

**Workers Remittances to the Andean Region:
Mechanisms, Costs and Development Impact**

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Executive Summary

The largest recipient of remittances to the Andean countries is Ecuador; they represented more than 7 percent of GDP in 2002 compared to around of 2 percent in the 1990s. Colombia, Bolivia and Peru have seen also a very rapid surge in remittances in recent years. Remittances can become a powerful tool of development finance in the Andean countries: they are a source of foreign exchange; they complement national savings, currently low in the region and help financing investment and growth. In addition, remittances have a positive poverty- reducing effect, as many families of the migrants who receive remittances are low-income people. Properly mobilized remittances can contribute to increase investment in housing, in human capital (education) and help to finance micro and small-scale firms.

Currently, this potential is largely unrealized by the existence of a costly, concentrated and poorly competitive market for remittances. Our empirical analysis, based on a detailed survey to money transmitter operators based in the U.S and operating with the Andean region show that the total costs of remittances for the Andean countries varies in a wide range that go from 5 to 12 percent of the value remitted depending on the type of currency that is delivered, the destination country, the type of operator and other factors.

In the remittances-source country, building a more efficient financial infrastructure for remittances is essential for reducing the costs of sending remittances. Bring in commercial banks into the remittances business would increase competition in this sector. The degree of financial deepening in the migrants sector is low. A significant proportion of migrants do not even have bank accounts. Extending the use of ATM cards for migrants and their families can cut, substantially, the costs of sending remittances. On the other hand, the costs of licensing for new operators and the regulatory framework should avoid imposing extra burdens to the sector. The same consideration should be extended for the control of money laundering or the financing of terrorism.

On the recipient side, the issuance of remittance bonds, opening of foreign currency accounts for migrant workers in the home country, the creation of facilities for voluntary donations for projects in the home country are all measures to leverage remittances for development. In turn, the creation of education and housing accounts at home for migrants could help to enhance the productive and social use of remittances proceeds.

Our econometric analysis for individual Andean countries (time series) and for the region as a whole (panel) show that differentials in per capita income (or GDP) between the source country of the remittances and the receiving country are the main determinant of remittances flows. This underscores the fact that significant divergences in development levels and living standards are main factors why migrants send remittances back home. The paper also estimates empirical growth equations for selected Andean countries in which remittances (as a share of GDP) are included as a determinant of per capita GDP growth besides initial income, investment ratios and terms of trade shocks. The empirical analysis finds a positive effect of remittances on GDP per capita growth for Colombia and Ecuador.

1. Introduction.

There is a growing recognition of the potential of workers remittances as a market-based source of development finance. Remittances bring foreign exchange, are a complement for national savings and provide a source of finance for capital formation. In addition, migrant-to-family transfers play the role of an implicit social safety cushioning low-income families from the effect of economic crises. There is, however, room for leveraging a greater value for remittances if international money transfers from foreign workers in the U.S. and other advanced economies were conducted at lower costs. In fact, the international market for remittances to Latin America and the Andean region in particular, is thin, concentrated and inefficient from a social point of view. Money transmitters operators dominating the market charge high fees and use overvalued exchange rates for money transfers. As a consequence of this, the amount of remittances is below the socially optimal amount associated with a more competitive cost structure in the market for remittances. The development potential of remittances is then diminished under current market realities.

The main sources of remittances for the Andean region as a whole (Bolivia, Colombia, Ecuador, Peru and Venezuela) are migrants residing in the United States followed by Spain and Italy. Emigrants are, in their majority, workers that make less than \$30,000 per year (in the U.S) and send remittances back home for around 10 percent of their income. The average range of remittances per month is around \$ 200-300 but varies from country to country. Money is sent at significant fees, through national money transmitter operators (NMTOs such as Western Union and MoneyGram), ethnic stores, postal offices, travel agencies and credit unions. Commercial banks operate

also in this segment of the market. For example e.g. Caixa de Catalunya and Banco de Credito Popular are banks that are in the remittances business. However, as a whole, commercial banks are not the most important players in this market.

Remittances costs are in a wide margin of 5 to 12 percent of the value of remittances depending on the type of service offered, the country of destination, the currency (dollar or local currency) remitted and the exchange rate applied to convert dollars into local currency. Ecuador, an officially dollarized, economy benefits itself by the fact that the exchange rate valuation factor in remittances disappears as its national currency is the U.S dollar. This factor lowers, significantly, the cost of remittances compared to other Andean countries². The macroeconomic importance of remittances (as a share of GDP, exports, investment) is the highest in Ecuador followed by Colombia, Bolivia and Peru (Venezuela has had consistently, negative net remittances). Remittances, in turn, have increased at a very high rate in the Andean countries in recent years. Still, there is room for increasing the actual volume of remittances and enhancing their productive use.

This study provides a new data set on costs, market structure and modalities of remittances to the Andean region. This data is based on a survey conducted in the United States to companies (national money transmitters operators and “ethnic stores”) that send money to the five Andean countries. The paper estimates econometrically empirical remittances equations for each Andean country and study the impact of remittances on economic growth in Ecuador and Colombia. The paper is organized in seven sections besides this introduction. Section 2 discusses the motives of remittances, their development impact, the particularities of the international market for

² Observers also claim a more competitive market in Ecuador for the lower costs of remittances.

remittances and measurement issues. Section 3 examines recent trends in the level and evolution of remittances to the Andean region in the last ten years or so. Section 4 analyses data on remittances costs by component (fees and exchange rate valuation), country of destination, type of operator and modalities for sending monetary remittances from the United States to the Andean countries. Section 5 estimates, econometrically, both remittances functions for each Andean country and empirical economic growth equations for Ecuador and Colombia augmented to include remittances as an additional determinant of the rate of economic growth. Section 6 identifies instruments and ways to leverage remittances, reduce intermediation costs and enhance their productive use in the home country. Section 7 concludes, Annex A presents the database used in section 4 of this study and Annex B indicates the definitions of the variables used in the econometric analysis.

2. Conceptual and Measurement Issues on Remittances

International migration entails the physical movement of people from one country to the other. The financial counterpart of this is the remittances that the migrant send to his parents, spouse, children residing in the home country. This creates a correspondence between the physical outflow of people and the financial inflows of resources and money (remittances) sent back home by migrants. In this section we will review four main issues: (i) the motives to remit, (ii) the development effects of remittances, (iii) specific features of the international markets for remittances and (iv) measurement issues.

2.1 Motivations to Remit

The analytical literature³ on motives for remittances can be summarized in four approaches:

The Altruistic Motive.

In this view the migrant send remittances back home because he cares about the well being of his or her family in the home country. The very fact of sending remittances yields a satisfaction to the emigrant out of a concern with the welfare of his family. It is an empirical regularity that the migrant has often a higher education level than other family members. As he immigrates to a country in which average wages and per capita incomes are higher than at home, their income level after getting a job can be expected to be higher than comparable workers at home. The main prediction of the altruistic model is that remittances would tend to decrease over time⁴. One reason for this is that family attachment probably tends to decrease as more time passes in which members are in different countries. Also the migrant may plan to stay abroad for a long time period (and eventually retire there) bringing along his family. This, of course, reduces remittances. In contrast, when migrants return home they can bring fresh capital, increasing remittances once and for all.

The Self- interest Motive

An opposite motivation is to assume that the emigrant is mainly motivated by an economic and financial self-interest when sending remittances to the home country. The story goes like this: the emigrant in the foreign country after a while starts saving. Then the need arises on how (in which assets) and where (in which country) to accumulate wealth. An obvious place to consider is to invest, at least part of his assets, in the home country buying property, land, financial assets, etc. These assets may earn a higher rate of return than

³ References are: Stark (1991), Brown (1997), Poirine (1997), Smith (2003).

⁴ See Stark (1991, ch.16).

assets in the host country although their risk profile can be also higher. In turn, the family can administer, during the emigration period, those assets for the migrant, thus acting as a trusted agent. Another motivation to remit is the desire of the emigrant to receive an inheritance from his parents. Those family members that have contributed to increase the family's wealth (e.g. through sending remittances) become obvious candidates for receiving an inheritance in the future.

Implicit Family Contract I: Loan Repayment.

Economic theory has developed explanations of the remittances process that take the family—rather than the individual—as the main unit of analysis⁵. The theory assumes that families develop a sort of implicit contract among those who choose to live abroad, the migrant, and those who stay at home. The implicit contract has an inter-temporal dimension, say various years or even decades as a time horizon. The contract combines elements of investment and repayment. In the loan repayment theory the family invest in the education of the emigrant and usually finances the costs of migrating (travel and subsistence costs in the host country). This is the loan (investment) element of the theory. The repayment part comes after the migrant settles in the foreign country: he (or she) gets a job and becomes established and his income profile starts rising over time and is in condition of start repaying the loan (principal and interests) back to the family in the form of remittances. So the family invest in a higher yield “ asset ” (the migrant) who often earns more in the foreign country than other family members that live and work at home. This model predicts various time profiles of remittances over time depending upon the length time it takes for the migrant to get established in the foreign labor market and also on the duration of his stay abroad. The quicker the

⁵ See Poirine (1997) and Brown (1997) on elaborations on this model of remittances.

insertion of the migrant in the foreign labor market, the faster will be the remittances flow. The amount to be remitted will depend, among other things on the income profile of the migrant. In this model remittances do not necessarily are expected to decrease over time as in the altruistic model.

Implicit Family Contract II: Co-Insurance

Another variant of the theory of remittances as an implicit family contract between the migrant and those at home relies on the notion of risk diversification. The idea is simple. As insurance markets and capital markets in the real world are incomplete, many risks can not be diversified by the absence of financial assets that edge risk. In addition, borrowing constraints, particularly serious for poor migrants, limit the ability to smooth consumption or finance investment. Assuming that economic risks between the sending and foreign country are not positively correlated (e.g. a recession in Ecuador does not necessarily cause a recession in Spain or the U.S) then it becomes a convenient strategy for the family as a whole, to send some of its members abroad (often the most educated) as an emigrant as a way to diversify economic risks. The migrant, then, can help to support his family in bad times at home. Conversely, for the migrant having a family at home is also an insurance as bad times can also occur in the foreign country.

In this model, emigration becomes a co-insurance strategy with remittances playing the role of an insurance claim. As in any contract there is a potential problem of enforcement (e.g. ensuring that the terms of the contract, are respected by the parties). Enforcement is simpler, in principle, by the fact that these are implicit family contracts, helped by considerations of family trust and altruism (a feature often absent in legally sanctioned contracts).

2.2 The Development Impact of Remittances

Remittances have a potential impact as a development tool that needs to be underscored. They complement national savings, increasing the financing pool for investment and stimulating growth. In addition, they can support consumption levels of low-income people that, in developing countries, can be a near subsistence levels. From a donor country perspective, remittances as a market-based source of development finance, indirectly, reduce the demand for official development assistance always a contentious issue as domestic needs compete with international transfers as a destination of tax revenues. The development effect of remittances can be decomposed into various sub-effects. The *impact on growth* of remittances in receiving economies is likely to act through savings and investment. Also the indirect effect of migration on output depends on the productivity level of the emigrant in the home country before departure.

The *total saving effect* of remittances comes from the sum of foreign savings and domestic savings effects. Workers remittances are a component of foreign savings and they complement national savings by increasing the total pool of resources available to investment. However, as remittances may finance consumption as well, private savings will increase less than proportionally than an increase in income from external remittances. There is, then, a certain crowding-out effect of remittances on national savings. In turn, a more indirect effect on public savings may occur. As migrants leave the country (and send remittances later), emigration entails a loss of fiscal revenues.

The direct effects of remittances on *investment* depend on whether remittances support consumption or investment, or both, in the aggregate. Ratha (2003) cites positive effects of remittances on investment in receiving countries such as Mexico, Egypt, and Sub-Saharan Africa. In these countries, remittances

have financed the building of schools, clinics and other infrastructure. In addition, return-migrants bring fresh capital that can help finance investment projects.

At microeconomic level, the marginal benefit of remittances depend on their use: if they are used to finance consumption they yield the marginal utility of consumption, if they are used for investment the benefit is given by the rate of return on that investment. In addition, remittances are likely to have a poverty-reducing effect, as normally those that receive remittances are low-income families in developing countries⁶.

2.3 Specific Features of International Markets for Remittances.

International flows of remittances are channeled through (mostly non-banking) financial intermediaries. The less competitive, more concentrated and more segmented the market for remittances the higher the costs of remittances. There are a number of reasons why the international market for remittances tends to be a thin market (in which a few players dominate the market). First, in the U.S. the legal status of the migrants that send remittances is not always regularized. Some migrants have resident (working) visas, others are waiting for their visas to be processed and others are simply “illegal”. In this context, banks are reluctant to enter in the market of financial services for low-income migrants that often have a non-regularized immigration status⁷. In general this fits into the case of lack of access to banking products and services by the poor. As most immigrants are poor people (although still their income level is higher, on average, than the income they could earn at home)

⁶ The distributive effects of remittances in the home country are more ambiguous. The issue is investigated in Boucher, 1998.

⁷ In the United States, banks request people (migrants) a Tax Identification Number, TIN, as a requisite to open a bank account. In addition, recently some banks accept consular identification cards for opening bank accounts. Many migrants are fully compliant with tax payments even though their immigration status is not fully regular.

they are not integrated in formal banking circuits. Second, the small scale of individual remittances, say for the Andean countries (and Latin America in general). As mentioned before the typical remittances per migrant person are between U\$ 200 and U\$ 300 per month⁸. As individual transactions (remittances) are small, service standardization is needed for the remittances market to be a profitable activity at competitive fees. In this context, high fees may compensate for the cost of small transactions⁹. Finally, other factors that affect the market for remittances are: exchange rate risk, government regulations for foreign exchange transactions in the receiving country and regulations in the sending country such as licensing costs.

2.4 Definitional and Measurement Issues of Remittances.

The economic significance of remittances often go beyond what is suggested by the official balance of payments statistics in sending or receiving countries. The important concept for measuring the economic impact of remittances is the resource transfer – monetary or in-kind – made by a migrant to his home country. Monetary transfers in dollars increase the availability of foreign exchange in the country of origin of the migrant. In turn, remittances in-kind often save foreign exchange for the recipient country. These distinctions are important as there are several modalities for sending remittances. Some of them are recorded some others not. For example, when remittances are sent by formal channels they are recorded by the receiving country's official statistics as an inflow of foreign exchange in the current account of the balance of payments. Conversely remittances sent informally in cash through couriers go unrecorded in the official statistics. Remittances can

⁸ See Orozco, (2002).

⁹ In the aggregate, however, this is a sector that mobilizes a large volume of resources: aggregate remittances for Latin America were on the order of 32 billion dollars in 2002 for the main 19 recipient countries in Latin America, (see MIF, 2003).

be in-kind e.g. goods sent to households in the home country. Only part of the later will be recorded as imports. Migrants can also make donations in the host country to institutions like the church and charitable organizations formed by co-nationals of the home country, make payments and deposits (insurance premiums, tuitions for schools, payments for international airfares directly to the airlines) on behalf of relatives or friends from their country of origin¹⁰. Although all these payments should be treated as “remittances” in an economic sense they are rarely recorded as that. In sum, all these considerations should be borne in mind when assessing the true magnitude of remittances transfers based on official statistics, which for the reasons mentioned above tend to *underestimate* their full economic impact.

3. Remittances in the Andean Region: Trends of the 1990s and Early 2000s

The economic and governance crises that have suffered, at some point or another, the Andean region in recent years have led to a considerable flow of emigration to Spain, the United States, some Central American countries, etc. Ecuador, for example, suffered a very severe economic crisis in the period 1998-99 that led to a large contraction in output, a financial crisis, and an increase in unemployment and poverty. These events, along with high inflation and currency instability prompted the adoption of official dollarization in early 2000¹¹. These developments led to an increase flow of emigrants that include both highly qualified professionals as well as unskilled workers. Some estimates put the numbers of emigrants from Ecuador in the

¹⁰ See Brown (1997).

¹¹ See Beckerman and Solimano (2002) for an analysis of the Ecuadorian crisis of the late 1990s, and the subsequent adoption of dollarization. For an analysis of governance problems in the Andean countries see Solimano 2002b).

period 1998-2002 in near 500,000 people; certainly a large number for a country with a population of near 13 million. Colombia, in turn, has suffered in the last years the combined effect of economic slowdown and a severe internal security crisis in which each year near 35,000 people die for violent causes political and criminal. This combination of sluggish growth, poverty and insecurity prompts people to leave the country¹². Some estimates put in around 1 million people those who have Colombia over the last 5 years. Venezuela is currently suffering a severe political crisis with internal polarization and a very severe contraction of economic activity. People are also starting to leave Venezuela going to Miami and other destinations. Further south, Peruvian emigration to Chile, Italy, Spain and other countries has been high in recent years and Bolivia also has been a traditional emigration country to Argentina, Chile and other countries¹³. The mirror effect of emigration of people from the Andean countries in the late 1990s and early 2000s is the increases in remittances that will see have increased substantially in recent years.

Table 1 shows a very significant increase in remittances since 1997-98 in Bolivia, Ecuador, Peru and Colombia. Using constant dollars of 1995, between 1998 and 2002 net remittances increased by 150 percent in Bolivia, 510 percent in Colombia, 72 percent in Ecuador and 73 percent in Peru¹⁴. As a proportion of GDP, net remittances have the largest share in Ecuador: between 7-8 percent in the 2000-2002 period (up from 2.2 percent in 1990-

¹² Average remittances for Central American and Caribbean countries are on the order of 10 percent of GDP.

¹³ Migration is induced by large income per capita differentials between the Andean countries and more developed nations such as the U.S. (a difference, on average, of a factor of 6), to Spain (by a factor of 3), to Argentina and Chile (by a factor of around 2). Solimano 2002c provides an empirical analysis of the determinants of migration flows to and from Argentina that highlights the role of income per capita differentials across countries in driving these flows, see table 2. .

¹⁴ It is important to note that, apparently the reporting of remittances has improved and this could be also behind the increase in figures of remittances.

99), followed by Colombia, Bolivia and Peru. In 2002, remittances were about 25 percent of exports revenues in Ecuador, 10 percent in Colombia and Bolivia and 8.5 percent in Peru. This rise in remittances in the last 4-5 years in the Andean groups is likely to have helped cushion, at least partially, the social effects of economic crises and governance problems. This supports the notion of remittances as a family insurance mechanism in bad times discussed in section 2. Emigrants' remittances play the role of a privately funded safety net.

Finally, table 1 also reports also data on gross remittances for various Andean countries (although the data can not separate gross and net figures for Peru and Ecuador) they provide information for Venezuela that exhibited negative net remittances during most of the period 1987-2002.

Table 1
Remittances to Andean Countries

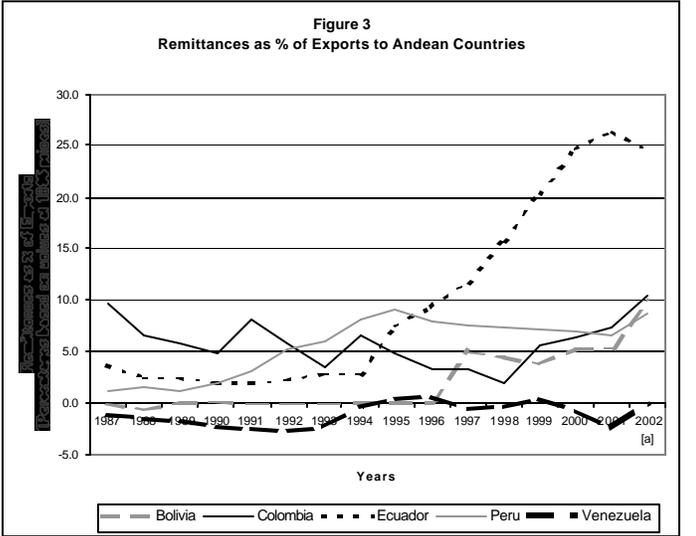
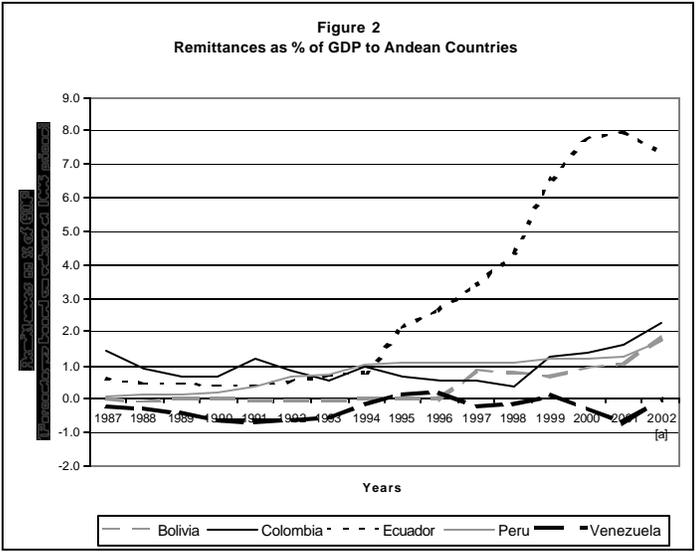
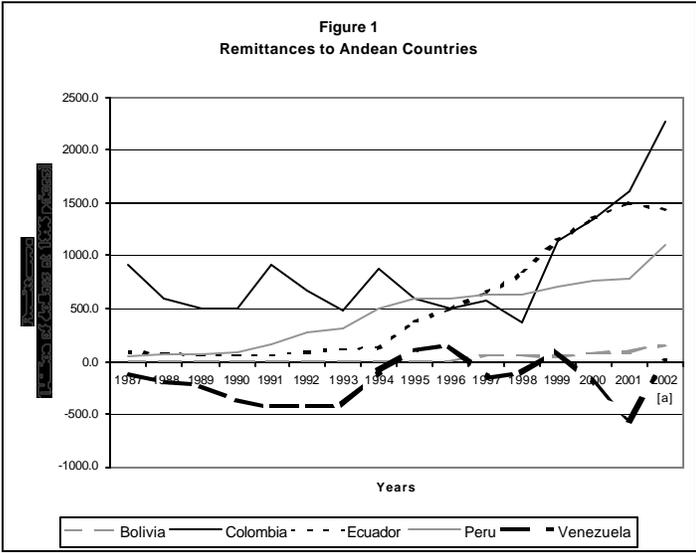
Years	[1] Net Remittances Received (Million of dollars at 1995 prices)					[2] Gross Remittances Received (Million of dollars at 1995 prices)					[3] Net Remittances as % of GDP (Percentages based on values at 1995 prices)					[4] Net Remittances as % of Exports (Percentages based on values at 1995 prices)					[5] Net Remittances as % of Gross Fixed Capital Formation (Percentages based on values at 1995 prices)				
	Bolivia	Colombia	Ecuador	Peru	Venezuela*	Bolivia	Colombia	Ecuador	Peru	Venezuela*	Bolivia	Colombia	Ecuador	Peru	Venezuela	Bolivia	Colombia	Ecuador	Peru	Venezuela	Bolivia	Colombia	Ecuador	Peru	Venezuela
	1987	-0.7	915.2	84.6	46.4	-124.8	0.8	916.7	84.6	46.4	187.9	0.0	1.5	0.6	0.1	-0.2	-0.1	9.7	3.7	1.1	-1.1	-0.1	9.3	3.6	0.5
1988	-4.3	582.8	68.5	59.0	-184.7	1.0	584.1	68.5	59.0	109.3	-0.1	0.9	0.5	0.1	-0.3	-0.7	6.6	2.4	1.5	-1.4	-0.6	5.3	3.2	0.7	-1.7
1989	-0.6	494.6	68.2	58.0	-224.5	1.0	495.7	68.2	58.0	290.7	0.0	0.7	0.5	0.1	-0.4	-0.1	5.7	2.4	1.2	-1.6	-0.1	4.5	3.2	0.8	-2.8
1990	0.8	509.4	60.8	91.6	-359.5	2.2	510.5	60.8	91.6	528.5	0.0	0.7	0.4	0.2	-0.6	0.1	4.8	2.0	2.0	-2.3	0.1	4.8	3.1	1.3	-4.9
1991	-1.2	908.7	65.0	160.5	-421.8	0.7	908.7	65.0	160.5	428.8	0.0	1.2	0.4	0.4	-0.6	-0.1	8.0	1.9	3.1	-2.6	-0.1	9.1	2.9	2.2	-4.2
1992	-1.2	670.2	85.3	271.6	-422.6	0.9	670.2	85.3	271.6	602.3	0.0	0.8	0.5	0.7	-0.6	-0.1	5.7	2.1	5.2	-2.7	-0.1	6.0	3.6	3.6	-3.2
1993	-1.5	487.8	119.2	315.8	-404.8	1.0	487.8	119.2	315.8	497.2	0.0	0.6	0.7	0.7	-0.6	-0.1	3.5	2.9	5.9	-2.3	-0.1	3.2	5.0	3.8	-3.3
1994	-0.7	876.8	133.3	509.4	-90.7	1.1	1030.4	133.3	509.4	654.3	0.0	1.0	0.8	1.0	-0.1	-0.1	6.6	2.8	8.1	-0.5	-0.1	4.8	5.3	4.6	-0.9
1995	-0.2	591.0	382.1	600.0	109.0	1.7	739.0	382.1	600.0	413.0	0.0	0.6	2.1	1.1	0.2	0.0	4.8	7.5	8.9	0.5	0.0	3.2	14.7	4.5	1.1
1996	-0.7	498.7	491.3	585.4	141.0	2.2	629.6	491.3	585.4	537.4	0.0	0.5	2.7	1.1	0.2	-0.1	3.2	9.4	7.9	0.6	-0.1	2.8	17.7	4.6	1.5
1997	64.0	571.0	646.3	634.1	-150.3	71.1	671.8	646.3	634.1	230.7	0.9	0.6	3.4	1.1	-0.2	4.9	3.3	11.7	7.5	-0.6	4.1	3.2	22.4	4.2	-1.3
1998	59.0	372.4	832.0	639.5	-114.5	69.6	519.8	832.0	639.5	291.6	0.8	0.4	4.3	1.1	-0.1	4.3	1.9	15.8	7.3	-0.5	2.9	1.8	27.1	4.3	-1.0
1999	51.1	1152.9	1148.6	709.8	-102.5	80.7	1404.5	1148.6	709.8	111.3	0.7	1.3	6.6	1.2	-0.1	3.8	5.6	20.3	7.1	-0.5	3.0	9.7	57.2	5.4	-1.0
2000	75.6	1343.5	1353.3	754.4	-198.6	109.5	1546.4	1353.3	754.4	115.9	0.96	1.4	7.8	1.2	-0.3	5.1	6.3	24.7	6.8	-0.8	4.7	9.6	61.5	6.1	-2.0
2001	85.1	1624.6	1498.4	780.8	-569.4	118.4	1824.2	1498.4	780.8	145.8	1.07	1.7	8.0	1.3	-0.7	5.3	7.2	26.4	6.6	-2.3	7.3	10.6	49.6	7.2	-3.8
2002**	150.0	2272.0	1432.0	1100.0	N.A.	N.A.	N.A.	1432.0	1100.0	N.A.	1.85	2.3	7.4	1.7	N.A.	9.8	10.4	24.5	8.6	N.A.	12.5	14.2	38.7	9.9	N.A.

Source: Balance of Payments Statistics, 2002 (IMF) and Economic Commission for Latin America and the Caribbean.

Notes: * Current Transfer, period 1987-1998.

**Preliminary figures.

N.A.: Non-Available.



4. The Market for Remittances to the Andean Countries: Micro-Evidence on Costs and Intermediaries.

In a previous section we mentioned that international markets for remittances are concentrated and charge high fees to poor migrants. We will investigate if this applies to remittances to the Andean region. For this purpose we will provide and examine empirical evidence on the costs and modalities of sending remittances to the Andean countries based on a survey of 25 money transmitters operating in several cities of the United States carried out in January of 2003.

Nature of the Intermediaries and Market Structure.

Two main money transmitters operators dominate the market: Western Union and Money Gram that captures a sizeable share of the market. These two operators have a national and international scale of operation and offer a variety of travel and financial services besides sending remittances money. Operators are generally classified as National Money Transmitter Operators (NMTOs) and Ethnic Stores (ES). Money transmitters include also the postal service, credit unions, travel agencies and hand-delivery stores through “encomenderos” or “viajeros” (couriers). Their clients are mainly emigrants working in the United States that earn an average annual income of about U\$ 25,000. They send back home, on average, \$ 200-300 per month in remittances. Most clients of the NMTOs and ES do not have a checking account in commercial banks¹⁵. Their legal immigration status may vary from naturalized citizens, “green card” holders (residents), people processing their resident visa and immigrants that simply have not regularized their immigration status at all. The survey focused on formal money sender intermediaries (NMTOS and ES). The most important

¹⁵ According to the MIF-Bendix survey (2001) on remittances to Latin America from the U.S. more than 60 percent of those Latin American immigrants who make less than \$ 20,000 per year do not have a bank account in the United States.

money transmitter operator to the Andean region is Western Union whose intermediation volume (amount sent and number of transactions per year) comprise near 50 percent of the remittances to Venezuela and around 10 percent of total remittances for Colombia, Ecuador, Peru and Bolivia. The number of annual transactions carried-out by Western Union to Colombia is about 1 million, 746,000 for Ecuador, 460,000 for Venezuela, 470,000 for Peru (the number is unavailable for Bolivia). Commercial banks are insignificant participants of the remittances market for the Andean countries. NMTOs and ES usually operate with a partner in the destination country.

The geographical coverage of the data of the survey includes Miami, New York, New Jersey, Houston, Virginia, and several other US cities.

Costs of Sending Money.

Let us turn now to the efficiency of the market for remittances to the Andean region. If the costs of sending money is above the marginal cost (included a normal return to capital) of sending money then the amount of remittances is below the socially optimal level. As a consequence of this, there are foregone consumption, investment and output opportunities in the receiving country that could not be realized.

The work by Orozco (2001, 2002) highlights that there are two main cost components in sending remittances:

Total Charges for remittances = fee + exchange rate spread.

Companies charge a fee that can be a percentage of the amount remitted or a fixed amount in dollars. The fee usually depends on the services offered which may include home delivery. The exchange rate spread is the difference between the exchange rate applied by the money transmitter company to convert dollars into local currency and the market (e.g. inter-bank) exchange rate. Money transfer companies usually offer a less favorable exchange rate to the sender than the market rate. This is an additional source of profits for the money transmitter companies and an additional cost component. We will see that this is often a significant component of the total charges to the sender. Table 2 provides the average cost or charge (across companies) for the five Andean countries for remittances of \$200, \$ 250 and \$300 dollars. The costs reported in table 2 represent an average of the costs of sending remittances both in dollars or in local currency. Later we present information that separates between costs of sending money in dollars and in local currency. The charge, in percentage terms is between 7.2 and 7.9 percent of the value of the remittances. The fee ranges

between 6.5 percentage points (for remittances in the range \$ 200 - \$ 250) and 5.9 percent for remittances of \$ 300. In turn, the exchange rate spread (fxcharge in table 2) explains 1.36 percentage points. Thus, roughly 80 percent of the total charges are fees and 20 percent corresponds to foreign exchange spreads. For individual countries we find significant differences among them (table 3). The

<p align="center">Table 2 Charges to Send \$200, \$250, and \$300 (Average for five Andean Countries)</p>						
Amount	Fexchange		Feecharge		Totalcharge	
	Dollars	%	Dollars	%	Dollars	%
200	2.72	1.36	13.0	6.5	15.7	7.87
250	3.40	1.36	16.2	6.5	19.6	7.84
300	4.08	1.36	17.8	5.9	21.8	7.28

Note: January 2003
 Fexchange: Charge due to exchange rate
 Fee Change: Fees charged per transaction

lowest charges are for Ecuador (between 5.0-5.6 percent) and the highest for Venezuela (between 11.7 - 12.5 percent). An important factor explaining the lower charges for money remitted to Ecuador is that the exchange rate spread component of the total costs (for the sender) disappears since the country uses the US dollar as the official currency. This is an important result: a dollarized economy face lowers costs of remittances than an economy with a national currency. As mentioned before, market observers claim that the Ecuadorian market for remittances is also more competitive than in other countries. The high costs of sending money to Venezuela correspond mainly to the high foreign exchange spread charged by the money transmitter companies. Fees tend to be also higher for Venezuela with respect to Colombia, Peru and Ecuador but lower than for Bolivia. In fact, the highest fees are charged to money sent to Bolivia.

<p style="text-align: center;">Table 3 Charges to Send \$200, \$250, and \$300 (Average per Country)</p>							
Amount	Country	Fxcharge		Feecharge		Totalcharge	
		Dollars	%	Dollars	%	Dollars	%
200	Colombia	5.31	2.66	11.38	5.69	16.69	8.35
	Ecuador	0.00	0.00	11.23	5.62	11.23	5.62
	Bolivia	1.86	0.93	18.00	9.00	19.86	9.93
	Peru	-0.89	-0.44	14.38	7.19	13.49	6.75
	Venezuela	8.02	4.01	17.00	8.50	25.02	12.51
250	Colombia	6.64	2.66	14.17	5.67	20.81	8.32
	Ecuador	0.00	0.00	13.96	5.58	13.96	5.58
	Bolivia	2.32	0.93	22.57	9.03	24.89	9.96
	Peru	-1.11	-0.44	17.81	7.13	16.71	6.68
	Venezuela	10.03	4.01	20.83	8.33	30.86	12.35
300	Colombia	7.97	2.66	15.88	5.29	23.85	7.95
	Ecuador	0.00	0.00	15.38	5.13	15.38	5.13
	Bolivia	2.79	0.93	23.71	7.90	26.50	8.83
	Peru	-1.33	-0.44	19.38	6.46	18.05	6.02
	Venezuela	12.04	4.01	23.00	7.67	35.04	11.68
<p>Note: January 2003</p>							

As mentioned before, money transfers can be delivered to the final recipient in the home country either in dollars or in local currency. Table 4 shows that the cost of sending money is near 40 percent lower if sent in dollars than if sent (delivered) in local currency (see table 4). The difference is due to the elimination of the exchange rate spread¹⁶. Table A1 in Annex reports the basic data on which this table is based. For individual Andean countries and for the different amounts of remittances, the lower remittances costs are found in Ecuador, around 5-5.6 percent of the value of remittances. In turn, the highest costs of remittances are found in Bolivia and Venezuela for remittances delivered in local currency and those costs are around 12-13 percent (see table 5). Interestingly, the data in tables

¹⁶ Note that the total charges of table 4 differ from those in table 2 since table 2 reports the average cost of remittances delivered both in local and foreign currency.

3 and 5 show negative foreign exchange spreads for Peru. This lowers, somewhat, the costs of sending remittances to this country.

It is important to note that the lower costs of delivering money transfers in dollars are not a complete saving for the recipient. In a country with national currency different from the dollar the recipient still needs to convert the foreign currency into the local currency to carryout transactions. This entails a transaction cost. However, although he may find a more favorable exchange rate in foreign exchange stores or in commercial banks than the one charged by the money transmitter company.

<p align="center">Table 4 Charges to Send \$200, \$250 and \$300 in Local Currency vs. U.S. Dollars (Average for five Andean Countries)</p>							
Amount	Currency	Fxchange		Feecharge		Totalcharge	
		Level	%	Level	%	Level	%
200	Local	7.86	3.93	13.17	6.58	21.03	10.52
	Dollar	0.00	0.00	12.94	6.47	12.94	6.47
250	Local	9.83	3.93	16.42	6.57	26.25	10.50
	Dollar	0.00	0.00	16.07	6.43	16.07	6.43
300	Local	11.80	3.93	17.81	5.94	29.60	9.87
	Dollar	0.00	0.00	17.74	5.91	17.74	5.91

Note: January 2003

Table 5
Charges to Send \$200, \$250 and \$300 in Local Currency vs. U.S. Dollars
(Average per Country)

Amount	Country	Currency	Fxcharge		Feecharge		Totalcharge	
			Level	%	Level	%	Level	%
200	Colombia	Local	9.30	4.65	10.67	5.33	19.96	9.98
		Dollar	0.00	0.00	12.33	6.17	12.33	6.17
	Ecuador	Dollar	0.00	0.00	11.23	5.62	11.23	5.62
		Local	6.50	3.25	21.00	10.50	27.50	13.75
	Peru	Local	-3.54	-1.77	18.50	9.25	14.96	7.48
		Dollar	0.00	0.00	13.00	6.50	13.00	6.50
	Venezuela	Local	12.04	6.02	15.00	7.50	27.04	13.52
		Dollar	0.00	0.00	21.00	10.50	21.00	10.50
250	Colombia	Local	11.62	4.65	13.25	5.30	24.87	9.95
		Dollar	0.00	0.00	15.39	6.16	15.39	6.16
	Ecuador	Dollar	0.00	0.00	13.96	5.58	13.96	5.58
		Local	8.12	3.25	27.00	10.80	35.12	14.05
	Peru	Local	-4.42	-1.77	22.50	9.00	18.08	7.23
		Dollar	0.00	0.00	16.25	6.50	16.25	6.50
	Venezuela	Local	15.05	6.02	18.75	7.50	33.80	13.52
		Dollar	0.00	0.00	25.00	10.00	25.00	10.00
300	Colombia	Local	13.95	4.65	14.88	4.96	28.82	9.61
		Dollar	0.00	0.00	17.22	5.74	17.22	5.74
	Ecuador	Dollar	0.00	0.00	15.38	5.13	15.38	5.13
		Local	9.75	3.25	27.00	9.00	36.75	12.25
	Peru	Local	-5.31	-1.77	24.00	8.00	18.69	6.23
		Dollar	0.00	0.00	17.83	5.94	17.83	5.94
	Venezuela	Local	18.05	6.02	20.00	6.67	38.05	12.68
		Dollar	0.00	0.00	29.00	9.67	29.00	9.67

Note: January 2003

Another important issue that we want to investigate using our database is whether the cost of sending money varies according to the type of financial intermediary. For that purpose we compute the costs of sending remittances through National Money Transmitter Operators (NMTO) versus the costs of sending the money through Ethnic Stores¹⁷. The results in table 6 indicate significantly higher costs charged by NMTOs than for Ethnic Stores. An average across stores, currency of

¹⁷ Another source is commercial banks however this reports concentrates in NMTOs and Ethnic Stores.

delivery and country of destination indicate differences on the order of 65 –70 percent higher for the NMTOs. This is a somewhat puzzling finding as NMTOs are supposed to operate at a larger scale (eventually at lower costs) than ethnic stores. However, the MIF-Bendix on survey indicates that 45 percent of the respondents (migrants) think that Western Union and Money Gram offer a faster and safer service than other money transmitter operators included ethnic stores. On the other hand commercial banks offer additional services to their costumers that are not oppered by NMTOs and probably at a lower cost.

<p align="center">Table 6 Charges to Send \$200, \$250 and \$300 by Type of Sending Institutionin (Average for five Andean Countries)</p>							
Amount	Type	Fxcharge		Feecharge		Totalcharge	
		Dollars	%	Dollars	%	Dollars	%
200	NMTO	4.27	2.13	15.39	7.70	19.66	9.83
	Ethnic Store	0.92	0.46	10.25	5.13	11.17	5.58
250	NMTO	5.34	2.13	19.22	7.69	24.56	9.82
	Ethnic Store	1.15	0.46	12.66	5.06	13.80	5.52
300	NMTO	6.40	2.13	20.43	6.81	26.83	8.94
	Ethnic Store	1.38	0.46	14.65	4.88	16.02	5.34

Note: January 2003

NMTO signifies National Money Transfer Organization, such as Western Union or MoneyGram. Ethnic Stores, on the other hand, are smaller operations, such as Remesas Quisqueyana and Delgado Travel.

5. Macroeconomic Determinants and the Growth- Effects of Remittances

An important dimension of remittances is their macroeconomic impact and determinants. In table 1 we saw that remittances, represent a sizeable amount of exports and GDP in some Andean countries and that remittances flows are on the rise.

Macro Determinants of Remittances

The main macro determinant of remittances flows in our analysis is the ratio between the GDP per capita of the host country of the migrants and the GDP per capita of his home economy (there may be more than one country of destination)¹⁸. We include as other determinants, past remittances reflecting a persistence effect, the rate of unemployment in the home country as indicating the demand for remittances as income support. A simple times series econometric model of remittances is estimated for Bolivia, Colombia, Ecuador, Peru and Venezuela for the period 1987-2002. The results are presented in tables A.5 – A.9 in Annex. A panel regression that combines time series information (1987-2002) with cross-section data (for the 5 Andean countries) is presented in table 7. The expected sign of the ratio of the remittances-sending country's GDP per capita relative to the home country's GDP per capita is positive. The intuition for this is simple: the income earning capacity of the migrant is likely to be higher the higher the GDP per head of the host country. On the other hand, the lower the levels of income per head in the recipient country, the higher the demand for remittances to household members working abroad.

¹⁸ See tables A2 and A3 for data on economic growth and income per capita of the Andean countries.

Table 7
REMITTANCES RECEIVED BY ANDEAN REGION.
Dependent Variable: Remittances over GDP
1987- 2001
Regression Panel

Intercept	Common	Fixed Effects	Random Effects
Constant	-3.75 [-3.34]		
Bolivia		-9.77	0.01
Colombia		-12.21	-1.82
Ecuador		-10.46	-0.04
Peru		-6.96	1.99
Venezuela		-9.49	-0.13
Log Ratio of Sender Country's GDP per capita over Recipient Country's GDP per capita	2.52 [4.60]	6.85 [4.94]	5.10 [4.48]
Log Lagged Country's Unemployment (-1)	0.63 [1.23]	0.84 [1.58]	1.04 [1.99]
R-Squared	0.30	0.64	0.63
Number of Observations	70	70	70
<p>Method of estimation: Intercept Common and Fixed Effects with OLS and Random Effects with GLS Values under parenthesis correspond to t-student</p>			

The model is estimated by Ordinary Least Squares for the period 1987-2001 and the dependent variable is the value of remittances in constant dollars as a share of GDP. The main results from the estimates can be summarized as follows:

i) In Bolivia, the ratio of the GDP per capita of the U.S with respect to the GDP per capita of Bolivia is positive and statistically significant at 5 and 10 percent significance levels (see table A.5). The coefficient of the GDP per capita of Argentina with respect to Bolivia's GDP per capita is also positive and significant. Argentina and the United States are the two main destination places for Bolivian migrants and the two main sources of remittances. In the regression also the sign of lagged remittances is significant and positive.

ii) In Colombia, the ratio of the GDP per capita of the U.S. relative to Colombia's GDP per capita is statistically significant and positive (see table A.6).

iii) For Ecuador the ratios of the GDP per capita of the U.S and the GDP per capita of Spain relative to Ecuador GDP per capita are both statistically significant. The coefficient of (lagged) unemployment levels is positive (see table A.7). The later variable shows that the demand for remittances (a source of income support) increases when domestic unemployment rises. In addition, unemployment induces people to emigrate and then send remittances later.

iv) For Peru the ratio of an index of average OECD countries GDP per capita to Peru's GDP per head is positive and statistically significant. Also the GDP per capita of the United States (separately from the OECD) to Peru's GDP per capita is statistically significant. Lagged remittances and lagged unemployment are also statistically significant in the regressions for Peru (see table A.8) .

v) The remittance equations for Venezuela show results contrary to what can be expected. The ratio of USA's GDP per capita to Venezuela's GDP per

head has a negative sign likewise lagged GDP growth. However, it is worth noting that according to official statistics Venezuela has had consistently negative net remittances flows over the sample period.

vi) The panel regressions (table 7) estimated with fixed effects (a different constant in the regression for each country) and variable effects, confirm that the ratio of the sending (of remittances) country's GDP per capita to the recipient country's GDP per head is a positive and statistically significant determinant of remittances flows for the five Andean countries. Interestingly, the panel regression shows that lagged unemployment is a significant determinant of remittances payments.

Summing-up, the cross-country income per capita differentials between the country of destination of the migrant and his country of origin is the main determinant of the level of remittances. This underscores that remittances are associated with the level of inequality across countries, as measured by their ratios of income per capita. In a way, remittances are a sort of market-based social safety nets for the poor family who benefits from having some members migrating to countries with a higher level of income per person. This interpretation is consistent also with the notion of remittances as an implicit co-insurance device at family level, discussed in section 2 of the paper.

Remittances and Growth

Remittances can accelerate economic growth in the recipient country through various mechanisms: an increase in remittances increases foreign savings, which enables to finance a higher level of investment. That, in turn, leads to more rapid growth. Remittances can also help to finance consumption and investments of low-income households, which can stimulate short term growth. Moreover, in a

foreign–exchange constrained economy; remittances ease the balance of payments situation enabling more rapid growth.

Table 8 presents econometric estimates of growth equations for two Andean countries: Colombia and Ecuador for the period 1987-2002 where remittances are more important macro-economically. The model has as the dependent variable the rate of growth per-capita GDP. The explanatory variables are the level of initial GDP (convergence mechanism), the investment ratio, the change in terms of trade and the ratio of remittances to GDP.

The results for Colombia show that remittances have a positive sign, as expected by the reasons just discussed. The coefficient of the remittances variable is statistically significant at 10 percent. Other determinants as the investment ratio and the terms of trade have positive and significant effects on growth in Colombia; interestingly government consumption (as a share of GDP) has a negative growth effect. For Ecuador the investment ratio and the change in terms of trade have both a positive effect on the rate of GDP per capita growth effect, likewise the remittances ratio but the later fail to be statistically significant.

Table 8
Growth and Remittances by Colombia and Ecuador.
Dependent Variable: Per Capita Growth Rate.
1987- 2002

Country	[1] Colombia	[2] Ecuador
Log Inicial GDP	0.63 [1.76]	-3.93 [-2.91]
Ratio Invesment/GDP	0.48 [4.17]	0.93 [2.21]
Lagged Terms of Trade Change (-1)	0.09 [2.44]	0.26 [2.78]
Ratio Government Consumption/GDP	-0.67 [-6.35]	0.8 [1.87]
Lagged Ratio Remittances/GDP (-1)	1.13 [1.76]	0.33 [0.85]
R-Squared	0.85	0.67
Number of Observations	15	15
Method of estimation: OLS Values under parenthesis correspond to t-student		

6. Policies to Reduce Costs of Remittances

As we have documented in this report the costs of sending money transfers to the Andean countries are high leading to an inefficient level of transfers. How to reduce costs? How to increase competition in the international market for transfers? Measures are needed at both the sending side as well as the recipient side.

The Sending Side

The “formalization” of the legal status of the migrant would certainly encourage a greater access by the migrant to a variety of bank services, including remittances services. As mentioned before, the market for remittances in the United States is mainly operated by Money Transmitter Operators rather than by commercial banks.

One element that, apparently, is preventing more competition is the cost of getting a license for operating as a Money Transmitter Operator in the U.S. The cost of getting a license for become a money transmitter operator is about \$100,000 per state. Prospective money operators find this cost high.

Another consideration is to avoid the increasing concern with reducing money laundering activities and the financing of terrorism to affect the workers remittances industry.

In sum, we believe that increasing the efficiency of the market for remittances require:

- a) Contain or reduce the costs of licensing for new operators making less costly, and perhaps more expedite, the process of certification of new entrants as financial intermediaries.
- b) Expedite the process of granting residence visas and/or citizenship and avoid long visa processing periods for migrants (that currently takes several years). This would help to regularize the immigrant sector inviting commercial banks to target the financial needs of the migrants.
- c) Encourage domestic banks (particularly those with an international scope) to develop new product lines for low-income migrants such as checking or savings account, credits for emigrants, remittances services and others. A concrete idea that will cut, substantially, the costs of sending remittances is to extend the use of ATM cards to immigrants (that send remittances) and recipients (in the home

country). In this case, withdrawals in the recipient country would be carried out at a much lower cost than what is currently charged by NMTOS and other intermediaries.

The remittance-sending nations would benefit from a more efficient and less costly market for remittances. Currently, a significant slice of remittances go to profits of operators rather than to the families of the migrants back home. This is worrisome also from the viewpoint for sending countries. The reason is clear: remittances, to some extent, are a substitute for official development assistance. However, the more money goes to finance intermediation costs, the less money arrive to the recipient countries weakening the substitution effect of remittances for development assistance.

The Recipient Countries Side.

From the viewpoint of recipient countries, leveraging remittances and enhancing their productive use for development are two important issues. There are various mechanisms for leveraging remittances: Andean countries governments or domestic financial institutions can issue bonds for emigrants, who would earn an interest rate.

Another possibility is for domestic banks to offer foreign currency accounts for migrants free of exchange rate taxes and other regulations. In addition, housing and education accounts can be offered to channel remittances to various productive uses in the home country such investment in durables (housing) and education (investment in human capital).

The development of alliances between domestic banks in the Andean countries and banks, credit-unions and NMTOS in the U.S and other countries where the migrants go can help to increase the efficiency and reduce costs in the remittances market. Mechanisms to ensure a productive use of remittances include the mobilization of home town associations (HTAs), that have spread-out in the

United States in recent years (Mexican migrants have been very active in creating HTAs and are being helped by their government for this purpose).

7. Concluding Remarks.

Remittances to the Andean countries have increased dramatically in recent years. The largest recipient of remittances is Ecuador in which they represented more than 7 percent of GDP in 2002 compared to around of 2 percent in the 1990s. Colombia, Bolivia and Peru have seen also a very rapid surge in remittances in recent years. Remittances can become a powerful tool of development finance in the Andean countries: they are a source of foreign exchange; they complement national savings, currently low in the region and help financing investment and growth. Remittances have a positive poverty-reducing effect, as many families of the migrants who receive remittances are low-income people. Properly mobilized remittances can contribute to increase investment in housing, in human capital (education) and help to finance micro and small-scale firms. On the donor's side, remittances represent a market-based international transfer to developing countries that, indirectly, reduce the demand for official development assistance.

Currently, this potential is largely unrealized by the existence of a costly, concentrated and poorly competitive market for remittances. Our empirical analysis, based on a detailed survey to money transmitter operators based in the U.S and operating with the Andean region show that the total costs of remittances for the Andean countries varies in a wide range that go from 5 to 12 percent of the value remitted depending on the type of currency that is delivered, the destination

country, the type of operator and other factors. The market for the Andean region is dominated by two main NMTOs (Western Union and Money Gram) and a plethora of small “ethnic stores”, travel agencies and other couriers. Commercial banks are largely absent of the remittances market. A more vigorous banking presence operating with standardized financial products for migrants could reduce the costs for remittances.

Our econometric analysis for individual Andean countries (time series) and for the region as a whole (panel) show that differentials in per capita income (or GDP) between the source country of the remittances and the perceiving country are the main determinant of remittances flows. This underscores the fact that significant divergences in development levels and living standards are main factors why migrants send remittances back home. Other microeconomic motives for remittances are altruism, co-insurance at family level and repayment for education spending at household level. The paper also estimates empirical growth equations for selected Andean countries in which remittances (as a share of GDP) are included as a determinant of per capita GDP growth besides initial income, investment ratios and terms of trade shocks. The empirical analysis finds a positive effect of remittances on GDP per capita growth for Colombia and Ecuador.

What can be done to increase competition and reduce costs in the remittances market? In the remittances-source country, building a more efficient financial infrastructure for remittances is essential for reducing the costs of sending remittances. Bring in commercial banks into the remittances business would increase competition in this sector. The degree of financial deepening in the migrants sector is low. A significant proportion of migrants do not even have bank accounts. Extending the use of ATM cards for migrants and their families can cut, substantially, the costs of sending remittances. On the other hand, the costs of

licensing for new operators and the regulatory framework should avoid imposing extra burdens to the sector. The same consideration should be extended for the control of money laundering or the financing of terrorism.

On the recipient side, the issuance of remittance bonds, opening of foreign currency accounts for migrant workers in the home country, the creation of facilities for voluntary donations for projects in the home country are all measures to leverage remittances for development. In turn, the creation of education and housing accounts at home for migrants could help to enhance the productive and social use of remittances proceeds.

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ANNEX

Table A.1

COUNTRY	COMPANY	PHONE #	TYPE	AMOUNT	RES	LOCAL BILL	EXCHANGE	INTERBANK	FIN/READ	FIN	RES	FIN	EXCHANGE	RECHARG	TOTALCHRG	TRNS	City	DATE	NOTES
Colombia	Aerovias de Servicios	305-265-4044	2	\$300.00	3%	1	2,815	2938	0.961	0.038	0.030	0.069	\$7.85	\$6.00	\$13.85	2	Miami ONLY	24012003	
Colombia	Aerovias de Servicios	305-225-3039	2	\$250.00	3%	1	2,815	2938	0.961	0.038	0.030	0.069	\$8.31	\$7.50	\$15.81	2	Miami ONLY	24012003	
Colombia	Aerovias de Servicios	305-225-3039	2	\$300.00	3%	1	2,815	2938	0.961	0.038	0.030	0.069	\$11.77	\$9.00	\$20.77	2	Miami ONLY	24012003	
Colombia	Aerovias de Servicios	305-225-3039	2	\$300.00	4%	2				0.040	0.040	0.040	\$8.00	\$8.00	\$8.00	2	Miami ONLY	24012003	
Colombia	Aerovias de Servicios	305-225-3039	2	\$250.00	4%	2				0.040	0.040	0.040	\$9.00	\$10.00	\$10.00	2	Miami ONLY	24012003	
Colombia	Aerovias de Servicios	305-225-3039	2	\$300.00	4%	2				0.040	0.040	0.040	\$8.00	\$12.00	\$12.00	2	Miami ONLY	24012003	
Colombia	Primo De Valero La Nacional Corp.	800-381-1008	2	\$300.00	4%	2				0.040	0.040	0.040	\$8.00	\$8.00	\$8.00	1	San Jose	24012003	
Colombia	Primo De Valero La Nacional Corp.	800-381-1008	2	\$250.00	4%	2				0.040	0.040	0.040	\$8.00	\$10.00	\$10.00	1	San Jose	24012003	
Colombia	Primo De Valero La Nacional Corp.	800-381-1008	2	\$300.00	4%	2				0.040	0.040	0.040	\$8.00	\$12.00	\$12.00	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	3%	1	2,838	2938	0.964	0.034	0.030	0.064	\$6.23	\$10.00	\$16.23	1	NY, NY	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$250.00	3%	1	2,838	2938	0.964	0.034	0.030	0.064	\$6.53	\$12.50	\$21.03	1	NY, NY	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	3%	1	2,838	2938	0.964	0.034	0.030	0.064	\$18.24	\$15.00	\$33.24	1	NY, NY	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	4%	1	2,815	2938	0.961	0.038	0.040	0.079	\$7.85	\$10.00	\$15.85	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$250.00	4%	1	2,815	2938	0.961	0.038	0.040	0.079	\$9.31	\$10.00	\$19.31	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	4%	1	2,815	2938	0.961	0.038	0.040	0.079	\$11.77	\$12.00	\$23.77	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	4%	1	2,815	2938	0.961	0.038	0.040	0.079	\$7.85	\$8.00	\$15.85	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$250.00	4%	1	2,815	2938	0.961	0.038	0.040	0.079	\$9.31	\$10.00	\$19.31	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	4%	1	2,815	2938	0.961	0.038	0.040	0.079	\$11.77	\$12.00	\$23.77	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	4%	2				0.040	0.040	0.040	\$8.00	\$8.00	\$8.00	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$250.00	4%	2				0.040	0.040	0.040	\$8.00	\$10.00	\$10.00	1	San Jose	24012003	
Colombia	Remesas Quisqueyana, Inc.	212-767-0210	2	\$300.00	4%	2				0.040	0.040	0.040	\$8.00	\$12.00	\$12.00	1	San Jose	24012003	
Colombia	Money Gram	800-926-9400	1	\$300.00	\$20	1	2,838	2962	0.953	0.047	0.180	1.145	\$8.91	\$20.00	\$28.91	1	San Jose	03022003	
Colombia	Money Gram	800-926-9400	1	\$250.00	\$25	1	2,838	2962	0.953	0.047	0.180	1.145	\$11.14	\$25.00	\$36.14	1	San Jose	03022003	
Colombia	Money Gram	800-926-9400	1	\$300.00	\$25	1	2,838	2962	0.953	0.047	0.063	1.128	\$13.37	\$25.00	\$38.37	1	San Jose	03022003	
Colombia	Money Gram	800-926-9400	1	\$300.00	\$20	2				0.180	1.100	\$8.00	\$20.00	\$28.00	1	San Jose	03022003		
Colombia	Money Gram	800-926-9400	1	\$250.00	\$25	2				0.180	1.100	\$8.00	\$25.00	\$33.00	1	San Jose	03022003		
Colombia	Money Gram	800-926-9400	1	\$300.00	\$25	2				0.062	0.062	\$8.00	\$25.00	\$33.00	1	San Jose	03022003		
Colombia	Remesas Paypa	212-962-8888	1	\$200.00	3%	1	2,795	2938	0.954	0.046	0.030	0.076	\$9.22	\$6.00	\$15.22	1	Cuba NYC	24012003	
Colombia	Remesas Paypa	212-962-8888	1	\$250.00	3%	1	2,795	2938	0.954	0.046	0.030	0.076	\$11.52	\$7.50	\$19.02	1	Cuba NYC	24012003	
Colombia	Remesas Paypa	212-962-8888	1	\$300.00	3%	1	2,795	2938	0.954	0.046	0.030	0.076	\$13.82	\$9.00	\$22.82	1	Cuba NYC	24012003	
Colombia	Remesas Paypa	212-962-8888	1	\$300.00	3%	2				0.030	0.030	\$8.00	\$6.00	\$6.00	1	Cuba NYC	24012003		
Colombia	Remesas Paypa	212-962-8888	1	\$250.00	3%	2				0.030	0.030	\$8.00	\$7.50	\$7.50	1	Cuba NYC	24012003		
Colombia	Remesas Paypa	212-962-8888	1	\$300.00	3%	2				0.030	0.030	\$8.00	\$9.00	\$9.00	1	Cuba NYC	24012003		
Colombia	Ria Financ Service	800-772-7779	1	\$300.00	7%	1	2,815	2938	0.961	0.038	0.070	1.109	\$7.85	\$140.00	\$147.85	1	San Jose	24012003	
Colombia	Ria Financ Service	800-772-7779	1	\$250.00	7%	1	2,815	2938	0.961	0.038	0.070	1.109	\$9.31	\$17.50	\$26.81	1	San Jose	24012003	
Colombia	Ria Financ Service	800-772-7779	1	\$300.00	7%	1	2,815	2938	0.961	0.038	0.070	1.109	\$11.77	\$26.00	\$37.77	1	San Jose	24012003	
Colombia	Ria Financ Service	800-772-7779	1	\$300.00	7%	2				0.070	0.070	\$8.00	\$140.00	\$148.00	1	San Jose	24012003		
Colombia	Ria Financ Service	800-772-7779	1	\$250.00	7%	2				0.070	0.070	\$8.00	\$17.50	\$17.50	1	San Jose	24012003		
Colombia	Ria Financ Service	800-772-7779	1	\$300.00	7%	2				0.070	0.070	\$8.00	\$26.00	\$34.00	1	San Jose	24012003		
Colombia	The Money Transfer	800-328-6652	1	\$300.00	4%	1	2,625	2938	0.894	0.104	0.040	1.144	\$28.82	\$8.00	\$36.82	1	San Jose	24012003	
Colombia	The Money Transfer	800-328-6652	1	\$250.00	4%	1	2,625	2938	0.894	0.104	0.040	1.144	\$26.82	\$10.00	\$36.82	1	San Jose	24012003	
Colombia	The Money Transfer	800-328-6652	1	\$300.00	4%	1	2,625	2938	0.894	0.104	0.040	1.144	\$31.23	\$12.00	\$43.23	1	San Jose	24012003	
Colombia	The Money Transfer	800-328-6652	1	\$300.00	3%	2				0.030	0.030	\$8.00	\$10.00	\$10.00	1	San Jose	24012003		
Colombia	The Money Transfer	800-328-6652	1	\$250.00	3%	2				0.030	0.030	\$8.00	\$12.50	\$12.50	1	San Jose	24012003		
Colombia	The Money Transfer	800-328-6652	1	\$300.00	3%	2				0.030	0.030	\$8.00	\$15.00	\$15.00	1	San Jose	24012003		
Colombia	Financera	inter@668-242-1272	1	\$300.00	\$8.00	1	2,835	2962	0.964	0.036	0.040	0.076	\$7.22	\$8.00	\$15.22	1	San Jose	03022003	
Colombia	Financera	inter@668-242-1272	1	\$250.00	\$10.00	1	2,835	2962	0.964	0.036	0.040	0.076	\$9.23	\$10.00	\$19.23	1	San Jose	03022003	
Colombia	Financera	inter@668-242-1272	1	\$300.00	\$12.00	1	2,835	2962	0.964	0.036	0.040	0.076	\$11.24	\$12.00	\$23.24	1	San Jose	03022003	
Colombia	Tigo	800-777-8784	1	\$300.00	4%+3.00	1	2,815	2938	0.961	0.038	0.040	1.095	\$7.85	\$3.00	\$10.85	1	San Jose	24012003	
Colombia	Tigo	800-777-8784	1	\$300.00	5%+3.00	2				0.075	0.075	\$8.00	\$5.00	\$13.00	1	San Jose	24012003		
Colombia	Tigo	800-777-8784	1	\$250.00	4%+3.00	1	2,815	2938	0.961	0.038	0.040	1.095	\$9.31	\$5.00	\$14.31	1	San Jose	24012003	
Colombia	Tigo	800-777-8784	1	\$250.00	5%+3.00	2				0.068	0.068	\$8.00	\$7.00	\$15.00	1	San Jose	24012003		
Colombia	Tigo	800-777-8784	1	\$300.00	4%+3.00	1	2,815	2938	0.961	0.038	0.068	1.098	\$11.77	\$7.50	\$19.27	1	San Jose	24012003	
Colombia	Tigo	800-777-8784	1	\$300.00	5%+3.00	2				0.067	0.067	\$8.00	\$10.00	\$20.00	1	San Jose	24012003		
Colombia	Western Union	800-325-6000	1	\$300.00	\$20.00	1	2,804	2938	0.951	0.040	0.130	1.153	\$9.40	\$20.00	\$29.40	1	San Jose	24012003	
Colombia	Western Union	800-325-6000	1	\$300.00	\$20.00	2				0.130	1.110	\$8.00	\$20.00	\$28.00	1	San Jose	24012003		
Colombia	Western Union	800-325-6000	1	\$250.00	\$20.00	1	2,804	2938	0.951	0.040	0.136	1.159	\$19.75	\$24.00	\$39.75	1	San Jose	24012003	
Colombia	Western Union	800-325-6000	1	\$250.00	\$20.00	2				0.136	1.116	\$8.00	\$29.00	\$37.00	1	San Jose	24012003		
Colombia	Western Union	800-325-6000	1	\$300.00	\$20.00	1	2,804	2938	0.951	0.040	0.067	1.140	\$12.00	\$29.00	\$41.00	1	San Jose	24012003	
Colombia	Western Union	800-325-6000	1	\$300.00	\$20.00	2				0.067	0.067	\$8.00	\$29.00	\$37.00	1	San Jose	24012003		
Colombia	Dolar Dolar Express	811-548-4898	1	\$300.00	\$5.00	1	2,801	2960	0.948	0.054	0.025	1.079	\$18.72	\$5.00	\$23.72	1	San Jose	03022003	
Colombia	Dolar Dolar Express																		

Table A.2
Level of GDP per capita
Andean Countries, Latin America, USA, Spain, Argentina, Chile and Mexico.
Period 1987-2002
(1990 Geary-Khamis Dollars)

Years	[1] Bolivia	[2] Colombia	[3] Ecuador	[4] Peru	[5] Venezuela	[6] Average Andean Countries	[7] Latin America [b]	[8] USA	[9] Spain	[10] Argentina	[11] Chile	[12] Mexico
1987	2063.0	4582.0	2328.1	4103.0	8805.0	4376.2	5182.7	22619.3	10778.3	7635.5	5590.0	5845.0
1988	2099.0	4668.0	2505.1	3680.0	9080.0	4406.4	5125.3	23250.9	11335.5	7385.1	5901.0	5797.0
1989	2117.0	4721.0	2445.4	3183.0	8094.0	4112.1	5085.0	23597.5	11813.4	6830.6	6377.0	5920.0
1990	2182.0	4822.0	2485.4	2955.0	8313.0	4151.5	5008.9	23687.4	12243.5	6744.5	6402.0	6097.0
1991	2254.0	4805.0	2551.2	2960.0	8965.0	4307.0	5101.2	23145.8	12444.9	7251.6	6753.0	6230.0
1992	2246.0	4895.0	2556.7	2868.0	9373.0	4387.7	5168.7	23353.8	12532.9	7778.8	7374.0	6331.0
1993	2289.0	5016.0	2545.6	2965.0	9137.0	4390.5	5254.6	23802.3	12417.4	8146.9	7738.0	6331.0
1994	2348.0	5227.0	2586.9	3296.0	8618.0	4415.2	5428.7	24449.0	12619.0	8534.1	8010.0	6486.0
1995	2406.0	5401.0	2590.0	3504.0	8947.0	4569.6	5410.1	24879.0	12949.8	8172.2	8612.0	5973.0
1996	2352.0	5406.0	2588.3	3511.0	8741.0	4519.7	5503.2	25556.0	13205.8	8378.7	9080.0	6166.0
1997	2398.0	5382.0	2624.2	3736.0	9146.0	4657.2	5701.6	26453.0	13667.6	8934.4	9587.0	6464.0
1998	2458.0	5317.0	2585.1	3666.0	8965.0	4598.2	5737.1	27331.0	14204.0	9254.6	9757.0	6655.0
1999	2408.8	5024.6	2334.4	3636.7	8274.7	4335.8	5674.0	28198.4	14774.5	8831.2	9620.4	6954.5
2000	2411.2	5044.7	2343.7	3687.6	8423.6	4382.2	5804.5	28464.0	15419.1	8654.6	9957.1	7086.6
2001	2389.5	5034.6	2439.8	3636.0	8499.5	4399.9	5734.8	27584.0	15740.6	8170.0	10116.4	6952.0
2002[a]	2384.8	5029.5	2478.8	3741.4	7760.0	4278.9	5620.1			7181.4	10177.1	6931.1
Average	2300.4	5023.5	2499.3	3445.5	8696.4	4393.0	5408.8	25091.4	13076.4	7992.8	8190.8	6388.7

[a] Preliminary figure

[b] 13 countries.

Source: Maddison (OECD), Economic Commission for Latin America and the Caribbean (ECLAC) and International Financial Statistics (IMF).

Table A.3
GDP Per Capita Growth Rate and Unemployment Rate
Andean Countries
Period 1990-2002

Years	Growth of GDP per capita					Unemployment Rate				
	[1] Bolivia	[2] Colombia	[3] Ecuador	[4] Peru	[5] Venezuela	[6] Bolivia	[7] Colombia	[8] Ecuador	[9] Peru	[10] Venezuela
1990-1995	2.2	2.3	1.0	1.8	1.8	5.2	9.5	8.0	8.4	8.9
1996	-2.2	0.1	-0.1	0.2	-2.3	3.8	11.2	10.4	8.0	11.8
1997	2.0	-0.4	1.4	6.4	4.6	4.4	12.4	9.3	9.2	11.4
1998	2.5	-1.2	-1.5	-1.9	-2.0	6.1	15.3	11.5	8.5	11.3
1999	-2.0	-5.5	-9.7	-0.8	-7.7	8.0	19.4	14.4	9.2	14.9
2000	0.1	0.4	0.4	1.4	1.8	7.5	17.2	14.1	8.5	14.0
2001	-0.9	-0.2	4.1	-1.4	0.9	8.5	18.2	10.4	9.3	13.4
2002[a]	-0.2	-0.1	1.6	2.9	-8.7	N.A.	17.6	8.7	9.4	15.8
1990-2002	0.6	-2.7	-1.6	4.5	-6.4	5.8	13.0	9.7	8.7	11.2

Notes: [a] Preliminary figures.

N.A.: Non-Available.

Source: Maddison (OECD), Economic Commission for Latin America and the Caribbean (ECLAC) and International Financial Statistics (IMF).

Table A.4
Remittance Companies by Country Served

COUNTRY	COMPANY	TYPE
Bolivia	Envios Abreu y Collado, Corp. dba Remesa Agil Evios De Valores La Nacional Corp. Money Gram Remesas Quisqueyana, Inc. Western Union	Ethnic Store Ethnic Store National Money Transfer Operators Ethnic Store National Money Transfer Operators
Colombia	Americana de Servicios Dolex Dollar Express Envios Abreu y Collado, Corp. dba Remesa Agil Evios De Valores La Nacional Corp. Girosol Money Gram Remesas Pujols Remesas Quisqueyana, Inc. Ria Finance Service Uno Money Transfers Viamericas Vigo Western Union	Ethnic Store National Money Transfer Operators Ethnic Store Ethnic Store National Money Transfer Operators/ Ethnic Store National Money Transfer Operators National Money Transfer Operators Ethnic Store National Money Transfer Operators National Money Transfer Operators
Ecuador	Afex BHD Court Checkpoint Delgado Travel Ecuaworld Travel Agency Envios de Valores La Nacional Giro Express Money Gram Remesas Pujols Uniteller Uno Money Transfers Vigo Western Union	Ethnic Store Ethnic Store Ethnic Store Ethnic Store Ethnic Store Ethnic Store Ethnic Store National Money Transfer Operators National Money Transfer Operators Ethnic Store Ethnic Store National Money Transfer Operators National Money Transfer Operators
Peru	Costamar Travel Delgado Travel Envios Abreu y Collado, Corp. dba Remesa Agil Evios De Valores La Nacional Corp. Money Gram Remesas Quisqueyana, Inc. Western Union	National Money Transfer Operators Ethnic Store Ethnic Store Ethnic Store National Money Transfer Operators Ethnic Store National Money Transfer Operators
Venezuela	Envios Abreu y Collado, Corp. dba Remesa Agil Evios De Valores La Nacional Corp. Money Gram Remesas Quisqueyana, Inc. Western Union	Ethnic Store Ethnic Store National Money Transfer Operators Ethnic Store National Money Transfer Operators

Note: January 2003

Table A.5
REMITTANCES RECEIVED BY BOLIVIA.
Dependent Variable: Remittances over GDP
1987- 2001

	[1]	[2]	[3]
Constant	-16.87 [-3.41]	-30.25 [-5.15]	-18.84 [-2.28]
Log USA's(-1) GDP per capita over GDP per capita Bolivia (-1)	7.19 [3.47]	9.12 [5.28]	5.58 [2.22]
Log Argentina's GDP per capita over GDP per capita Bolivia		4.36 [3.01]	2.84 [1.81]
Lagged Bolivia's Remittances (-1)			0.47 [1.81]
R-Squared	0.50	0.72	0.79
Number of Observations	15	15	15
Method of estimation: OLS Values under parenthesis correspond to t-student			

Table A.6
REMITTANCES RECEIVED BY COLOMBIA.
Dependent Variable: Remittances over GDP
1987- 2001

	[1]
Constant	-6.74 [-3.94]
Log Lagged USA (-1) GDP per capita over GDP per capita Colombia (-1)	4.76 [4.46]
R-Squared	0.62
Number of Observations	15
Method of estimation: OLS Values under parenthesis correspond to t-student	

Table A.7
REMITTANCES RECEIVED BY ECUADOR.
Dependent Variable: Remittances over GDP
1987- 2001

	[1]	[2]	[3]	[4]
Constant	-19.73 [-4.21]	-27.73 [-12.34]	-41.26 [-8.41]	-34.48 [-11.51]
Log Latin America's GDP per capita over Ecuador's GDP per capita		31.81 [7.27]	15.12 [2.06]	9.98 [1.16]
Log Lagged USA's (-1) GDP per capita over Ecuador's (-1) GDP per capita			7.33 [1.94]	
Log Spain's GDP per capita over Ecuador's GDP per capita			9.41 [-1.87]	15.61 [2.76]
Log Lagged Ecuador's Unemployment (-2)	10.49 [4.85]	2.85 [2.06]		1.70 [1.47]
R-Squared	0.68	0.94	0.97	0.97
Number of Observations	15	15	15	15

Method of estimation: OLS
Values under parenthesis correspond to t-student

Table A.8
REMITTANCES RECEIVED BY PERU.
Dependent Variable: Remittances over GDP
1987- 2001

	[1]	[2]	[3]	[4]
Constant	-2.19 [-2.68]	-0.64 [-2.45]	-1.31 [-2.96]	-1.24 [-1.07]
Log Lagged Peru's Unemployment (-2)	1.47 [3.75]	0.43 [3.11]	0.30 [2.10]	0.30 [1.88]
Lagged Peru's Remittances (-1)		0.77 [11.63]	0.82 [12.50]	0.82 [14.43]
Log Lagged (-1) OECD's GDP per capita over Peru's (-1) GDP per capita			0.53 [1.80]	0.55 [1.41]
Log Lagged USA's (-1) GDP per capita over Peru's (-1) GDP per capita				-0.04 [-0.07]
R-Squared	0.56	0.95	0.98	0.98
Number of Observations	15	15	15	15

Method of estimation: OLS

Values under parenthesis correspond to t-student

Table A.9
REMITTANCES RECEIVED BY VENEZUELA.
Dependent Variable: Remittances over GDP
1987- 2001

	[1]	[2]	[3]
Constant	-0.18 [-1.46]	0.07 [0.61]	1.58 [1.47]
Log Lagged Venezuela's GDP growth (-1)	-0.14 [-1.91]	-0.12 [-2.29]	-0.16 [-2.81]
Lagged Venezuela's Remittances (-1)		0.79 [2.96]	1.06 [3.37]
Log USA's GDP per capita over Venezuela's GDP per capita			-1.30 [-1.41]
R-Squared	0.31	0.69	0.77
Number of Observations	15		15
Method of estimation: OLS Values under parenthesis correspond to t-student			