Variable	Source
US Consumer Price Index	US Bureau of Labor Statistics
US imports and exports to Central America	US Trade Representative

[13] Orozco and Lowell use panel regressions on monthly flows of remittances for six countries from 1999 to 2004 with the log of remittances as the dependent variable, and inflation, interest rates, exchange rates and unemployment in the U.S. as the independent variables. They found that remittances respond predominantly to price changes. For the present study, the analysis is expanded to monthly trends from 1999 to 2006.

Quarterly remittance transfers	Central Banks
Consumer price index	IMF statistics
Foreign exchange	IMF statistics
Central American exports and imports	CBEI

Two models are run: one for foreign exchange and one for inflation. The main equation is presented as follows:

$$FX_{it} = USCPI_{it} + USSDR_{it} + NetTrade_{it} + R_{it}$$
$$CPI_{it} = USCPI_{it} + USSDR_{it} + NetTrade_{it} + R_{it}$$

Where the subscripts refer to i = nation and t = quarter, and where:

R_{it} = Remittance transfers to each nation
$USM_{i\text{-}2t}$ = Imports of US goods
$HspUn_{i\text{-}t\text{-}1}$ = Unemployment in the U.S., all Latino immigrants
$USCPI_{it\text{-}1}$ = Consumer price index in the U.S.
[$FX_{i\text{-}1t}$ = Foreign exchange (nominal) in receiving nation]
CPI_i= Consumer price index in the home country

The regression results show that remittances are not statistically significantly related to changes in the foreign exchange of each country. Other variables such as the US devaluation and consumer price changes in the U.S. have an explanatory power. It bears to mention however that while not statistically significant, the negative sign indicates that had there been a relationship remittances would be appreciating the exchange rate. Nicaragua is the only country where remittances are statistically significant and is also the only country that depends more on these flows than its neighbors.

Table 12: Regression results for Central America on the exchange rate

	Costa Rica		El Salvador		Guatemala		Honduras		Nicaragua	
	Beta	Std. error	Beta	Std. error	Beta	Std. error	Beta	Std. error	Beta	Std. error
Constant	-15.69	1.451***	2.40	0.056***	3.46	1.655**	-8.42	0.660***	-9.25	0.444***
Remittances	**-0.01**	**0.026**	**-0.01**	**0.002****	**-0.02**	**0.03**	**0.01**	**0.01**	**0.04**	**0.015****
US CPI	4.15	0.348***	-0.02	0.02	-0.23	0.37	2.11	0.169***	2.13	0.113***
US SDR	0.40	0.098***	0.01	0.003***	0.00	0.14	0.27	0.025***	0.10	0.032***
Trade balance	0.10	0.058*	-0.01	0.01	-0.24	0.105**	0.11	0.008***	0.09	0.025***
r2	0.99		0.58		0.11		0.99		0.99	

The model for Costa Rica with nominal exchange rate as a dependent variable indicated that remittances are not statistically significant which means that they have no impact on fluctuations in the nominal exchange rate. At the same time US SDR, US CPI and total trade balance appear to be significant and positively correlated to the nominal exchange rate. An increase in SDR implies an increase of the dollar value compared to other currencies. Appreciation of the local exchange rate with increases in the US consumer price index is an

indicator of declining U.S. values. The positive relationship to trade may indicate that Costa Rican increasing demand for imports deals with other currencies than the U.S.

Table 13: Regression Results for Costa Rica

Dependent: nominal exchange rate

```
Independent: remittances (USD), US CPI, US SDR, net US trade.

. reg  lnfx lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      31
-------------+------------------------------           F(  4,    26) = 1251.63
       Model |  1.16761362     4  .291903406           Prob > F      =  0.0000
    Residual |    .0060637    26  .000233219           R-squared     =  0.9948
-------------+------------------------------           Adj R-squared =  0.9940
       Total |  1.17367732    30  .039122577           Root MSE      =  .01527

------------------------------------------------------------------------------
        lnfx |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |  -.0043952   .0280706    -0.16   0.877    -.0620951    .0533048
     lnuscpi |   3.873021   .2985516    12.97   0.000      3.25934    4.486703
     lnussdr |   .4915348   .0746923     6.58   0.000     .3380025    .6450671
lnnetustrade |  -.0335893   .0314707    -1.07   0.296    -.0982781    .0310996
       _cons |  -14.48794   1.184901   -12.23   0.000    -16.92354   -12.05234
------------------------------------------------------------------------------

Dependent: nominal exchange rate
Independent: remittances (USD), US CPI, US SDR, net total trade.

. reg  lnfx lnremitt    lnuscpi lnussdr  lnnx

      Source |       SS       df       MS              Number of obs =      31
-------------+------------------------------           F(  4,    26) = 1337.27
       Model |  1.16800008     4  .292000021           Prob > F      =  0.0000
    Residual |  .005677242    26  .000218355           R-squared     =  0.9952
-------------+------------------------------           Adj R-squared =  0.9944
       Total |  1.17367732    30  .039122577           Root MSE      =  .01478

------------------------------------------------------------------------------
        lnfx |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |  -.0142092   .0264719    -0.54   0.596    -.0686229    .0402045
     lnuscpi |   4.145255   .3483528    11.90   0.000     3.429205    4.861304
     lnussdr |   .4017809   .0982175     4.09   0.000     .1998921    .6036698
        lnnx |   .1011237   .0585149     1.73   0.096    -.0191553    .2214027
       _cons |  -15.68672   1.451395   -10.81   0.000    -18.67011   -12.70334
------------------------------------------------------------------------------
```

Here we present the results using consumer price index for El Salvador. The model shows that remittances are statistically insignificant together with SDR, while increases in the US price index cause inflation in the country. Moreover, deterioration of the terms of trade is associated with increased inflation.

Table 14: Regression Results for El Salvador

```
Dependent: domestic CPI
Independent: remittances (USD), US CPI, US SDR, net US trade.

. reg  lncpi lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      29
-------------+------------------------------           F(  4,    24) =  194.01
       Model |  .117034398     4    .0292586           Prob > F      =  0.0000
```

```
    Residual |  .003619391    24  .000150808           R-squared     =  0.9700
-------------+------------------------------           Adj R-squared =  0.9650
       Total |  .120653789    28  .004309064           Root MSE      =  .01228

------------------------------------------------------------------------------
       lncpi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |   .0607727   .0337765     1.80   0.085    -.0089386    .1304839
     lnuscpi |   1.056164   .1886099     5.60   0.000     .6668918    1.445435
     lnussdr |    .079523   .0484981     1.64   0.114     -.020572    .1796181
lnnetustrade |   .0390795   .0199102     1.96   0.061    -.0020131    .0801722
       _cons |  -2.109797   .4245256    -4.97   0.000    -2.985974   -1.233619
------------------------------------------------------------------------------
```

```
Dependent: domestic CPI
Independent: remittances (USD), US CPI, US SDR, net total trade.

. reg  lncpi lnremitt    lnuscpi lnussdr  lnnx

      Source |       SS       df       MS              Number of obs =      29
-------------+------------------------------           F(  4,    24) =  360.26
       Model |   .11867728     4   .02966932           Prob > F      =  0.0000
    Residual |  .001976508    24  .000082355           R-squared     =  0.9836
-------------+------------------------------           Adj R-squared =  0.9809
       Total |  .120653789    28  .004309064           Root MSE      =  .00907

------------------------------------------------------------------------------
       lncpi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |   .0012004    .028106     0.04   0.966    -.0568075    .0592083
     lnuscpi |   .8280504   .1426869     5.80   0.000     .5335591    1.122542
     lnussdr |   .0429393   .0363879     1.18   0.250    -.0321617    .1180403
        lnnx |  -.3284956   .0632147    -5.20   0.000    -.4589643   -.1980268
       _cons |   .1134797   .5272271     0.22   0.831    -.9746635    1.201623
------------------------------------------------------------------------------
```

In the case of Guatemala, remittances do not have a relationship to the exchange rate in the country. The second model shows the impact of US prices and dollar devaluation on the domestic inflation rate, which is more typical for countries with pegged exchanged rate. Trade balance deterioration is associated with depreciation of nominal exchange rate and higher inflation rate.

Table 15: Regression Results for Guatemala

```
Dependent: nominal exchange rate
Independent: remittances (USD), US CPI, US SDR, net US trade.

. reg  lnfx lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      31
-------------+------------------------------           F(  4,    26) =    2.59
       Model |  .007179336     4  .001794834           Prob > F      =  0.0600
    Residual |  .018005495    26  .000692519           R-squared     =  0.2851
-------------+------------------------------           Adj R-squared =  0.1751
       Total |  .025184832    30  .000839494           Root MSE      =  .02632

------------------------------------------------------------------------------
        lnfx |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |  -.0047657   .0232473    -0.21   0.839    -.0525512    .0430198
     lnuscpi |   .4440289   .3582272     1.24   0.226    -.2923176    1.180375
     lnussdr |  -.0699236   .1260175    -0.55   0.584    -.3289564    .1891091
lnnetustrade |  -.0987544   .0365877    -2.70   0.012    -.1739615   -.0235472
       _cons |  -.1886456   1.489466    -0.13   0.900    -3.250286    2.872995
------------------------------------------------------------------------------
```

```
Dependent: domestic CPI
Independent: remittances (USD), US CPI, US SDR, net US trade.

. reg  lncpi lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      29
-------------+------------------------------           F(  4,    24) = 1437.88
       Model |  .598877092     4  .149719273           Prob > F      =  0.0000
    Residual |  .002499003    24  .000104125           R-squared     =  0.9958
-------------+------------------------------           Adj R-squared =  0.9952
       Total |  .601376095    28  .021477718           Root MSE      =   .0102

------------------------------------------------------------------------------
       lncpi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |  -.0098921   .0092456    -1.07   0.295    -.0289742    .0091899
     lnuscpi |   3.233573   .1451858    22.27   0.000     2.933924    3.533222
     lnussdr |   .2115841   .0489733     4.32   0.000     .1105081    .3126602
lnnetustrade |   .0340934   .0148228     2.30   0.030     .0035007    .0646861
       _cons |  -12.07033   .6052752   -19.94   0.000    -13.31956    -10.8211
------------------------------------------------------------------------------
```

In Honduras the results show similar trends to those of Costa Rica. Remittances are not statistically significant, though the sign is negative (an increase in remit dollars makes the Lempira stronger). However, while statistically significant, the relationship with net U.S. trade is negative, a situation that indicates that as Honduras increases its exports to the U.S. the Lempira also depreciates.

Table 16: Regression Results for Honduras
Dependent: nominal exchange rate
Independent: remittances (USD), US CPI, US SDR, net US trade.

```
reg  lnfx lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      31
-------------+------------------------------           F(  4,    26) =  426.33
       Model |  .312555466     4  .078138866           Prob > F      =  0.0000
    Residual |   .00476534    26  .000183282           R-squared     =  0.9850
-------------+------------------------------           Adj R-squared =  0.9827
       Total |  .317320806    30   .01057736           Root MSE      =  .01354

------------------------------------------------------------------------------
        lnfx |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |  -.0423356   .0268519    -1.58   0.127    -.0975305    .0128592
     lnuscpi |   2.485752    .375132     6.63   0.000     1.714657    3.256847
     lnussdr |   .3417578   .0588687     5.81   0.000     .2207514    .4627643
lnnetustrade |  -.0786819   .0277406    -2.84   0.009    -.1357036   -.0216602
       _cons |  -9.546601   1.473412    -6.48   0.000    -12.57524   -6.517959
------------------------------------------------------------------------------
```

```
Dependent: domestic CPI
Independent: remittances (USD), US CPI, US SDR, net US trade.

. reg  lncpi lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      29
-------------+------------------------------           F(  4,    24) =  390.76
       Model |  .928485834     4  .232121459           Prob > F      =  0.0000
    Residual |  .014256765    24  .000594032           R-squared     =  0.9849
-------------+------------------------------           Adj R-squared =  0.9824
       Total |  .942742599    28  .033669379           Root MSE      =  .02437

------------------------------------------------------------------------------
       lncpi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |   .0322418   .0484017     0.67   0.512    -.0676543     .132138
```

```
     lnuscpi |   3.623907   .6782214     5.34   0.000     2.224127    5.023687
     lnussdr |   .0625439   .1078252     0.58   0.567    -.1599965    .2850843
lnnetustrade |  -.1253462   .0584754    -2.14   0.042    -.2460334    -.004659
       _cons |  -14.89179   2.669098    -5.58   0.000    -20.40054   -9.383045
------------------------------------------------------------------------------
```

Nicaragua is the only country where remittances are statistically and negatively correlated to the exchange rate. Nicaragua is the country that has the highest dependency on remittances in the region. The other variables are also statistically significant and respond to expected results.

Table 17: Regression Results for Costa Rica

```
Dependent: nominal exchange rate
Independent: remittances (USD), US CPI, US SDR, net US trade.

. reg  lnfx lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      31
-------------+------------------------------           F(  4,    26) = 1673.72
       Model |  .496424226     4  .124106057           Prob > F      =  0.0000
    Residual |  .001927893    26   .00007415           R-squared     =  0.9961
-------------+------------------------------           Adj R-squared =  0.9955
       Total |  .498352119    30  .016611737           Root MSE      =  .00861

------------------------------------------------------------------------------
        lnfx |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |   .0357903    .018883     1.90   0.069    -.0030243    .0746048
     lnuscpi |    2.41248   .1034108    23.33   0.000     2.199916    2.625044
     lnussdr |   .1087903   .0390192     2.79   0.010     .0285851    .1889955
lnnetustrade |   .0039657   .0147038     0.27   0.790    -.0262584    .0341899
       _cons |  -10.68706   .3037045   -35.19   0.000    -11.31134   -10.06279
------------------------------------------------------------------------------

Dependent: domestic CPI
Independent: remittances (USD), US CPI, US SDR, net US trade.

. reg  lncpi lnremitt    lnuscpi lnussdr lnnetustrade

      Source |       SS       df       MS              Number of obs =      28
-------------+------------------------------           F(  4,    23) =  308.62
       Model |  .522739632     4  .130684908           Prob > F      =  0.0000
    Residual |   .00973921    23  .000423444           R-squared     =  0.9817
-------------+------------------------------           Adj R-squared =  0.9785
       Total |  .532478842    27  .019721439           Root MSE      =  .02058

------------------------------------------------------------------------------
       lncpi |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
    lnremitt |   .0712161   .0459779     1.55   0.135    -.0238964    .1663287
     lnuscpi |   2.793741   .2524509    11.07   0.000     2.271507    3.315976
     lnussdr |  -.0962721   .0946534    -1.02   0.320    -.2920775    .0995333
lnnetustrade |  -.0583342   .0381701    -1.53   0.140    -.1372951    .0206267
       _cons |  -11.23345   .7528035   -14.92   0.000    -12.79074   -9.676157
------------------------------------------------------------------------------
```

IV. Remittances to Nicaragua and Guatemala: its intersection with the financial sector and the economy

One of the important roles that remittances play in an economy relates to the way in which it can be leveraged through financial access. This section reports the results of two national household surveys performed in Guatemala and Nicaragua in 2006. The study shows an

estimate of remittances to Nicaragua, where measurements of flows have been more difficult to assess.

Overall, the surveys in the two countries show that recipients of remittances represent at least one fifth of the population, and are people who in proportion to their compatriots own more bank accounts and save more. Yet the findings also show that bank account ownership is not associated to remittances, a situation that may reflect the lack of financial intermediation motivating consumers to enter the system. Moreover, saving is correlated to the amount of remittances receiving, thus indicating that people still put their money aside even if the banking sector is not intermediating for them.

Estimating remittances to Nicaragua
The Central Bank of Nicaragua officially reported US$655 million in family remittances in 2006; however given the magnitude of migration to the United States, Costa Rica and more recently El Salvador, its total could reach nearly one billion. Despite this fact, public policy towards this issue remains lacking in the country. Within the macroeconomic and institutional context as well as the microeconomic context, the link between remittances and the financial sector is important and deserves public and private attention in order to implement strategies that link these flows with appropriate channels of development.

Although the Central Bank has improved its efforts to capture and measure the entrance of workers remittances, the official figures do not coincide with the population of Nicaraguans abroad sending money nor does it identify informal businesses. The Bank does not capture information of the informal sector or unlicensed money transfer operators. A survey conducted by the author shows that 40% of Nicaraguans have relatives abroad and that 20% of Nicaraguans receive remittances from these family members (see attached survey results in Appendix I).

Nicaraguans send an average of US$220 each month, while Nicaraguans in Miami send an average of US$290 and those in Costa Rica send US$70 monthly. These transfers were made to more than 300,000 households producing an estimated annual amount received between US$800 and US$900 million, with an estimate of US$906 million.

Table 18: Estimates of Remittances to Nicaragua

	2004	2005	2006
Population	5,619,399	5,774,400	5,918,760
Households	1,404,849.63	1,649,828.57	1,691,074
Receiving households	285,184.47	334,915.20	343,288
Annual amount of remittances (US$)	752,887,011.03	773,654,112.00	906,280,531

Source: Statistics and Census of Nicaragua (household size and population), Household and remittance survey, August 2006. Note: the number of people per household is 4, and the average yearly amount sent is US$2640.

c. Remittances and the financial sector: savings and investment
One of the intersecting points of remittances with the economy is on financial issues. People receiving remittances are improving their income situation and in doing so increase their ability to save money. However, such situation does not translate in bank account

ownership. This section presents the characteristics of remittance recipients and their relationship to financial issues.

Guatemala: Demographic characteristics

In Guatemala, remittance recipients are dispersed fairly evenly between rural and urban areas. Over one-quarter of receiving households are located either in the central province of Guatemala (where the capital and largest urban center, Guatemala City, is located) or the northwestern province of Huehuetenango.

Of the households surveyed, only 17 percent stated they received remittances from abroad. The majority of recipients are women (57 percent) and those who do receive remittances reported receiving an average of $440, which is sent by relatives abroad predominantly on a monthly basis. Almost two-thirds of recipients have been receiving for less than 3 years. Most recipients (82 percent) receive their remittances denominated in dollars as opposed to quetzales. Moreover, remittance recipients in Guatemala tend to be on the lower end of the education spectrum given that 56 percent either have no education or have only completed primary school. However, it is worth noting that recipients are relatively more educated than non-receiving Guatemalans, illustrated by the fact that 67 percent have either no schooling or have not progressed beyond primary school.

Table 19: Recipient vs. Non-recipient and Education levels

	Does your household receive remittances?	
Education	No	Yes
No schooling	16	10
Primary	51	46
Secondary	29	40
University	4	4

Recipients also tend to be younger than non-recipients given that 45 percent of those who receive remittances are 18 to 29 years old compared to only 34 percent in the same age bracket for households that do not receive remittances from abroad.

Table 20: Recipient vs. Non-recipient and Age

	Does your household receive remittances?	
Age	No	Yes
18 to 29 years old	34	45
30 to 49 years old	42	34
50 and older	23	22

Nicaragua: Demographic Characteristics

In Nicaragua, remittance recipients are predominantly (66 percent) located in urban areas. Nicaraguans exhibit one of the lowest levels of financial access as only 9 percent report

having a bank account, while recipients show only a slight increase (11 percent) over the general population.

Of the households surveyed, 20 percent stated they received remittances from abroad. The majority of these recipients are women (54 percent). Nicaraguans who do receive remittances reported receiving an average of $220, which is sent by relatives abroad predominantly on a monthly basis. One-half of recipients have been receiving for less than 3 years, while nearly 30 percent have been receiving between 4 and 8 years. Most recipients (94 percent) receive their remittances denominated in dollars as opposed to córdobas. Moreover, remittance recipients in Nicaragua tend to be on the lower end of the education spectrum given that 25 percent either have no education or have only completed primary school. However, recipients are comparatively more educated than non-recipients given that three-quarters have completed secondary school or college while only 54 percent non-recipients have completed the equivalent level of education.

Table 21: Recipient vs. Non-recipient and Education levels

	Do you receive remittances?		
Education	Yes	No	NS/NR
None	5	12	14
Primary	20	34	29
Secondary	52	39	43
University	23	15	14

Recipients also tend to be younger as nearly half of those who receive remittances are 18 to 29 years old, while 22 percent of non-recipients are 50 years old or older.

Table 22: Recipient vs. Non-recipient and Age

	Do you receive remittances?		
	Yes	No	NS/NR
18 to 29 years old	49	38	29
30 to 49 years old	37	40	50
50 or older	15	22	21

Financial access fundamentals in Guatemala

Although Guatemalans have generally poor access to the banking and financial system, those who receive remittances exhibit a greater propensity to save and have bank accounts and access to credit. According to the survey, 23 percent of Guatemalans have some type of bank account. However, 31 percent of remittance recipients had bank accounts.

Table 23: Bank access and income

	Do you have a bank account?		Population
	YES	NO	
Less than $100	27%	51%	46%
From $100 to $150	32%	27%	28%

More than $150	32%	11%	16%
Don't know/No response	10%	11%	11%
	100.0%	100.0%	100.0%

Source: national survey conducted by Borge y Asociados, commissioned by the author, September 2006.

The overwhelming majority (77 percent) of respondents who do not have bank accounts most often cited not having enough money to open an account or not having trust in banking institutions in general as reasons for not owning a bank account.

Table 24: Reasons for not owning a bank account

	%
I don't have enough money	56
I don't trust banks	48
The process is very complicated	31
There is no bank near my house	28
I don't need a bank account	28
I had a bad experience	6

Despite the lack of access to the banking system, receiving households are saving a greater proportion: 22 percent of receiving households has some type of savings. Regarding the composition of savings and investment, 62 percent of remittance recipients put money aside if there is money left over at the end of the month. Another interesting observation this survey revealed was that 32 percent of remittance recipients work an extra job in contrast to only 25 percent of non-recipients. This finding weakens the contention of critics who argue that remittances can also create dependency, undercutting recipients' incentives to work, and thus slowing economic growth. Overall, however, most savings were done informally, outside the financial system.

Furthermore, both recipient and non-recipient households predominantly use their savings in case of a health emergency or a death in the family. Other prevalent uses include home improvements and repairs in addition to improved education for offspring.

Table 25: Recipient vs. Non-recipient and Composition of Savings and Investment

	Receives Remittances	
What are your savings and investments comprised of?	NO	YES
Has a bank account	21	31
Has some type of savings or investment	19	22
If I have money left over at the end or middle of the month, I put it aside	47	62
I invest in some type of business	68	65
I work an extra job	25	32
I take advantage of sales when shopping	56	62
I save special payments or bonuses (aguinaldo)	18	32
Preventative medical care – medicine, medical insurance	25	49
Preparation for retirement	9	8
Life insurance	7	5

Savings account in a bank or postal office	2	5
Community or family savings fund (mutual fund)	17	11
I purchase goods/assets – houses, cars	16	11
I purchase livestock	10	5

Another important component of the profile of Guatemalan remittance recipient is their financial obligations. Whether a household receives remittances or not does not seem to affect the financial obligations cited by the respondents in this survey. Health, sickness, and emergency expenses in addition to school and education expenses were cited by more than half of both recipients and non-recipients. The purchase of home appliances is also an important financial obligation cited by 39 percent of receiving households and 26 percent of non-recipients.

Table 26: Recipient vs. Non-recipient and Financial Obligations

	Receives Remittances	
What types of financial obligations do you have?	No	Yes
Home appliances	26	39
Car/motorcycle/bicycle	6	10
Party expenses (wedding, sweet sixteen, anniversary, baptism)	17	18
Funeral expenses	12	15
Health, sickness, and emergency expenses	56	51
School expenses and education	54	59
Business	22	29
Do not have financial obligations	68	69
Pay for older family members who do not work	12	14
Life or health insurance	12	10
Housing	25	29

Financial access fundamentals in Nicaragua

As mentioned above, only nine percent of Nicaraguans say to have a bank account, and among remittance recipients the percent was higher but not significantly so (11%). The overwhelming majority (89 percent) of respondents who do not have bank accounts most often cited not having enough money to open an account or believe the process to be too complicated as reasons for not owning a bank account.

Table 27: Reasons for not owning a bank account

	%
I don't have enough money	67
The process is very complicated	41
I don't need a bank account	37
I don't trust banks	32
There is no bank near my house	24
I had a bad experience	6

Furthermore, both recipient and non-recipient households predominantly use their savings in case of a health emergency or a death in the family. Other prevalent uses include home improvements and repairs in addition to improved education for offspring. Regarding the composition of savings and investment, 73 percent of remittance recipients put money aside if there is money left over at the end of the month compared to 62 percent of non-recipients. Another interesting observation this survey revealed is that 44 percent of remittance recipients work an extra job in contrast to 40 percent of non-recipients. This finding weakens the contention of critics who argue that remittances can also create dependency, undercutting recipients' incentives to work, and thus slowing economic growth.

Table 28: Recipient vs. Non-recipient and Composition of Savings and Investment

	Receives Remittances	
What are your savings and investments comprised of?	No	Yes
Has a bank account	9	12
Has some type of savings or investment	20	31
If I have money left over at the end or middle of the month, I put it aside	62	73
I invest in some type of business	51	67
I work an extra job	41	44
I take advantage of sales when shopping	65	79
I save special payments or bonuses (aguinaldo)	36	50
Preventative medical care – medicine, medical insurance	42	54
Preparation for retirement	34	34
Life insurance	28	40
Savings account in a bank or postal office	32	26
Community or family savings fund (mutual fund)	23	28
I purchase goods/assets – houses, cars	16	18
I purchase livestock	14	14

Another important component of the profile of Nicaraguan remittance recipient is their financial obligations. Health, sickness, and emergency expenses in addition to school and education expenses were cited by more than half of recipients and non-recipients. The purchase of home appliances is also an important financial obligation cited by 10 percent of receiving households and 15 percent of non-recipients.

Table 29: Recipient vs. Non-recipient and Financial Obligations

	Receives Remittances	
What types of financial obligations do you have?	Yes	No
Do not have financial obligations	31	35
School expenses and education	25	24
Health, sickness, and emergency expenses	24	24
Home appliances	10	15
Business	9	8
Pay for older family members who do not work	7	8
Life or health insurance	7	8
Housing	7	10

Funeral expenses	5	8
Car/motorcycle/bicycle	3	2
Party expenses (wedding, sweet sixteen, anniversary, baptism)	3	6

Statistical determinants of bank account ownership and savings

The statistical determinants of having a bank account or saving are varied. In the case of savings, having savings is determined by the volume of remittances received, schooling, income, and extent of financial obligations. Education and receiving in urban areas increases the probability of saving in Guatemala.

Table 30: Regression results of determinants of savings.

	Guatemala		Nicaragua	
save	Coef.		Coef.	
residence (urban=1, rural=0)	-0.35	*	-0.10	
sex (male=1, female=0)	-0.03		0.13	
education	0.44	***	-	-
income	0.06		0.88	***
remittances (1 if receives)	0.39	*	0.34	***
financtial obligations	0.01		0.57	***
Constant	-1.64	***	-3.38	***

*** p < 0.01, ** p < 0.05, * p < 0.10

On the side of bank ownership, there are few statistical factors that determine access to the financial system. In Guatemala, sex, education, income, financial obligations explain ownership of a bank account. In Nicaragua, fewer factors explain bank accounts: saving, education, and place of residence are the most significant determinants. In the two countries remittances are not statistically significant. This issue may point to rather systemic or structural constraints in the financial system that precludes most people from owning an account.

Table 30: Regression results of determinants of bank account ownership

	Guatemala		Nicaragua	
Bank account	Coef.		Coef.	
residence (urban=1, rural=0)	0.21		0.51	*
sex (male=1, female=0)	0.38	***	0.03	
education	0.56	***	0.50	***
income	0.56	***		
remittances (1 if receives)	0.18		-0.31	
financtial obligations	0.42	***	0.37	
save	-	-	4.26	***
Constant	-3.55	***	-6.18	***

*** p < 0.01, ** p < 0.05, * p < 0.10

The significance of these results stems from the fact that the financial system is closed off to the majority of people and emphasizes the importance of finding ways to mobilize savings through cheap financial products, and in particular, how to provide remittance-recipients with incentives to invest their savings in formal institutions. One-half of Guatemalans

believe that banks only seek to attend to the privileged sectors of society, while 46 percent feel that banks fail to effectively explain interest rates or other details about their financial products.

V. Policy opportunities to leverage and mitigate the impact of remittances

The results from the macroeconomic impact of remittances show that these flows have greater effects on growth than other foreign sources of income, such as maquila exports. The study also shows that when looking at the exchange rate, remittances are not statistically significantly correlated to the local currency appreciation, with the exception of Nicaragua. Other factors such as the state of the U.S. economy and trade are associated to those trends. However, the study also finds that at the level of the local economy some cues are found as to the extent of the impact of these foreign savings. Specifically, two issues bear mentioning. First, that remittances respond to the cost of living in these countries, and second, that the local economies are still fragile, living on subsistence agriculture with risk averse entrepreneurial sectors and poor manufacturing industry, all these unable to adequately absorb foreign savings. There is also a lack of correspondence between the purchasing power of recipients and what the local markets and domestic producers and entrepreneurs can offer.

Solutions to some of these problems are varied and depend on the conditions in each sending and receiving areas. However, two common threads to these solutions include a rural and gender based approach to leveraging remittances. Here, we identify initiatives where policy can be critically important to promote the leveraging of remittances through funds and migrant capital management. The initiatives are not exhaustive but reflect the public policy debate over these issues.

a) Adapting technologies for money transfers to reduce cash transactions

New technologies can allow for cheaper account-to-account transactions. Today, nearly 30% of remittance recipients use debit or credit cards; this number is as high as 50% in some countries. Policy incentives can include offering tax breaks or other incentives to those banks and MTOs to import technological devices for money transfers, such as point of sale (POS) devices.

Technology plays an important role in the effective and efficient delivery of remittances and its impact on the economy. These POS devices are an opportunity to enhance the effects of remittance spending by allowing for electronic payments and reducing the use of cash in the street as well as increasing savings and positively influencing revenue streams for banks and MFIs. Access to technology can be expensive for financial institutions or vendors. Therefore policy solutions such as tax breaks or incentives related to improved technology should be implemented. The most important effect on an economy in adopting POSTs is that of 'bankarizing' small merchants or typical vendors that are frequented by recipients of remittances in their communities. As small merchants are integrated into a global payment network they are able to reduce cash transactions to a minimum while having direct financial

access to improve their business. Consumers benefit in that their cash is better managed and more is saved over time.

An important example of this is the experience of the Jamaica National Building Society (JNBS). Through its subsidiary, JN Money Services Ltd., JNBS serves Jamaicans living in the diaspora by facilitating remittance services in Canada, the USA and the UK. In partnership and cooperation with USAID, JNBS chose to automate the process of sending and receiving money transfers through swipe card technology. As a result it now has over 70,000 cards users. 50% of remittance recipients have been brought into the formal banking system, with 40% of those receiving their remittances through a card product which is then used to make purchases at small businesses that accept debit cards. On a related note, the majority of the bank's small business clients also benefit from making remittance payouts through increased access to both credit and remittance receiving customers. Rates of saving have increased considerably, not only through direct deposits to savings accounts, but also by reducing the amount of cash in circulation and through the increased use of electronic transactions.

b) Accelerating financial intermediation projects with credit unions and MFIs

Another area is accelerating financial access through projects with microfinance institutions (MFIs), credit unions, and small banks. Financial access is a critical issue in economic development and an important one in Latin America because of the prevailing inequality in accessing financial markets. Access to financial markets is a condition by which all people can make use of services affordably, and enjoy the functionally of all products (payments, savings, credit and risk mitigation).

These alternative financial institutions have demonstrated a key role in providing financial access and banking the traditionally unbanked, transforming remittance clients into clients of other financial services. Support of these financial institutions by governments and donor countries has been low despite MFI efforts to reach out to remittance recipients. The financial assistance that has been granted has typically targeted financial product design, marketing, and technology. In Bolivia, Haiti, or Guyana, for example, a large percent of flows go to families in rural areas where bank presence is more restricted but MFIs have deeper reach. Increasing the support and participation of these small financial institutions is of crucial importance to increasing access to financial services and improving financial literacy and assets. Types of assistance include financial product design and marketing, IT development, market research, and regulatory compliance. Another area of assistance is in supporting savings banks, MFIs and Credit Unions to build networks that can allow positive negotiations with remittance transfer companies.

A successful example of cooperation is found in Paraguay, whereby the microfinance El Comercio benefited from a technical assistance from the Inter-American Development Bank and has been able to increase its number of transfers to more than 20,000 in less than two years.

Linking banks in the originating countries to microfinance institution on the destination country is also a winning proposition. For example, Microfiance International Coropration,

an MFI operating in the United States, established agreements with other MFIs and banks in Central America helping people to send money at the lowest cost while offering financial services both on the sending and receiving sides.

c) Engaging banking institutions to provide broad financial services

In addition to offering incentives to non-banking financial institutions to reach out to remittance clients, larger banks that offer remittance services should be targets for engagement. Access to banking service remains low despite the very high percentage of payments made by banks, and the revenues resulting from their services: remittance transfer earnings represent 20% or more of their total net income. There should be efforts to increase opportunities for reinvestment in the community. Throughout Latin America and the Caribbean banks make nearly 50 percent of all remittance payments. However, banks have not taken advantage of this position to offer remittance recipients access to other financial services. Because of banks' roles in distributing remittances in the region, it is particularly important that they move beyond simple remittance payments and offer financial literacy programs aimed at remittance recipients, financial product design or marketing, and modernization of payment systems.

An important example of successfully providing financial services to recipients is in El Salvador. Banco Salvadoreño, the second largest commercial bank in El Salvador, is an important example of the link between alliances with money transfer companies and banks and financial intermediation in El Salvador. Banco Salvadoreño has a presence in most U.S. states through its MTO, BancoSal, and strategic alliances with some of the biggest MTOs, including Western Union and Bancomer Transfer Services. In 2005, Banco Salvadoreño made over 1 million remittance payments, totaling $256 million. Of these payments, $90 million were transfers from its own BancoSal, and 63 percent of BancoSal transfers were deposited directly into the accounts of at least 13,000 remittance recipients at Banco Salvadoreño. Banco Salvadoreño offers remittance recipients the opportunity to borrow up to 80 percent of their last six months' remittance flows. The bank has also opened more than 29,000 savings accounts for recipients and distributed nearly 9, 000 "Salvadoreño Emprendedor debit cards to small business owners and more than $10 million in loans to Salvadorans living abroad. In addition, Banco Salvadoreño is the only bank in El Salvador that has an Internet-based remittance service that enables clients to use the bank's website to send money from any account in the United States. The bank also offers a personalized service to its customers through a welcoming staff (Señoras de Bienvenida) who provide financial education on the spot to the families retrieving their remittance and encourage them to open bank accounts.

d) Supporting projects to improve investment opportunities at home and among the diaspora

Policy initiatives should also focus on improving opportunities for small scale investment to create new businesses thus responding to the demand by migrants and their families to invest. This means, for example, linking investment opportunities to transform subsistence agriculture of remittance recipients into commercial farming and encouraging an environment favorable for investment on the part of migrants. These enterprises also relate

to remittances and migration when promoting investing by migrants in terms of tourism and nostalgic trade. One third to half of migrants visit their countries once a year while eight percent import home country goods which contribute to the growth of small businesses. Governments could offer travel opportunities aimed directly at members of the diaspora, who tend to travel frequently to their countries of origin. Moreover governments could also partner with migrants abroad to package these travel services. In terms of nostalgic trade, many businesses succeed by meeting the high demand for goods from the home country. Governments in the host and home country, development agencies, and the private sector could benefit by offering products or services from the country of origin in these businesses abroad. In reaching out to the diaspora, governments target a unique yet important source of funds.

In order to achieve these goals it is a prerequisite that governments and private sector continue their work to create appropriate conditions for positive investment climate in their country of origin. Any effort to promote investment will not succeed if the business climate is not investor friendly.

e) Provide technical assistance on financial and remittance literacy

The Central Banks of each country in Latin America and the Caribbean lack resources and capacity to provide basic financial literacy to their populations. Educating people about the role of finances is a critical step toward development and is also becoming important among remittance recipients. Financial and remittance literacy, training on skills acquisition, can be established in cooperation with Central Banks and financial institutions to reach out to the millions of remittance recipients. This technical assistance should consider information about the financial value of the transfers as a mechanism to build credit, assets and use of alternative payments through electronic instruments such as debit and credit cards. This issue is particularly important considering the relevance of introducing technology based transfers, because there is a learning curve that depends on the extent of financial literacy and outreach.

f) Design projects that include education and health services

Although remittance recipients invest in health and education, the demand for good health and education services is often unmet due to lack of knowledge by the public or lack of public and private service delivery. One important strategy to provide these services is forging business partnerships between MFIs and health and education providers to advertise and sell health insurance, utilizing already existing institutions, including public schools or clinics. Microfinance institutions can serve as financial and social service providers through contracts with these other institutions.

Some of these services include:

a. Education funds, tutoring classes, extracurricular activities, internet lessons

In cooperation with schools, public or private, MFIs can sell education packages, including loans or services, to remittance recipients. Children will benefit greatly from parents who purchase packages of extracurricular education (arts, crafts, sports) or tutoring lessons to raise their grades. Providing these services not only improves the educational status of

children of emigrants but also motivates parents working abroad to continue investing in this long term asset. Moreover, the satisfaction of parents that their children are obtaining a qualitative education is gratifying and a constant matter of attention (Orozco 2006a).

b. Health insurance, specialized medicine funds

At least forty percent of remittance recipients are minors or are people in retirement, that is, individuals with a higher demand for health care services. MFIs can partner with insurance companies, clinics and health centers to sell affordable health services. These services should include emergency care, life insurance, medical insurance, body repatriation and child care. The effect of the supply of these services will enhance the quality of life of people while educating them about appropriate understandings of health care.

c. Define goals and standards to raise educational attainment from 6^{th} to 12^{th} grade levels

Lack of competitiveness in the global economy is a critical factor affecting economic development and outward migration. Communities where remittances arrive are places where attention to the future of their society needs more review. Education is one key component to improve local economic development, which can be leveraged through remittances. However, an economy with a mediocre educated class will not be able to fully absorb remittances. Therefore communities need to consider goals and standards to raise educational performance during five year periods in order to guarantee that children in communities with high levels of outbound migration are improving their educational attainment and achieving skills.

g) Enabling environment

One important consideration about remittances is to understand that these predominantly exist as a consequence of an international pattern of labor mobility that results out of necessity rather than choice. The condition of inequality and poor economic performance has forced many people to migrate in order to care for their families. Governments are yet to recognize the significant contributions that these flows make on the lives of families and society at large. Moreover, they are yet to implement policies that leverage under different conditions the flows that come in, and are still struggling to mitigate the various structural challenges brought by underdevelopment. Concentrating on the adverse effects of poor economic performance in the global economy is the first effort to tackle with the causes of labor migration. But given the reality of a transnational family, governments need to address the new demands and needs faced by these families, as well as explore ways to leverage these flows in order to expand a development impact. Offering opportunities to build assets and improve the social condition of people receiving remittances will be an important step to enable a development environment on societies where migration and remittances exist.

These efforts not only have an effect on improving the quality of life of people who receive remittances but they also add value to the local labor force. By increasing the demand for these services, new jobs are added and productivity is heightened. Thus remittances will prove to have a greater multiplying effect beyond basic consumption and personal savings.

h) Macroeconomic policy

Policy tools can play a preventive role to mitigate adverse effects of remittances, particularly when these flows affect the productive base of the local economy through an unnecessary or undesired appreciation of the local currency. There exist different methods including improved tax collection as well as an effective assessment of the ways an economy can efficiently be activated.

The extent to which such structure of the economy absorbs those remittances is the major policy issue for development practitioners. Thus policy evaluation should focus on the productive forces in an economy, their efficiency, modernization and diversification/concentration levels across economic sectors; about how entrepreneurship operates, what technology tools exist or are missing, and what is the extent to which governments provide an enabling environment to motivate an interaction between investment and production.

If an economy is unable to produce in a competitive context, its labor force will be depressed and eventually a portion will migrate to take care of their families. But even once they are away and send money, the families may only be able to do so much with that money in so far as the local economy provides an effective supply to the demand of services and products.

Consumers have a demand of a range of commodities and services (economic and financial). If the productive base of the local economy can not provide for that demand, imports of goods will then ensue. None of this is a situation created by remittances, but rather by the structure of the local economy, which is also connected to the global context.

The development challenge for practitioners consists in enabling an environment by which remittances can have a transformative role in a local economy. The challenge for practitioners is to identify and implement policies that enable a leveraging effect of remittances to effectively and positively impact their absorption in the local economy and thus promote development, without telling migrants and their families about what to do with their money, because after all remittances are a private matter.

Appendix I
A. Survey in Nicaragua of Remittances and Financial Sector: Summary of Results

Geographic location

	%
Urban	55.72
Rural	44.28

Do you have a bank account?

	%
Yes	9.21
No	88.66
NS/NR	2.13

What type of bank account do you have?

	%
Savings account	57.9
Checking account	33.7
Checking or savings account abroad	3.2
NS/NR	5.3

What is the current balance of your savings account (Córdobas)

	%
Less than C$17000	20.00
Between C$17000 and C$4300	14.74
Between C$4301 and C$8500	21.05
More than C$8500	27.37
NS/NR	16.84

Why don't you have a bank account?

	%
I don't have enough money to put into an account	56.5
The process is very complicated	34.6
I don't need a bank account	31.6
I don't trust banks	27.5
There is no bank close to my home or office	20.3
I had a bad experience with a bank	4.8

Do you have any other kind of savings or investment?

	%
Yes	21.51
No	78.00
NS/NR	0.48

What do your savings consist of?

	%
I take advantage of sales when I am shopping	66.7
If I have money left over at the end of the month I save it	63.1
Invest in some kind of business	53.6
Preventative medical care, such as health insurance or medicines	43.2
I work overtime or at a second job	40.1
I save my bonuses	38.3
I save for retirement	32.9
Life insurance	29.7
Community or family savings fund	23.4
I buy goods such as real estate or cars	16.2
I buy livestock	13.5

What do you use your savings for?

	%
In case of a health emergency	80.2
In case of a death in the family	74.3
Education	66.7
Renovations, repairs or purchase of housing	62.2
To start a business or make some kind of investment	57.7
For retirement	46.8
Special purchases such as furniture or appliances	41.0
Funeral expenses	40.1
Legal expenses	33.3
Special celebrations such as weddings, baptisms	31.5
For weekends or to go on vacation	27.9
Religious celebrations	24.8
To purchase a car	22.1

Who do you go to in cases of emergency?

	%
Family members within the country	73.06
Family members abroad	22.87
Other members of the community	21.90
Lender	15.41
Church or religious organization	13.57
Bank	8.62

How do you prefer to pay back money that you have borrowed?

	%
A little every month	37.89
A little every two weeks	22.29
Not until I can pay the whole amount at the same time	10.08
In exchange for some type of work I know how to do	3.59
From gifts I receive	3.49
A little every week	0.68
Daily	0.19
Every six months	0.19
NS/NR	21.61

Have you ever had a negative experience with a bank?

	%
Yes	9.21
No	89.44
NS/NR	1.36

Negative experiences and bank account ownership

Have you ever had a negative experience with a bank?	Bank account?		
	Yes	No	NS/NR
Yes	25.26	7.65	4.55
No	73.68	91.04	90.91
NS/NR	1.05	1.31	4.55

If so, what was that negative experience?

	%
Very bad customer service	48.4
They didn't have any information on how to use the products	43.2

Lost savings in a devaluation or crisis	40.0
Lost savings when the bank went bankrupt	31.6
Had too many charges for things like bounced checks	14.7

Financial obligations

	%
Education expenses	24.13
Health expenses	22.97
Home appliances	10.95
Business	7.95
Care for elderly family members	7.17
Housing	7.07
Health insurance or life insurance	6.59
Funeral expenses	5.23
Special celebrations such as weddings, first communions, etc.	3.39
Car/motorcycle/bicycle	2.33
Does not have financial obligations	30.33

Which of the following is true about banks?

	%
They only serve the upper class	53.49
They don't explain interest rates or other details about their products	37.69
They don't explain their charges	36.63
They offer poor customer service	31.88
They don't offer adequate products	31.20

Do you receive remittances?

	%
Yes	20.35
No	78.29
NS/NR	1.36

Do you receive remittances in Dollars or Córdobas?

	%
Dollars	94.3
Córdobas	1.0
NS/NR	4.8

How much do you receive per transaction?

	%
Less than $100	27.6
Between $100 and $500	55.2

Between $501 and $1000	3.8
More than $1000	2.4
NS/NR	11.0

How many times a year do you receive remittances?

	%
1 to 4 times	25.71
5 to 8 times	14.29
9 to 12 times	49.52
Over 12 times	6.67
NS/NR	3.81

How long have you received remittances?

	%
Less than one year	15.24
1-3 years	34.76
4-5 years	14.76
6-8 years	14.29
9-10 years	7.62
More than ten years	10.48
NS/NR	2.86

Why do you receive remittances?

To pay for basic family necessities	91.9
To pay for extra emergency expenses	67.6
Debt	48.6
So that the family can enjoy nice things	43.8
To make home or car improvements	34.8
To save	25.2
To start a business	20.0

Have any of your family members left the country?

	%
Yes	59.88
No	39.24
NS/NR	0.87

Why did your family member leave the country?

	%
For a better life for themselves or their children	84.8
Because they could not find work here	77.7
To send money to the family	66.3
Because they had friends or relatives abroad who recommended them	47.4

Are you or any family member thinking of leaving the country within the next 6 to 12 months?

	%
Yes	25.19
No	71.51
NS/NR	3.29

Gender

	%
Male	49.81
Female	50.19

Age

	%
Between 18 and 29 years of age	39.73
Between 30 and 49 years of age	39.63
50 years old or more	20.64

Education

	%
None	10.66
Primary school	30.91
Secondary school	41.57
University	16.86

Income

	%
Less than $100	46.80
Between $100 and $150	19.09
More than $150	30.23
NS/NR	3.88

Job situation

	%
Employed full time	29.36
Employed part time	23.06
Homemaker	27.81
Student	9.69
Unemployed	7.66

Retired	1.74
NS/NR	0.68

Bank account ownership and education level

	Education level			
	None	Primary	Secondary	University
Yes	2.11	15.79	32.63	49.47
No	11.69	32.46	42.62	13.22
NS/NR	4.55	31.82	36.36	27.27

Bank account ownership and remittances

	Does the household receive remittances?		
Bank account?	Yes	No	NS/NR
Yes	11.43	8.79	
No	87.14	88.99	92.86
NS/NR	1.43	2.23	7.14

Remittances and Financial Sector

	Receives Remittances	
What are your savings and investments comprised of?	NO	YES
Has a bank account	9	12
Has some type of savings or investment	20	31
If I have money left over at the end or middle of the month, I put it aside	62	73
I invest in some type of business	51	67
I work an extra job	41	44
I take advantage of sales when shopping	65	79
I save special payments or bonuses (aguinaldo)	36	50
Preventative medical care – medicine, medical insurance	42	54
Preparation for retirement	34	34
Life insurance	28	40
Savings account in a bank or postal office	32	26
Community or family savings fund (mutual fund)	23	28
I purchase goods/assets – houses, cars	16	18
I purchase livestock	14	14

	Receives Remittances	
For what do you use your savings?	NO	YES
In case of health emergency	82	85
In case of a death in the family	74	85

Home improvements and repairs, or moving expenses	64	65
Education for family or personal	68	72
For my retirement or future	44	61
Exchange or buy a car	23	23
For weekends or long vacations	27	33
To set up a business or make an investment	59	59
Celebrate something special (wedding, sweet sixteen, anniversary, baptism)	31	39
Special purchases (for example, furniture home appliances)	42	47
Religious celebrations	24	30
Funeral expenses	40	47
Legal matters	33	41

	Receives Remittances	
Who do you turn to in emergency situations?	NO	YES
To the church or religious center	15	10
To members of the community to receive help	24	15
To the bank	9	9
To the loan officer	16	17
Members of my family in the country	76	70
Members of my family abroad	12	69

	Receives Remittances	
What types of financial obligations do you have?	YES	NO
Home appliances	10	15
Car/motorcycle/bicycle	3	2
Party expenses (wedding, sweet sixteen, anniversary, baptism)	3	6
Funeral expenses	5	8
Health, sickness, and emergency expenses	24	24
School expenses and education	25	24
Business	9	8
Do not have financial obligations	31	35
Pay for older family members who do not work	7	8
Life or health insurance	7	8
Housing	7	10

	Receives Remittances	
Which of these points do you believe is true of banks in your country?	YES	NO
They only attend to the privileged sector/they provide them with better service	53	54
They don't explain interest rates nor which is the best way to save	37	38
They have poor services and poor customer service	34	31
They don't explain what they charge per month or for services	34	37
They don't offer adequate products	30	32

B. Survey in Guatemala of Remittances and Financial Sector: Summary of Results

Geographic location

	%
Urban	48
Rural	52

Do you have a bank account?

	%
Yes	23
No	73

What type of bank account do you have?

	%
Savings account	16
Checking account	6
Checking or savings account abroad	1
Doesn't apply	77
NS/NR	1

What is the current balance of your savings account (quetzales)

	%
Less than Q750	6
Between Q751 and Q1900	6
Between Q1901 and Q3750	7
More than Q3751	6
NS/NR	4
Doesn't apply	69

Why don't you have a bank account?

	%
I don't have enough money to put into an account	56
I don't trust banks	48
The process is very complicated	31
There is no bank close to my home or office	28
I don't need a bank account	27
I had a bad experience with a bank	6

Do you have any other kind of savings or investment?

	%
Yes	19
No	57
Doesn't Apply	23

What do your savings consist of?

	%
Invest in some kind of business	68
I take advantage of sales when I am shopping	58
If I have money left over at the end of the month I save it	51
Preventative medical care, such as health insurance or medicines	30
I work overtime or at a second job	27
I save my bonuses	22
Community or family savings fund	16
I buy goods such as real estate or cars	15
I save for retirement	9
I buy livestock	9
Life insurance	8
Savings account in a bank or post office	3

What do you use your savings for?

	%
In case of a health emergency	91
In case of a death in the family	80
Education	73
Renovations, repairs or purchase of housing	67
To start a business or make some kind of investment	54
Special purchases such as furniture or appliances	51
Funeral expenses	41
Legal expenses	34
Special celebrations such as weddings, baptisms	32
Religious celebrations	31
For weekends or to go on vacation	27
For retirement	26
To purchase a car	6

Who do you go to in cases of emergency?

	%
Family members within the country	81
Other members of the community	30
Church or religious organization	23
Family members abroad	20
Bank	19
Lender	15

How do you prefer to pay back money that you have borrowed?

	%
A little every month	45
Not until I can pay the whole amount at the same time	21
A little every two weeks	11
In exchange for some type of work I know how to do	4
From gifts I receive	2
NS/NR	18

Have you ever had a negative experience with a bank?

	%
Yes	10
No	87
NS/NR	3

Negative experiences and bank account ownership

Have you ever had a negative experience with a bank?	Bank account?	
	Yes	No
Yes	24	6
No	76	90
NS/NR	n/a	4

If so, what was that negative experience?

	%
Very bad customer service	70
They didn't have any information on how to use the products	42
Lost savings in a devaluation or crisis	26
Lost savings when the bank went bankrupt	19
Had too many charges for things like bounced checks	15

Financial obligations

Education expenses	55
Health expenses	55
Home appliances	28
Housing	26
Business	24
Special celebrations such as weddings, first communions, etc.	17
Funeral expenses	13
Health insurance or life insurance	12
Care for elderly family members	12
Car/motorcycle/bicycle	7
Does not have financial obligations	68

Which of the following is true about banks?

They only serve the upper class	50
They don't explain interest rates or other details about their products	46
They don't offer adequate products	41
They don't explain their charges	40
They offer poor customer service	35

Do you receive remittances?

	%
Yes	17
No	83

Do you receive remittances in Dollars or Quetzales?

	%
Dollars	82
Quetzales	15
NS/NR	3

How much do you receive per transaction?

	%
Less than $150	41
Between $150 and $300	25
Between $301 and $450	8
Between $451 and $600	9

More than $600	16
NS/NR	1

How many times a year do you receive remittances?

	%
1 to 4 times	33
5 to 8 times	15
9 to 12 times	46
Over 12 times	4
NS/NR	2

How long have you received remittances?

	%
Less than one year	22
1-3 years	48
4-5 years	11
6-8 years	7
9-10 years	5
More than ten years	7
NS/NR	1

For what do you use remittances?

To pay for basic family necessities	95
To pay for extra emergency expenses	79
So that the family can enjoy nice things	60
Debt	57
To save	55
To make home or car improvements	55
To start a business	32

Have any of your family members left the country?

	%
Yes	39
No	60
NS/NR	1

Why did your family member leave the country?

	%

For a better life for themselves or their children	84
To send money to the family	72
Because they could not find work here	69
Because they had friends or relatives abroad who recommended them	60

Are you or any family member thinking of leaving the country within the next 6 to 12 months?

	%
Yes	16
No	82
NS/NR	1

Gender

	%
Male	50
Female	50

Age

	%
Between 18 and 29 years of age	36
Between 30 and 49 years of age	40
50 years old or more	23

Education

	%
None	15
Primary school	30
Secondary school	31
University	38

Income

	%
Less than $150	46
Between $150 and $300	28
More than $300	16
NS/NR	11

Job situation

	%
Employed full time	38
Employed part time	15
Homemaker	23
Student	3
Unemployed	3
Retired	2
NS/NR	1

Bank account ownership and education level

Own bank account?	Education level			
	None	Primary	Secondary	University
Yes	11	18	33	63
No	89	82	67	37

Bank account ownership and remittances

	Does the household receive remittances?	
Bank account?	Yes	No
Yes	31	21
No	69	79

Remittances and Financial Sector

	Receives Remittances	
What are your savings and investments comprised of?	NO	YES
Has a bank account	21	31
Has some type of savings or investment	19	22
If I have money left over at the end or middle of the month, I put it aside	47	62
I invest in some type of business	68	65
I work an extra job	25	32
I take advantage of sales when shopping	56	62
I save special payments or bonuses (aguinaldo)	18	32
Preventative medical care – medicine, medical insurance	25	49
Preparation for retirement	9	8
Life insurance	7	5
Savings account in a bank or postal office	2	5
Community or family savings fund (mutual fund)	17	11
I purchase goods/assets – houses, cars	16	11

I purchase livestock	10	5

	Receives Remittances	
For what do you use your savings?	NO	YES
In case of health emergency	90	95
In case of a death in the family	77	90
Home improvements and repairs, or moving expenses	66	68
Children's education or personal improvement	74	68
For my retirement or future	25	32
Exchange or buy a car	6	3
For weekends or long vacations	21	55
To set up a business or make an investment	51	63
Celebrate something special (wedding, sweet sixteen, anniversary, baptism)	29	45
Special purchases (for example, furniture home appliances)	47	66
Religious celebrations	28	40
Funeral expenses	39	45
Legal matters	33	40

	Receives Remittances	
Who do you turn to in emergency situations?	NO	YES
To the church or religious center	22	27
To members of the community to receive help	31	25
To the bank	17	27
To the loan officer	14	20
Members of my family in the country	82	78
Members of my family abroad	12	56

	Receives Remittances	
What types of financial obligations do you have?	NO	YES
Home appliances	26	39
Car/motorcycle/bicycle	6	10
Party expenses (wedding, sweet sixteen, anniversary, baptism)	17	18
Funeral expenses	12	15
Health, sickness, and emergency expenses	56	51
School expenses and education	54	59
Business	22	29
Do not have financial obligations	68	69
Pay for older family members who do not work	12	14
Life or health insurance	12	10
Housing	25	29

	Receives Remittances	
Which of these points do you believe is true of banks in your country?	NO	YES
They only attend to the privileged sector/they provide them with better service	52	42
They don’t explain interest rates nor which is the best way to save	43	55
They have poor services and poor customer service	36	30
They don’t explain what they charge per month or for services	39	42
They don’t offer adequate products	37	55

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