

Remittance behaviours among recent immigrants in Canada

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I. Introduction

Remittances – the money immigrants send to family members in their country of origin – have long been part of the immigration process. But with global networks of financial institutions and telecommunications technologies now in place, the transmission of funds worldwide now takes place at a pace and volume unimaginable by earlier generations. In this context, remittances are central in the global movement of people, information and resources and are centre stage in immigration and development research.

In spite of this interest, research on the characteristics of remittances senders in Canada remains quite limited, in large part because of the absence of household survey data. More broadly, studies of remittance senders in Canada and elsewhere are often focused on immigrants from only one or two source countries and consequently do not provide a broad cross-national perspective. This study addresses these gaps by using the Longitudinal Survey of Immigrants to Canada (LSIC) to document the incidence of remitting and the amounts remitted by immigrants from a wide range of countries. Using a common set of concepts and methods, we find that the incidence of remitting by the 2000-2001 landing cohort ranges from less than 10% to 60% across immigrants from different countries, while the average annual amounts remitted range from about \$500 to almost \$3,000. Turning to the factors associated with remitting, financial and family characteristics are consistently significant among immigrants from all world regions. In contrast, other factors, such as gender and education, are associated with remitting among immigrants from some regions but not others.

Context

Considerable work is underway both nationally and internationally to measure remittance flows (Haug 2007). Defining remittances as “...the sum of workers remittances, compensation of employees, and migrant transfers” recorded in national balance of payment estimates, the World Bank estimates recorded remittance flows to developing countries at \$167 billion US in 2005 (World Bank 2006). This is likely an underestimate as some remittances flowing through formal channels, such as transfers through post offices or exchange bureaus and remittances below a minimum threshold, are often not recorded in official estimates. Furthermore, remittances flowing through informal channels, such as those delivered by family or friends, generally go unrecorded. The World Bank estimates that unrecorded remittances could add 50% or more to the total.

Remittances represent an important source of foreign revenue for developing countries. In absolute terms, India (\$21.7 billion), China (\$21.4 billion), and Mexico (\$18.1 billion) top the list of remittance receiving countries (World Bank 2006). In proportional terms, the importance of remittances to many smaller countries is evident. For example, remittances account for about 20% to 30% of GDP in Tonga, Moldova, Lesotho, Haiti, Bosnia and Herzegovina and Jordan, and for about 10% to 19% of GDP in several others, such as Jamaica, El Salvador, the Philippines, the Dominican Republic, Lebanon and Nepal.

The importance of remittances can also be documented relative to national industries. For example, the Inter-American Development Bank reports that remittances to Mexico “...are more

than the country's total tourism revenues, more than two-thirds of the value of petroleum exports, and about 180% of the country's agricultural exports." (Inter-American Development Bank 2004). More broadly, the World Bank reports that in 28 countries, remittances are "...larger than the earnings from the most important commodity export." (World Bank 2006, 88) Remittances also exceed overseas development aid and foreign direct investment in many countries.

Recorded estimates of remittance flows to developing countries show a marked increase in recent years, rising by 73% between 2001 and 2005. This trend has been evident across a wide range of nations (World Bank 2006). A number of factors are likely at play, including improvements in data collection, a shift in remittances from informal to formal networks and developments within the remittance industry (World Bank 2006; Orozco 2006).

Objective and Rationale

The objective of this paper is to use recently released data from the Longitudinal Survey of Immigrants to Canada (LSIC) to examine the remittance activities of immigrants from different countries of origin, and to identify the socio-economic characteristics associated with such activities.

To date, Canadian household data on remittances has been very limited and only a few studies have been done (for example, see Hernandez-Coss 2006; Simmons, Plaza and Piché 2005; Hamza 2006; Citizenship and Immigration Canada 2004). This stands in stark contrast to the United States where the well-developed US-Latin American remittance corridor has been the subject of considerable research over the years. Likewise, research on the remittance activities of immigrants in Australia and New Zealand dates back more than two decades. While a great deal of Canadian research continues to focus on the labour market and income characteristics of recent immigrants,¹ little attention has been paid to their expenditures, of which remittances are one component. Recent immigrants' preferences and/or obligations to send money to family members abroad may have implications for other aspects of settlement, such as housing or employment decisions. And while high rates of low income among recent immigrants underscore the financial constraints often faced by new Canadians, such figures do not take into account the fact that household incomes may be used to support family members abroad.

From a macroeconomic perspective, household data on remittance sending contributes to our understanding of international financial flows and plays a role in the development of concepts and measures for systems of national accounts and balance of payments (Haug 2007). Internationally, there is interest on the part of agencies such as the IMF, World Bank, and Inter-American Development Bank (IADB) in the institutional characteristics of bilateral remittance corridors. For example, Hernandez-Coss (2006) notes that "...efforts are underway to induce users [remittance senders] to shift from informal to formal systems in order to increase the transparency of remittance flows and enhance their contribution to development in the recipient countries." The Multilateral Investment Fund of the IADB identifies better of documentation of

The two authors contributed equally to this paper.

¹ Considerable emphasis has been placed on their earnings trajectories after arrival, the economic returns to their foreign credentials and experience, their ability to find employment in their area of specialization, and their incidence of low income. For a review see Picot 2004.

the importance of remittances, reduced transaction costs and improved leveraging of the development impact of remittances as key objectives (Orozco 2004). Information on the entire remittance process, from the ‘first mile’ when decisions are in the hands of remittances senders to the ‘last mile’ when the funds are in the hands of recipients, is needed to build a complete picture of this complex phenomena. The broad cross-national perspective of remittance behaviours offered by the LSIC is a valuable contribution in this context.

The paper is divided into several sections. In section two, a review of the literature is presented using an approach similar to Menjivar et al (1998). The factors potentially associated with remittance behaviours are discussed in terms of (i) financial capacity (ii) obligations to family (iii) characteristics of migration (iv) organizational involvement and (v) country of origin. In section three, the data source, methodology and variables used in the study are discussed. In section four, the results of the analysis are presented. A series of descriptive statistics is first presented, followed by the results of several multivariate models. In section five, the main conclusions and implications of our analysis are discussed.

II. Literature Review and Conceptual Framework

There is a large and rapidly growing literature on the impacts that remittances have in recipient countries (For example see World Bank 2007; Acosta, Fajnzylber and Lopez 2007). A review of this literature is beyond the scope of this paper, and instead we focus on studies of remittance senders.

Demographic characteristics

A number of studies examine the correlation between demographic characteristics and remittance behaviours. No clear pattern is found between women and men. Vanwey (2004) and Lucas and Stark (1985) find that women tend to remit more often than men while Massey and Parrado (1994) find that women remit less often. Given that these three studies pertain to women and men from Thailand, Botswana and Mexico, the inconsistent results may reflect cultural differences across countries. In terms of age, Menjivar et al (1998) find a U-shape relationship between age and the incidence of remitting; that is, they find that remitting is more prevalent among younger and older immigrants and less prevalent among ‘middle aged’ immigrants. Conversely, among immigrants who remit, they find an inverted U-shape relationship between age and the average amount sent, with immigrants in their late thirties remitting the largest amounts. They suggest that this corresponds to the age-earnings profile.

Financial capacity to remit

A common theme in the literature on remittances is that, other things being equal, households are more likely to remit and to remit larger amounts if they have the financial capacity to do so. This is documented in terms of a positive correlation between household income and remittances, as well as full-time employment and remittances (Menjivar et al. 1998; Brown and Poirine 2005; Funkhouser, 1995). In addition, Menjivar et al. (1998) find that while home ownership is not

correlated with the likelihood of remitting, it is negatively correlated with the amount remitted. One interpretation is that home ownership is associated with higher housing costs than renting (given insurance costs, property taxes and maintenance) leaving less money to send abroad. Alternatively, individuals who purchase a home may be less likely to return to their country of origin and consequently be less likely to remit.

In addition to current financial resources, remittance behaviours may also be associated with potential earnings, as measured by human capital characteristics. Here the evidence is mixed. Funkhouser (1995) finds that higher levels of educational attainment are negatively correlated with the incidence of remitting, but among migrants who do remit, those with higher levels of education send more. Massey and Basem (1992) find that human capital factors are not correlated with the decision to remit, but are correlated with the amount remitted. Conversely, Menjivar et al. (1998) find no significant correlation between human capital measures, including education and English language skills, and remittance behaviours.

Conceptually, the relationship between education and remitting may run either direction. Given the positive correlation between educational attainment and labour market success, more well-educated immigrants may be more likely to remit because they have the financial capacity to do so. On the other hand, immigrants with higher levels of educational attainment may come from families that are financially better-off and hence in less need of financial support from abroad. More well-educated immigrants may also have the financial means to bring family members with them when they migrate and hence have obligations to fewer family members abroad.

Obligations to family

Whether or not an immigrant's children, parents or other family members are located in the country of origin or are present in Canada is a key determinant of remittances. A number of studies report that remittances are more likely to be sent when close family members still reside in the country of origin (for example, Vanwey 2004; Funkhouser 1995; Menjivar et al. 1998; Stanwix and Connell 1995; Vete 1995;). Conversely, remittance activity is negatively associated with the presence of family members in the host country (Menjivar et al. 1998).

In addition to the location of family members abroad, remittance behaviours may also be influenced by the financial circumstances of those members. Acosta et al. (2007) document the income characteristics of remittance-receiving households in 11 Latin American countries. They find that in many cases, remittance-receiving households are concentrated at the bottom of the (non-remittance) income distribution. In Mexico, for example, 61% of remittance receiving households are in the bottom income quintile, while in Paraguay the share is 42%. Other Latin American countries in which remittance recipients tend to be poor include El Salvador, Guatemala, Ecuador and Paraguay. In other countries, remittance recipients tend to be more evenly distributed across income quintiles (e.g. Honduras, the Dominican Republic), while in others, notably Peru and Nicaragua, remittance recipients tend to be at the top of the income distribution (Acosta et al. 2007). Overall, these data point to many instances where remittances are received by families in financial need, but they also underscore cross-national variations in this regard.

A number of macroeconomic studies find a positive relationship between remittance flows and economic opportunities or financial hardships in countries of origin (Bouhga-Hagbe 2006; Niimi and Ozden 2006). For example, in their 85-country study, Niimi and Ozden report that small domestic economies offer "... relatively limited opportunities for economic activities, and migrants have to remit more to support their families at home" and that "...migrants from poorer countries remit a greater amount of money to their families at home as would be expected."² In this context, it is often argued that remittance flows are countercyclical, with migrants abroad sending more money to family members in their home country when economic hardships occur there. However, a comparison of remittance flows into 12 developing countries over their business cycles between 1976 and 2003 shows that countercyclicality of receipts is not commonly observed. (Sayan 2006).

Characteristics of migration

The circumstances and characteristics of migration may influence remittance behaviours in a number of ways, including the motivations for migrating, intentions to return to the country of origin, the duration of time since immigration, and the number of emigrants leaving the source household.

The reasons and circumstances for leaving the country of origin may be correlated with remittance behaviours. Individuals displaced from their country of origin by war or persecution may leave on short notice and not have the opportunity or means to bring other family members with them. Hence, they may have responsibilities to support those left behind. Likewise, "people who migrate in search of economic opportunities may be financially responsible for dependent children or parents in the country of origin" (Menjivar et al. 1998). Although Menjivar et al. (1998) hypothesize that these factors would be positively correlated with remitting, they find no such correlation among Salvadoran and Filipino immigrants.

Whether migrants intend to return to their country of origin is another factor associated with remittance behaviours. Temporary workers are generally believed to remit a larger share of their income than permanent migrants (World Bank 2006, 92-93; Vete 1995; Diaz-Briquets and Perez-Lopez 1997). This may reflect a concerted economic strategy on the part of families who opt to send members abroad for a limited period of time to bolster the family's financial resources. Migrants who intend to return home may also remit in order to invest in their own financial future or to improve their social status (Ali 2007) or marriage prospects upon their return (Xiang 2001). Brown and Poirine (2005) find that the likelihood of remitting and the amounts remitted to children and parents are both significantly associated with intentions to return home. Similarly, Menjivar et al. (1998) find that plans for a permanent stay in the host country are negatively correlated with the decision to remit, but are not significantly correlated with the amount remitted.

Duration of time in the host country is another migration characteristic often associated with remittances. The Inter-American Development Bank reports that among Latino migrants in the United States, the incidence of remitting is highest among those who have arrived most recently (Inter-American Development Bank, 2004). Immigrants who have been in the host country for

² Also see Bouhga-Hagbe (2006).

longer periods may be less likely to remit because ties to the country of origin have become attenuated or because other family members have had enough time to join them in the host country. Menjivar et al. (1998) find that duration of time in the US is negatively correlated with the decision to remit, but is not correlated with the amount remitted. Funkhouser (1995) finds mixed results among El Salvadoran and Nicaraguan immigrants in the US, depending, in part, on their relationship with the recipient household.

The migration behaviours of households in the country of origin are a final consideration in remittances. Specifically, Funkhouser (1995) finds that “when there are more adult emigrants from the same household [in the country of origin], the first reported emigrant is less likely to remit and remits less, all else equal. The household from which more adults have emigrated, however, tends to receive more money in total from abroad.” (p. 141).

Organizational involvement

In addition to the familial ties that immigrants retain with their country of origin, other ties may also exist. For example, a number of researchers document the organizational linkages that some migrant groups maintain with their countries and communities of origin (Orozco 2002; Levitt 1997). ‘Hometown associations’ are one example, comprised of migrants who coordinate their efforts to support objectives in their country of origin, such as fundraising for charities and infrastructural development (e.g. parks, health equipment and libraries). Orozco suggests that “hometown associations are formed among remittance senders to coordinate their support not only of relatives, but also of their towns.” (Orozco, 2002, 48). Similarly, Simmons et al. (2005) note the role that church-to-church support programs play in the remittance activities of Jamaicans in Toronto and Haitians in Montréal.

Region / Country of origin

In addition to the factors considered above, remittance behaviours may also vary in terms of immigrants’ countries of origin. There are large differences in the institutional characteristics of remittance corridors and the ease and transparency with which funds may be sent. The World Bank estimates that over 80% of remittances sent to the Dominican Republic, Guatemala and El Salvador are sent through formal channels, such as banks and money transfer companies like Western Union, while over half of remittances sent to Bangladesh and Uganda flow through informal channels, such as unregulated firms and family and friends (World Bank 2006). In perhaps the only Canadian study on this issue, Hernandez-Coss (2005) notes that the Canada-Vietnam remittance corridor “...is small in absolute terms and still at a nascent stage of shifting from informal to formal systems.” (p. 3)

Costs vary as well. Orozco (2006) reports that within the well-developed remittance corridors between the US and Latin America, the costs of sending US\$200 varies from 3.9% to Ecuador, 6.0% to Mexico, 8.2% to Jamaica and 12.0% to Cuba. The number of firms operating in the money transfer industries of these countries varies as well (Orozco 2006).

Macroeconomic studies have examined the correlation between remittance flows and other national characteristics, such as interest rate and exchange rate differentials between remittance

sending and receiving countries, and the level of financial sector development in receiving countries (For example, El-Sakka and McNabb, 1999; Freund and Spatafora 2005; Niimi and Ozden 2006). Debate over the impact of these characteristics on remittance flows is ongoing.

Cultural differences between countries of origin may also influence remittance behaviours. For example, Vanwey (2004) finds that Thai women are more likely than Thai men to remit funds and argues that this is consistent with religious and cultural norms regarding gender roles.

The motivations for sending money to family members ‘back home’ is a final theme in the remittance literature (Brown and Poirine 2005; Vanwey 2004; Lucas and Stark 1985; Stark and Lucas 1988); Lillard and Willis 1997). Theoretical approaches to this issue can be broadly classified into those based on altruism and those based on self-interest. Theories of altruistic behaviour posit that migrants send remittances home to care for family members and do so even to the detriment of their own standard of living. Theories of self-interest posit that remittances are sent home in exchange for other benefits or are a repayment (or prepayment) of debt between family members. For example, remittances may be prepayment made by adult children to their parents in anticipation of future returns through inheritance or a repayment to family members for previous investments in education or the costs of migration.

Several authors have charted a middle course between these positions. For example, Brown and Poirine (2005) advance the notion of “weak altruism” whereby intra-family exchanges are based on a benevolent disposition of parents towards children and the loyalty of children towards parents. Similarly, Lucas and Stark (1985) advance a model of ‘tempered altruism’ or ‘enlightened self-interest’ where exchanges are based on implicit understandings of mutual benefit. LSIC respondents were not asked about their motivations for sending abroad to family or friends and hence this issue is not addressed in this paper.³

III. Data source and methodology

Data for this study was drawn from the Longitudinal Survey of Immigrants to Canada (LSIC). The target population of the survey, which was conducted jointly by Statistics Canada and Citizenship and Immigration Canada (CIC), includes all immigrants who (1) arrived in Canada between October 1, 2000 and September 30, 2001; (2) were age 15 or older at the time of landing; and (3) landed from abroad and applied through a Canadian Mission Abroad.

The sampling frame for the LSIC was an administrative database of all landed immigrants to Canada maintained by Citizenship and Immigration Canada. The LSIC sample was created using a two-stage stratified sampling method. The first stage involved the selection of Immigrating Units (IU) using a probability proportional to size method, and the second stage involved the random selection of one member within each IU. Only the selected member was followed throughout the survey. Individuals aged 15 or older in each IU were eligible to be selected as the respondent.

³ Studies of motivations for remitting often use information on the characteristics of remittance sends and receivers. The latter is not available on the LSIC further limiting the scope for examining this issue.

Three LSIC questionnaires were fielded during the course of the survey. Approximately 12,000 immigrants were interviewed between April 2001 and March 2002, about six months after their arrival in Canada; approximately 9,300 of the same immigrants were relocated and interviewed in 2003, about two years after their arrival; and about 7,700 of the same immigrants were relocated and interviewed a third time, about four years after their arrival. The approximately 7,700 LSIC respondents who were relocated over the three waves are nationally representative of approximately 157,600 new immigrants, of whom 104,400 are economic immigrants, 42,600 are family class immigrants and 9,700 are refugees.⁴

During the second and third LSIC interviews, respondents were asked:

“Since your last interview, have you sent money outside Canada to relatives or friends?”

Respondents who said yes were subsequently asked:

“How much money have you sent outside Canada to relatives or friends?”

During the first LSIC interview (6 months after arrival) respondents were only asked if, since arriving in Canada, they had sent money outside Canada to relatives or friends -- they were not asked about the amount sent.

In the research literature, remittances are predominantly discussed in terms of money sent to family members rather than friends abroad. Consequently, we limit our analysis to LSIC respondents who have family members living outside Canada. This results in the exclusion of 256 of the 7,716 respondents, representing 4,909 of the 157,615 immigrants in the landing cohort. Their exclusion has virtually no effect on model estimates. In addition, respondents who remitted less than \$100 or more than \$25,000 are excluded to reduce the effects of outliers on model estimates. This results in the exclusion of another 26 cases, resulting in a final sample of 7,434 respondents.

Because remittance questions were asked at the individual- rather than family-level (that is, “...have *you* sent money...?”), the LSIC may yield underestimates of remittance activities of immigrant *families*. This is because it is possible that while an LSIC respondent did not send money abroad, someone else in their family did. This may be most likely when the respondent is not a primary income earner in the family (e.g. teens living with their parents or seniors living with their adult children). A variable identifying ‘principal applicants’ and ‘spouses and dependents’ in the migrating unit was initially included in our analysis, but was dropped but it did not yield significant results. Instead, a variable identifying whether or not the respondent is

⁴ Individuals who applied and landed from within Canada were excluded from the survey since they may have been in the country for a considerable length of time before “landing” and may therefore demonstrate different integration characteristics than those arriving more recently. Refugees claiming asylum from within Canada were also excluded from the survey. Interviews were conducted in one of 15 languages covering approximately 93% of the new immigrant population in Canada and were conducted face-to-face, or by telephone when a face-to-face interview was not possible. For more information on the LSIC see the microdata users’ guide available at http://www.statcan.ca/english/sdds/document/4422_D1_T1_V3_E.pdf.

the ‘person most knowledgeable’ about the family’s financial situation is included. About three-quarters of our respondents (73.5%) identify themselves as the ‘person most knowledgeable.’

Three other points regarding our sample are warranted. First, the question of whether remittance activities diminish over time since arrival in the host country can only be addressed within the four year window of the survey. Data sources are not available to determine the extent to which immigrants in Canada continue to remit five, ten or fifteen years after arrival. Second, temporary residents in Canada are not included in the LSIC. The objective of the survey is to track the experiences of permanent residents over their first four years here and short-term, temporary residents fall outside the scope of the survey. Hence, we are not able to compare the remittance behaviours of temporary and permanent residents. In 2005, there were approximately 160,000 foreign nationals residing in Canada on temporary work permits (CIC 2007). Finally, it is important to note that the characteristics and experiences of the LSIC immigrant cohort may or may not be the same as those of cohorts that arrived in Canada at earlier or later points in time. For example, the downturn of the high-technology sector may have had particular consequences for immigrants arriving in 2000-2001, including their financial capacity to remit. While it would be informative to estimate inter-cohort trends or differences in remittance activities, our data do allow us to do so.

While recognizing these limitations, the LSIC offers other advantages. It includes a large, representative sample of new immigrants from many source countries, making it possible to draw cross-national comparisons of remittance behaviours using consistent definitions and methodologies. This provides a breadth of perspective not available from studies focused on immigrants from one or two countries of origin. Furthermore, the longitudinal design of the LSIC allows us to build in a time-lag between our independent and dependent variables thereby minimizing problems of endogeneity. More specifically, two observations are available for each respondent -- remittances made (or not made) two years after arrival and four years after arrival. For the observation two years after arrival, independent variables are measured using the six-month data file, and for the observation four years after arrival, independent variables are measured using the two-year file. In short, the independent variables are measured at the start of the reference period and thus precede the decision to remit.⁵

Independent variables

Independent variables within each of the five conceptual areas outline above are included in the model.⁶ Financial capacity is measured in terms of family income, employment status of the respondent and the value of savings abroad. A flag identifying whether or not the respondent is the ‘person most knowledgeable’ about the family’s income is also included, as noted above.⁷

⁵ One exception is income, which is estimated at the mid-point of each of the reference periods using a linear interpolation.

⁶ Our initial multivariate models included more than 20 independent variables, many of which did not yield significant statistical results or theoretical insights. They were subsequently excluded from our analysis for the sake of efficiency and parsimony. The variables which were excluded are documented in the footnotes to this section for readers who may be interested.

⁷ In earlier versions of the analysis, housing expenditures as a percent of family income was also included. A significant negative correlation was found between such expenditures and both the likelihood of remitting and the amount remitted. However, the housing choices made by an immigrant may be influenced by their decision to remit

Human capital is measured by level of education upon landing in Canada. Self-assessed language ability in English or French was included in earlier versions of the analysis, but was subsequently excluded because it did not yield significant results. A place of residence variable identifying immigrants residing in Montréal, Toronto, Vancouver, Calgary/Edmonton and others areas is included.

Detailed information on the location of all the members of each immigrant's family is not available on the LSIC. The vast majority of LSIC respondents (98%) say they have family members living abroad, but the relationships with these members are not specified. Two family-related variables are included in our models: the number of children residing in the respondent's household and whether or not the respondent is sponsoring or intending to sponsor (i) a spouse or child(ren) or (ii) parents or grandparents to come to Canada.⁸

In terms of migration characteristics, the category of admission to Canada is included in our models. Individuals are admitted to Canada as permanent residents through three main admission categories -- economic immigrants, family class immigrants and refugees. Principal applicants in the economic category are selected for their skills and ability to contribute to Canada's economy and are assessed on the basis of educational attainment, language abilities and other factors. Because the earnings gains of economic immigrants far outpace those of family class immigrants and refugees in the years after arrival (Chui and Tran 2003), they may be more likely to remit and to remit larger amounts given their greater financial capacity to do so.⁹

In terms of organizational membership, LSIC respondents are asked if they had become a member or taken part in the activities of various groups and organizations since their last interview. Two dummy variables are included identifying respondents who had or had not participated in or become a member of a (i) church or other religious group or (ii) an ethnic or immigrant association.¹⁰

Region of origin is included in our analysis in two ways. First, regression models based on a pooled sample of all respondents are presented, with nine world regions identified by a series of dummy variables. And second, separate regression models are run on respondents from each of these nine regions. Finally, Gross Domestic Product (GDP) per capita in the respondent's country of origin is included.

or by their expectation of remitting in the future. Hence, housing expenditures may be a *consequence* of remittance decisions rather than a *determinant* of these decisions. Because of this potential endogeneity, the housing expenditure variable was excluded from our final models.

⁸ Respondents sponsoring or intending to sponsor a spouse or child as well as a parent or grandparent were coded in the 'sponsoring spouse/child' category. There were fewer than 50 respondents in this situation. Marital status was included in earlier versions of the analysis, but did not yield significant results and was subsequently excluded.

⁹ In earlier versions of the multivariate models, a variable was included identifying the respondent's single-most important reason for coming to Canada; specifically economic reasons, family-related reasons, reasons of war or political freedoms, and other reasons. These variables did not yield significant results and were excluded.

¹⁰ A third variable identifying participation in any other type of group or organization was also initially included, but did not yield significant results.

Our multivariate analysis includes a logistic regression on the likelihood of remitting and an ordinary-least squares regression on the natural logarithm of the amount remitted. Coefficients from the logistic regressions have been converted into predicted probabilities for ease of interpretation.¹¹ Coefficients from the natural logarithm of the amount remitted approximate percentage differences and are discussed in these terms for ease of presentation. All models are calculated using bootstrap weights to correct variance estimates for survey design (a technique called design-based variance estimation).¹²

IV. Results

Descriptive results

A significant minority of immigrants from the 2000-2001 landing cohort remitted funds to family or friends abroad during their first four years in Canada. During the period 6 to 24 months after landing, 23% of immigrants remitted and during the period 25 to 48 months after landing 29% did so (Table 1). Readers are reminded that these two reference periods are not of equal length (i.e. 18 and 24 months respectively). Combined information from the 1st and 2nd waves of the LSIC indicates that 28% of immigrants remitted during the first 24 months after landing – almost the same proportion that did so during the subsequent 24-month period. Finally, 41% of LSIC respondents remitted funds at least once during their first 48 months in Canada.

Among immigrants who remitted, the average amount sent during the first reference period (6 to 24 months after landing) was \$2,500, while the average amount sent by remitters during the second reference period (25 to 48 months after landing) was \$2,900.¹³ These averages correspond to reference periods of different duration. Assuming the total amount sent was evenly distributed over the reference period, annual remittances during the third and fourth year in Canada were \$1,450. This is comparable to the estimates reported by Simmons et al. (2005), who find that Haitian and Jamaican immigrants who remit send approximately \$1,000 to \$1,400 per year.

The extent to which remittance behaviours vary between immigrants from different regions of birth is clearly evident in Table 1. Over half of LSIC respondents from Southeast Asia and the

¹¹ Predicted probabilities for each independent variable were estimated by setting the other independent variables to their mean values.

¹² Some researchers have used the Heckman selection model (1976) to take into account the possibility that the sample of immigrants who remit may be a selective sample of those who could have remitted (Funkhouser 1995; Brown and Piorine 2005). Several Heckman models were run using different specifications to address this issue but evidence of selectivity was not found. Our results are consistent with several studies that also report that selection effects are modest or not statistically significant (Menjivar et al. 1998; Funkhouser 1995).

¹³ All dollar figures have been rounded to the nearest \$100. Remittance amounts reported 2 years and 4 years after arrival have not been adjusted for inflation. Questions about remitting and remittance amounts were included in the income section of the LSIC questionnaire. This section includes numerous questions about the income of the respondent and respondent's family – all of which refer to the 12 month period preceding the interview. At the end of the section, respondents were asked if they had remitted since their last interview, and if so, how much they had remitted. Here, the reference period shifts from the 12 months preceding the survey to the 18 or 24 month period preceding the survey (the duration varies between Waves 2 and 3). Given the sudden shift in the reference periods, we cannot be certain if respondents who reported remittance amounts had a 12-month or 18/24-month reference period in mind.

Caribbean and Guyana sent remittances home 25 to 48 months after landing, while the was the case for about 40% of those from sub-Saharan Africa and Eastern Europe. About one-quarter of the respondents from South Asian and Central and South America sent remittances home during this period, while about one-fifth of those from East Asia and from West Asia, the Middle East and North Africa did so.

Among immigrants who remitted 25 to 48 months after landing, the average amount sent was \$2,900, but again, inter-regional differences are evident. Immigrants from East Asia who remitted sent, on average, \$3,900 over the 24 month reference period, while immigrants from the Caribbean and Guyana sent, on average, less than half that amount (\$1,600).

Among LSIC respondents, the incidence of remitting is highest among those from countries with lower GDP per capita. Over the period 25 to 48 months after landing, 35% to 37% of immigrants from countries with GDP per capita under \$4,000 remitted, compared with only 11% of immigrants from countries with GDP per capita of \$15,000 or more. One interpretation is that the family members of immigrants from poorer countries are in greater need of financial support than the family members of immigrants from more affluent countries, and hence the former are more likely to remit. That being said, the relationship between GDP per capita and the incidence of remitting is fairly flat between these extremes, ranging from about 25% to 30%. Conditional on remitting, a consistent relationship between GDP per capita and average amounts remitted is not evident in the descriptive statistics shown in Table 1.

Table 1. Percent of LSIC respondents who remitted and average amount remitted*

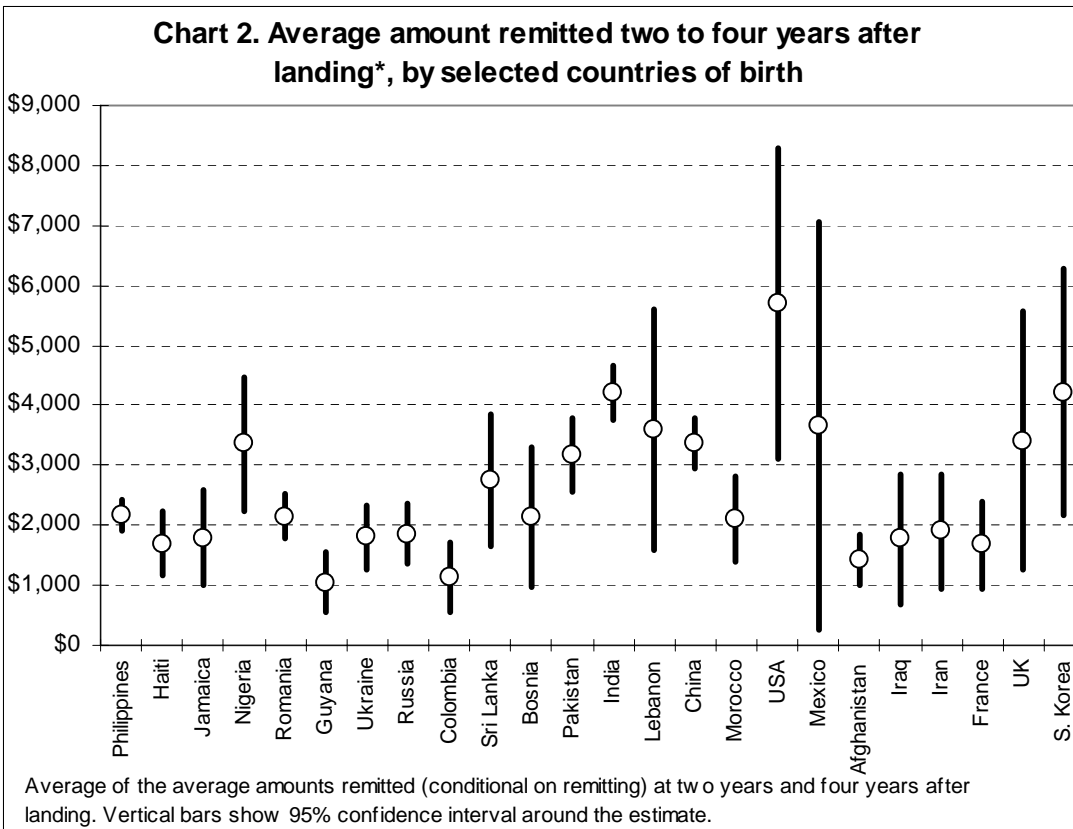
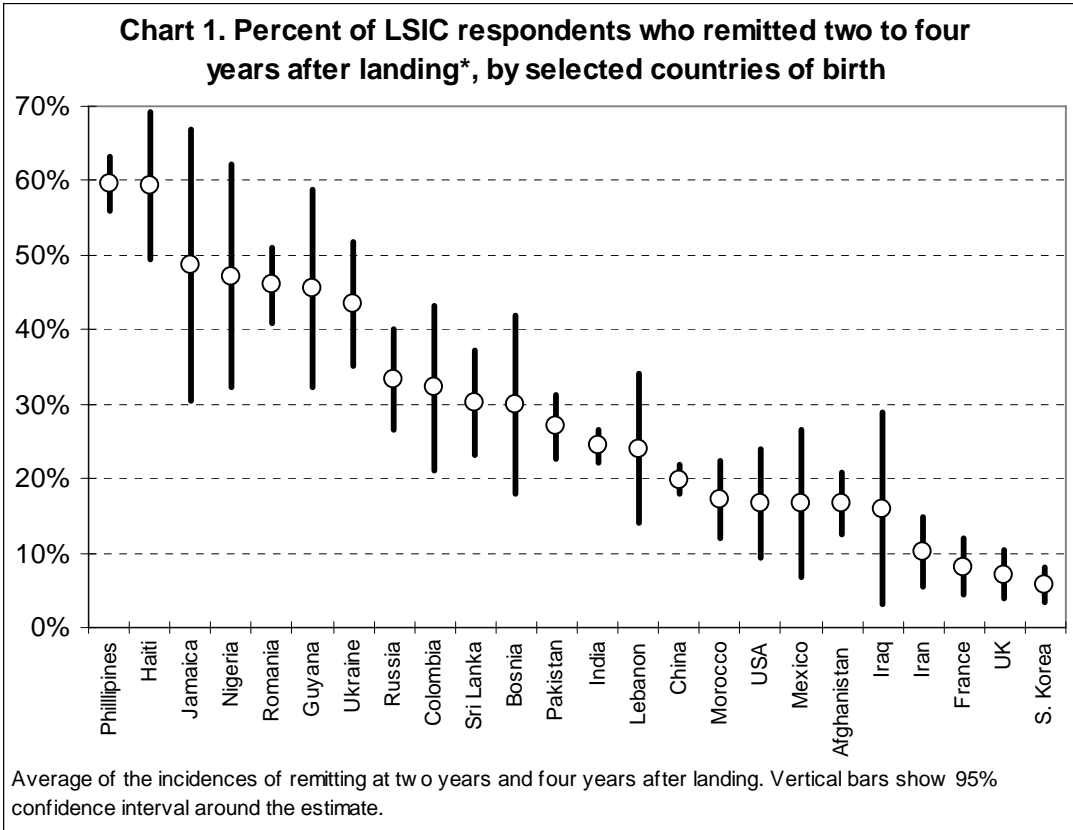
	<u>6 to 24 mths after arrival</u>		<u>25 to 48 mths after arrival</u>		<u>Average over both periods</u>	
	<u>% who remitted</u>	<u>Average amt remitted*</u>	<u>% who remitted</u>	<u>Average amt remitted*</u>	<u>% who remitted</u>	<u>Average amt remitted*</u>
<u>Total</u>	23%	\$2,500	29%	\$2,900	26%	\$2,700
<u>Region of birth</u>						
Southeast Asia	52	\$2,000	56	\$2,400	54	\$2,200
Caribbean & Guyana	47	\$1,400	54	\$1,600	50	\$1,500
Sub-Saharan Africa	37	\$2,400	42	\$2,500	39	\$2,500
East Europe	32	\$1,800	41	\$2,100	37	\$1,900
South Asia	23	\$3,600	28	\$3,700	25	\$3,600
Central & South America	23	\$2,000	25	\$2,000	24	\$2,000
East Asia	13	\$2,900	20	\$3,900	16	\$3,500
West Asia, Mid-East & N. Africa	13	\$2,000	19	\$2,500	16	\$2,300
N. America, W. Europe, Oceania	11	\$3,200	11	\$3,600	11	\$3,400
<u>GDP/capita in country of birth</u>						
Less than \$2,000	31	\$1,900	35	\$2,200	33	\$2,100
\$2,000 to \$3,999	31	\$2,700	37	\$3,000	34	\$2,800
\$4,000 to \$5,999	20	\$2,500	25	\$3,300	22	\$2,900
\$6,000 to \$7,999	19	\$1,600	31	\$2,200	26	\$2,000
\$8,000 to \$14,999	26	\$2,400	28	\$1,900	27	\$2,100
\$15,000 and over	8	\$3,100	11	\$3,900	9	\$3,500

* Average amount reported by those who remitted. Estimates rounded to nearest \$100. Remittance values reported two years and four years after arrival have not been adjusted for inflation.

Turning to comparisons across countries of birth, variability in remittance behaviours is particularly striking. As shown in Chart 1, 60% of immigrants from the Philippines and Haiti remitted two to four years after landing,¹⁴ while about 40% to 50% of immigrants from Jamaica, Nigeria, Romania, Guyana and the Ukraine did so. Quite clearly, remittances are sent by many new immigrants from a diverse set of world regions. France, the United Kingdom and South Korea – three industrialized countries – are at the bottom of the distribution shown in Chart 1.

Turning to the average amounts of money sent abroad, remitters from 11 of the 24 countries shown in Chart 2 sent between \$1,700 and \$2,200, and remitters from another 7 countries sent between \$2,700 and \$3,700. While less than 20% of immigrants from the United States sent remittances home, the average amount sent by these individuals was quite high relative to immigrants from other countries, at just under \$6,000. Readers should note, however, that the confidence intervals around many of the estimates are quite large.

¹⁴ The estimates in Charts 1 are computed by taking the average of the incidences of remitting at LSIC Wave 2 (i.e. 24 months after landing) and at LSIC Wave 3 (i.e. 48 months after landing). This approach reduces standard errors around the estimates (which are still large in many cases) and simplifies the presentation of the data. The same approach is used for Chart 2.



In terms of the admission categories through which immigrants are admitted to Canada, about 30% of immigrants in all three categories remitted 25 to 48 months after landing (Table 2). However, among the individuals who did remit, economic immigrants sent somewhat larger amounts than refugees (at \$3,000 and \$1,900 respectively).

Measures of central tendencies, such as averages, tell us little about the range of remittance values. As shown Table 2, 26% of immigrants who remitted during the period 25 to 48 months after landing sent less than \$500. This was the case for 21% of economic immigrants compared with 45% of refugees. About one-half of immigrants in all categories sent between \$500 and \$2,500. And at the high end of the distribution, 12% of the economic immigrants who remitted sent \$5,000 or more compared with 5% of refugees.

Table 2. Characteristics of remittances 25 to 48 months after landing, by immigrant category

	Total	Immigrant category		
		Economic	Family-class	Refugees
Percent who remitted	29%	29%	29%	31%
Average amount remitted (CAN\$)	\$2,900	\$3,000	\$2,700	\$1,900
<u>Of those remitting, % who sent...</u>				
Less than \$500	26	21	33	45
\$500 to \$999	21	22	19	17
\$1,000 to \$2,499	24	26	22	19
\$2,500 to \$4,999	18	19	16	14
\$5,000 or more	11	12	10	5
Total	100%	100%	100%	100%

An important issue is the extent to which remittance activities impose financial hardships on newly arrived immigrants. Several studies have documented the relatively high and rising rates of low-income among recent immigrants (Heisz and McLeod 2004; Picot, Hou and Coulombe 2007). While measures of low-income take into account the number of family members co-residing together, they do not take into account the sharing of income with family members residing outside of the household, either in Canada or abroad. This applies to all families regardless of immigration status. However, given the relatively high rates of low income among recent immigrants and the fact that almost one-third of them send money abroad, their financial resources may be stretched further than income figures alone would suggest.

A cautious approach is warranted when addressing this issue. As noted above, because remittance behaviour is measured using individuals rather than families or households as the unit of analysis, estimates of amounts sent abroad are likely to be conservative. Furthermore, remittances as a share of income can be computed using total personal income or total economic family income as the denominator. Total personal income yields a higher percentage, but does not take into account any sharing of financial resources among family members. Total family income yields a lower percentage, but mixes units of analysis (personal remittances and family income). Results from both approaches are presented in Table 3 and represent conservative estimates of the lower and

upper bounds of remittances as a share of income. During the second year in Canada, remittances accounted for 7.5% of the total personal income of remitters and for 3.4% of their total family income, on an average annualized basis. Two years later, remittances accounted for 5.9% and 2.9% of the total personal and total family incomes of remitters.¹⁵

Table 3. Characteristics of remittances on an annualized basis, by immigrant category

	<u>Total</u>	<u>Economic</u>	<u>Family</u>	<u>Refugees</u>
<u>2nd year after arrival</u>				
<u>Of those who remitted ...</u>				
Average total personal income	\$22,200	\$27,200	\$14,100	\$12,500
Average amount remitted as % of average total personal income	7.5%	6.7%	10.4%	8.1%
Average total family income	\$48,700	\$51,00	\$47,400	\$28,300
Average amount remitted as % of average total family income	3.4%	3.5%	3.1%	3.6%
<u>4th year after arrival</u>				
<u>Of those who remitted ...</u>				
Average total personal income	\$28,200	\$33,600	\$17,500	\$16,400
Average amount remitted as % of average total personal income	5.9%	5.4%	8.4%	6.1%
Average total family income	\$57,200	\$61,100	\$52,600	\$36,100
Average amount remitted as % of average total family income	2.9%	3.0%	2.8%	2.8%

Considering all immigrants in our sample *regardless of whether or not they remitted*, remittances accounted for 3.7% and 3.4% of total aggregate personal income and for 1.6% and 1.3% of total aggregate family income two and four years after arrival. From this perspective, remittances account for a fairly small share of the total aggregate income of newly arrived immigrants.

Nonetheless, remittances may still represent a considerable expenditure for some families. Take refugees for example. The average family incomes of refugees who remitted during their fourth year in Canada was \$36,100. As a point of comparison, the 2004 before-tax low-income cut-off (LICO) was just over \$31,000 for a three-person family and just under \$38,000 for a four-person family residing in a large urban centre. The LICO is an income threshold below which a family will likely devote a larger share of its income on the necessities of food, shelter and clothing than the average family (Statistics Canada 2006). For those refugees who remitted, an average of almost \$1000 was expended from a fairly modest family income.

¹⁵ For immigrants who remitted we also computed average total family income after expenditures on housing (including rent or mortgage, taxes and utilities), and used this to estimate remittances as a share of family income after expenditures on housing. For immigrants in all three admissions categories, remittances accounted for about 4.0% to 4.9% of family income after expenditures on housing.

Multivariate results – Pooled model

Descriptive statistics certainly testify to the magnitude of cross-national differences in remittance behaviours. These differences partly reflect the different characteristics and experiences of individuals from different countries of origin, and it is to these that we now turn. We begin by presenting results from a logistic regression and ordinary least squares regression based on our pooled sample. The compositional characteristics of immigrants in the pooled sample are shown in Table 5.

Demographic characteristics

Considering demographic characteristics, there is a modest correlation between sex and remittance behaviours (Table 4), with predicted probabilities of remitting (after taking into account other observed characteristics) of 26% for men and 23% for women. Among those who remit, the amount sent by women is approximately 12% less than the amount sent by men. Age is also important, as the predicted probability of remitting is highest among immigrants aged 25 to 44 (at about 30%) and lower among those in younger and older age groups (at less than 20%). Conditional on remitting, individuals age 25 to 34 send larger amounts than those under age 25 or age 65 or older.

Financial capacity to remit

Consistent with the literature, there are strong correlations between remittance behaviours and financial capacity. For example, the predicted probability of remitting rises monotonically across family income categories, from 10% among immigrants in families with incomes under \$10,000 to 36% among those in families with incomes of \$70,000 or more. Conditional upon remitting, the amounts sent abroad also increase monotonically across income categories. The amount sent abroad by remitters in families with incomes of \$70,000 or more is approximately 45% higher than the amount sent by remitters in families with incomes of \$25,000 to \$44,999.

Considering savings abroad, immigrants who have \$5000 or more in savings outside of Canada are significantly less likely to remit (at about 20%) than immigrants who have no savings abroad (at 26%). One interpretation is that immigrants with savings abroad come from more affluent families than those who have no savings abroad, and hence the former are less likely to remit. Among immigrants who remit, the amount sent abroad is not correlated with savings.

Consistent with other studies, immigrants who are employed on a full-time basis are significantly more likely to remit than those who are employed part-time or are not in the labour force (predicted probabilities of 29%, 25% and 21% respectively). However, employment status is not correlated with the amount sent.

The probability of remitting is not significantly associated with the level of education that immigrants had when they arrived in Canada. However, conditional upon remitting, the amounts sent abroad by immigrants with high school or less are 20% to 25% less than the amounts sent by those with a university degree.

Finally, place of residence is positively correlated with both the incidence of remitting and the amounts remitted. The predicted probability of remitting ranges from 21% among immigrants in Montréal to 34% among immigrants in Calgary or Edmonton. Through the 2000s, the labour markets in Calgary and Edmonton have been especially robust, fuelled by the oil and gas industries and high world commodity prices. In 2004, for example, the unemployment rate for men aged 25 to 44 in Edmonton and Calgary (at 3.7 and 4.4 respectively) were about half the rate in Montréal (at 8.7). The greater incidence of remitting among immigrants in these cities likely reflects favourable labour market circumstances and perhaps positive expectations about future earnings potential. Among immigrants who remitted, those residing in Calgary/Edmonton and Vancouver sent about 16% more than those residing in Toronto.

Obligations to family

Although LSIC information on family members abroad is limited, the evidence that is available is consistent with the view that remittance behaviours are shaped by family characteristics. The likelihood of remitting and the amounts remitted are negatively correlated with the number of minor children present in the household. The predicted probability of remitting is 18% for immigrants in households with three or more children present compared with 27% for immigrants in households with no children. Furthermore, conditional on remitting, the amount sent by immigrants with one or two children is 17% to 19% less and the amount sent by immigrants with three or more children is 36% less than that sent by immigrants with no children.

The importance of family characteristics is also evident in intentions to sponsor family members to come to Canada. Immigrants who are already sponsoring or intend to sponsor a spouse or child to come to Canada are more likely to remit than immigrants with no sponsorship activities or intentions (predicted probabilities of 36% and 23% respectively). Those sponsoring a child or parent send approximately 23% more than those with no sponsorship involvement. The same patterns are evident among immigrants sponsoring a parent or grandparent. Their predicted probability of remitting is 30% and they send approximately 12% more than those with no sponsorship involvement. These findings are consistent with other studies reporting that immigrants remitting to support children and spouses tend to send more than those remitting to other family members (Stanwix and Connell 1998).

Characteristics of migration

Although descriptive statistics indicated little difference in the incidence of remitting across immigration categories, the picture changes somewhat when other characteristics are taken into account. More specifically, the predicted probability of remitting is somewhat higher among family class immigrants (at 27%) than economic immigrants (at 23%). Similarly, the predicted probability of remitting is 28% among refugees, although this estimate is just over the .1 level of confidence. Conditional upon remitting, immigration category is not correlated with the amount sent abroad.

Organizational involvement

Of the two organizational participation / involvement variables included in the model, one is significant. Specifically, immigrants who belong to a religious organization are more likely to remit than those who do not (predicted probabilities of 28% and 24% respectively). Organizational involvement is not correlated with amounts remitted.

Region of birth

A set of dummy variables included in the model identifies immigrants from nine world regions. These variables capture inter-regional differences in remittance behaviours net of the characteristics documented above. Again, the differences are large as the predicted probability of remitting is highest among immigrants from Southeast Asia and from the Caribbean and Guyana (at 52%), followed by immigrants from Eastern Europe and Sub-Saharan Africa (at 35% and 32%). The likelihood of remitting is lowest among immigrants from West Asia, the Middle East and North Africa (at 16%), North America, Western Europe and Oceania (at 17%) and East Asia (at 18%). Among immigrants who remitted, those from East Asia remitted the largest amounts.

Finally, remittances behaviours are significantly associated with GDP per capita in the country of birth. The predicted probability of remitting is highest among immigrants from countries with GDP per capita below \$2,000 (at 38%) and lowest among those from countries with GDP per capita of \$8,000 to \$14,999 (at 18%) or \$15,000 or more (at 12%).

Multivariate results – Regional comparisons

Given the considerable variation in the remittance behaviours of immigrants from different regions, one question that arises is whether the correlates of remitting the same across all of them. In other words, are the factors associated with remitting ‘universal’ or do they vary from region to region? To address this question separate regression models are estimated for immigrants in nine world regions. Readers should note that three of these models are based on underlying samples of less than 800 respondents and the likelihood of regression coefficients being statistically significant is reduced as a result. Because of this we run these models using a simplified specification: some covariates were excluded because they are correlated with region – this is the case of immigrant category - while others, such as number of children, were re-grouped in fewer categories.

A number of characteristics are consistently correlated with remittance behaviours across immigrants from different regions of origin (Tables 6 and 7). This is most evident in terms of financial capacity. The likelihood of remitting and the amount remitted are both positively and significantly correlated with family income in seven of the nine regional models. Similarly, employment status is correlated with the likelihood of remitting in six of the nine models, but with the amount remitted in only two of the nine. Finally, savings abroad are negatively correlated with the likelihood of remitting in five of the nine models, but are not correlated with the amount sent in any of them.

Turning to family characteristics, the correlation between presence of children and the likelihood of remitting and the amount remitted is significant in four of the nine models, and approaches significance in a five. The positive correlation between sponsorship of a family member and the likelihood of remitting is significant in five of the nine models, but is significantly correlated with the amounts sent in only two.

In terms of demographic characteristics, the negative correlation between older ages and the likelihood of remitting is significant in six of the nine regional models, but is significantly correlated with the amount sent in only one.

Overall, the significance of financial and family characteristics is far more evident in terms of the decision to remit than in the amounts sent. Furthermore, results from our models suggest there is considerable inter-regional consistency in some of the factors correlated with remittance behaviours, most notably financial and familial characteristics.

There are a number of other instances where the correlates of remittance behaviours appear to be more uniquely evident within specific regions of origin. For example, there is a negative correlation between being female and the likelihood of remitting among immigrants from South Asia and from West Asia, the Middle East and North Africa. Such correlations are not at all evident among immigrants from other regions, suggesting that gender may play a different role in remittance behaviours among immigrants from different regions.

Within the research literature, evidence on the significance and direction of the correlation between education and remitting is mixed. This is also the case in our results. Among immigrants from Eastern Europe, those with less than high school are less likely to remit than those with a university degree. Similarly, among immigrants from the Caribbean and Guyana, those with a post-secondary credential are less likely to remit than those with a degree. The direction of the correlation runs in the opposite direction among immigrants from Central and South America and from Eastern Asia, as immigrants with lower levels of educational attainment are more likely to remit. However, conditional on remitting, immigrants with lower levels of educational attainment send less money abroad than those with university in three of the nine regional models.

Finally, there is a strong, positive correlation between membership in an organization and remitting among immigrants from Sub-Saharan Africa and from West Asia, the Middle East and North Africa. This suggests that organizational ties may play a different role in the remittance behaviours of immigrants from different regions.

V. Conclusions and Implications

Evidence from the LSIC indicates that during their initial years in Canada a significant minority of new immigrants send remittances to family or friends abroad. On an annual basis, the average amount sent by remitters is approximately \$1,450, accounting for about 6% of total personal income before taxes and for about 3% of total family income before taxes. However, readers are reminded that the LSIC collected data on the remittance activities of individuals rather than families or households and hence may yield conservative estimates.

The magnitude of inter-country and inter-regional differences in remittance behaviours is a salient theme in this study. Descriptive data show that within a single landing cohort, the incidence of remitting among immigrants from different countries ranges from less than 10% to over 60%, while the average annual amounts remitted ranges from about \$500 to almost \$3,000. Turning to the factors associated with remitting, financial and family characteristics are consistently significant among immigrants from all world regions. In contrast, other factors, such as sex and education, are associated with remitting among immigrants from some regions but not others. Furthermore, large inter-country and inter-regional differences remain when socio-economic characteristics and group composition are taken into account. Other factors beyond the scope of our analysis, such as characteristics of families members 'back home', characteristics of the country of origin, and institutional characteristics within bilateral corridors, are likely important factors that further influence remittance activities.

The LSIC offers potential for further research on this topic. Remitting has been treated as the dependent variable in our analysis – with our attention focused on 'upstream determinants.' One could also view remitting as an independent variable – with attention focused on 'downstream consequences,' such as the implications for settlement. For example, how many immigrant families have incomes that are just above the before-tax low-income cut-off (LICO), and would fall below the LICO if their remittances were subtracted from their family income? Do the labour market decisions of immigrants who remit differ from those who do not? Perhaps those with obligations to provide financial support to family members abroad have less flexibility in their employment choices than those without such obligations. The longitudinal potential of the LSIC could also be further exploited. For example, using a fixed effects model one could estimate how sensitive remittance activities are to changes in personal income received by individuals over time. And finally, the gender differences in remittance activities of immigrants from different world regions documented above warrant closer investigation.

The LSIC provides timely information on the remittance activities of new immigrants. But while the breadth of perspective it offers across countries of origin is one of its strengths, its focus on a single cohort is certainly a weakness. Indeed, the LSIC leaves us unable to answer many important questions:

- To what extent does the incidence of remitting decline as immigrants reside in Canada for longer periods of time -- five, ten or fifteen years?
- Do immigrants who arrived in Canada during the 1980s or 1990s continue to send money to family members abroad?
- Do the remittance behaviours of temporary residents differ from those of landed immigrants?
- Are there discernable trends in remittance behaviours across landing cohorts?
- Are the experiences of the LSIC cohort comparable to those of other cohorts?
- What are the total annual inflows and outflows of remittances to and from Canada each year?

The LSIC was not designed to address such questions and the development of new data sources is necessary if they are to be answered.

Table 4. Regression results on pooled sample

	Logistic regression coefficients on probability of remitting	Predicted probability of remitting~	OLS regression coefficients on natural log of amount remitted
Sex			
Male (Ref grp)	ref grp	26%	ref grp
Female	-0.170**	23%	-0.117**
Age group			
15 to 24	-0.718***	17%	-0.200**
25 to 34 (Ref grp)	ref grp	30%	ref grp
35 to 44	-0.093	28%	-0.073
45 to 54	-0.607***	19%	-0.017
55 or older	-0.879***	15%	-0.277**
Family income			
Less than \$10,000	-1.110***	10%	-0.453***
\$10,000 to \$24,999	-0.605***	16%	-0.316***
\$25,000 to \$44,999 (Ref grp)	ref grp	26%	ref grp
\$45,000 to \$69,999	0.235***	31%	0.220***
\$70,000 or more	0.471***	36%	0.445***
Savings abroad			
No saving abroad (Ref grp)	ref grp	26%	ref grp
Less than \$5,000	-0.109	24%	0.014
\$5,000 to \$24,999	-0.477***	18%	0.135
\$25,000 or more	-0.318	20%	0.111
Missing	-0.237*	21%	-0.030
PMK on income			
Respondant (Ref grp)	ref grp	26%	ref grp
Other	-0.280***	21%	-0.073
Employment status			
Employed full-time (Ref grp)	ref grp	29%	ref grp
Employed part-time	-0.239***	25%	-0.099
Unemployed, not in the labor force	-0.465***	21%	-0.065
Education at landing			
Less than high school	0.131	27%	-0.255***
High school	0.035	25%	-0.201**
Post-sec. diploma or certificate	-0.065	23%	-0.078
University degree (Ref grp)	ref grp	24%	ref grp
Place of residence			
Toronto CMA (Ref grp)	ref grp	23%	ref grp
Montreal CMA	-0.143*	21%	0.099
Vancouver CMA	0.167**	26%	0.159**
Calgary, Edmonton, CMA	0.553***	34%	0.158**
All other	0.204***	27%	0.036
Number of children in hhld			
No children (Ref grp)	ref grp	27%	ref grp
One	-0.153**	24%	-0.169***
Two	-0.404***	20%	-0.187***
Three or more	-0.512***	18%	-0.361***
Sponsorship			
Not sponsoring/No intention (Ref grp)	ref grp	23%	ref grp
Spouse/Child	0.598***	36%	0.231**
Parent/Grandparent	0.322***	30%	0.117**
Immigrant category			
Family Class	0.174**	27%	-0.033
Economic (Ref grp)	ref grp	23%	ref grp
Refugee	0.249	28%	-0.135
Member of religious org.			
No (Ref grp)	ref grp	24%	ref grp
Yes	0.230*	28%	-0.046
Member of ethnic/immig. org.			
No (Ref grp)	ref grp	25%	ref grp
Yes	0.145	27%	-0.002

...continued

Table 4 - continued

	Logistic regression coefficients on probability of <u>remitting</u>	Predicted probability of <u>remitting</u> ~	OLS regression coefficients on natural log of amount <u>remitted</u>
<u>Region of birth</u>			
N. America, W. Europe & Oceania	-0.067	17%	-0.554***
Eastern Europe	0.860***	35%	-0.629***
Caribbean & Guyana	1.586***	52%	-0.789***
Central & South America	0.362**	24%	-0.693***
Sub-Saharan Africa	0.760***	32%	-0.487***
West Asia, Mid. East & N. Africa	-0.148	16%	-0.461***
East Asia (Ref grp)	ref grp	18%	ref grp
Southeast Asia	1.581***	52%	-0.770***
South Asia	0.283*	23%	-0.139
<u>GDP / capita country of birth</u>			
Less than \$2,000	0.566***	38%	-0.169
\$2,000 to \$3,999 (Ref grp)	ref grp	26%	ref grp
\$4,000 to \$5,999	0.127	28%	-0.215**
\$6,000 to \$7,999	0.143	29%	-0.216**
\$8,000 to \$14,999	-0.466***	18%	-0.283***
\$15,000 or more	-0.957***	12%	-0.133
Constant	-0.782***		8.089***

*** Significant at .01; ** significant at p <.05; significant at p<.1.

~ Predicted probability of remitting with other co-variables set to their mean values.

Table 5. Compositional characteristics of pooled sample

<u>Sex</u>	<u>%</u>
Male	49.5%
Female	50.5%
<u>Age group</u>	
15 to 24	14.7%
25 to 34	38.0%
35 to 44	28.7%
45 to 54	10.8%
55 or older	7.8%
<u>Family income</u>	
Less than \$10,000	6.9%
\$10,000 to \$24,999	20.4%
\$25,000 to \$44,999	31.1%
\$45,000 to \$69,999	25.9%
\$70,000 or more	15.8%
<u>Savings abroad</u>	
No saving abroad	82.6%
Less than \$5,000	4.8%
\$5,000 to \$24,999	5.0%
\$25,000 or more	3.0%
Missing	4.6%
<u>PMK on income</u>	
Respondant	73.5%
Other	26.5%
<u>Employment status</u>	
Employed full-time	42.1%
Employed part-time	10.3%
Unemployed, not in the labor force	47.6%
<u>Education at landing</u>	
Less than high school	14.0%
High school	14.9%
Post-sec. diploma or certificate	16.9%
University degree	54.3%
<u>Place of residence</u>	
Toronto CMA	43.9%
Montreal CMA	13.5%
Vancouver CMA	15.1%
Calgary, Edmonton, CMA	8.0%
All other	19.6%
<u>Number of children in hhhd</u>	
No children	51.3%
One	26.1%
Two	16.6%
Three or more	6.0%
<u>Sponsorship</u>	
Not sponsoring/No intention	81.7%
Spouse/Child	4.3%
Parent/Grandparent	14.0%
<u>Immigrant category</u>	
Family Class	26.8%
Economic	67.2%
Refugee	6.1%

.... continued

Table 5 – continued

<u>Member of religious org.</u>	
No	84.3%
Yes	15.7%
<u>Member of ethnic/immig. org.</u>	
No	96.6%
Yes	3.4%
<u>Region of birth</u>	
N. America, W. Europe & Oceania	6.4%
Eastern Europe	10.4%
Caribbean & Guyana	3.1%
Central & South America	3.0%
Sub-Saharan Africa	4.2%
West Asia, Mid. East & N. Africa	14.5%
East Asia	24.5%
Southeast Asia	9.5%
South Asia	24.5%
<u>GDP / capita country of birth</u>	
Less than \$2,000	6.1%
\$2,000 to \$3,999	35.4%
\$4,000 to \$5,999	29.9%
\$6,000 to \$7,999	9.9%
\$8,000 to \$14,999	5.9%
\$15,000 or more	12.9%

Table 6. Logistic regression on the probability of remitting, by Region of Birth

	N. America, W. Europe & Oceania	Eastern Europe	Carribean & Guyana	Central & South America	Sub-Saharan Africa	West Asia, Mid-East & North Africa	Eastern Asia	Southeast Asia
	B~	B~	B~	B~	B~	B~	B~	B~
Sex								
Male (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Female	-0.302	-0.127	0.015	-0.030	-0.058	-0.545***	0.101	-0.023
Age group								
15 to 24	-0.271	-0.200	-0.238	-0.293	-0.826*	-0.604**	-0.809**	-1.110***
25 to 34 (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
35 to 44	0.399	-0.070	0.457	-0.303	-0.084	-0.195	-0.114	-0.146
45 to 54	0.483	-0.405	0.273	-1.124	-1.140**	-0.721**	-0.766**	-0.525*
55 or older	0.441	-0.784*	-1.026	-0.666	-0.536	-2.454***	-0.591	-0.789**
Family income								
Less than \$10,000	(excl.)	-0.557	-0.666	-0.568	-1.180*	-0.913*	-1.483***	-1.452***
\$10,000 to \$24,999	-0.530	-0.836***	-0.095	-0.775*	-0.447	-0.532***	-0.790***	-0.441*
\$25,000 to \$44,999 (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
\$45,000 to \$69,999	-0.151	0.458**	-0.117	-0.067	-0.188	0.438*	0.454***	0.206
\$70,000 or more	0.228	0.811***	0.348	0.284	-0.092	0.860***	0.823***	0.405**
Savings abroad								
No saving abroad (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Less than \$5,000	-0.109	-0.950	-0.338	-0.296	-0.311	0.319	-0.470	0.528**
\$5,000 to \$24,999	-0.914*	-0.748	-0.544	-1.425	-1.383**	-1.319**	-0.252	-0.246
\$25,000 or more	0.193	0.605	-2.493***	-1.926**	-0.724	-0.490	-0.809	-0.599
Missing	0.354	-0.654	-0.528	-0.666	-1.104	-0.825	-0.525*	-0.429
PMK on income								
Respondant (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Other	-0.106	-0.197	-0.053	-0.576	-0.045	-0.051	-0.551***	-0.158
Employment status								
Employed full-time (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Employed part-time	-0.129	-0.055	-0.311	0.429	-0.113	-0.273	-0.451**	-0.199
Unemployed, not in the labor force	-0.356	-0.335**	-0.745**	0.197	-0.712**	-0.358	-0.683***	-0.584***
Education at landing								
Less than high school	-0.480	-0.527*	-0.031	0.552	-0.155	0.071	0.861***	0.345
High school	-0.405	-0.269	0.045	1.325*	-0.003	-0.219	0.986***	0.118
Post-sec. Diploma/certificate	-0.397	-0.174	-0.870*	0.677	-0.201	-0.191	0.217	0.082
University degree (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Place of residence								
Toronto CMA (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Montreal CMA	-0.384	-0.026	0.339	-0.347	-0.066	-0.016	-0.465*	-0.176
Vancouver CMA	-0.274	0.250	-1.199	-0.125	0.861	0.285	0.006	0.354*
Calgary, Edmonton, CMA	0.583	0.588***	0.046	-0.120	0.979**	1.419***	0.422**	0.490**
All other	-0.163	-0.016	0.816*	-0.427	0.822**	0.494	-0.029	0.921***
Number of children in hhld								
No children (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
One	0.033	-0.154	-0.546	0.175	0.937*	-0.262	-0.166	-0.131
Two or more	-0.776**	-0.308	-0.641	0.060	-0.536	-0.650**	-0.319	-0.395*
Sponsorship								
Not sponsoring/No intention (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Spouse/Child	1.646***	0.888*	1.001**	0.805	0.596	0.437	0.209	0.646*
Parent/Grandparent	0.507	0.315*	0.526	0.314	0.060	0.209	0.264	0.282
Member of organization								
No (Ref grp)	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp	ref grp
Yes	0.061	0.239	0.247	0.259	0.511**	0.551**	-0.316*	-0.199
GDP/capita (continuous)								
	-0.044*	-0.058**	-0.048	-0.083	-0.129***	-0.079***	-0.057***	-0.139*
Constant	-0.172	0.279	0.641	-0.365	0.343	0.050	-0.674**	1.097**

~ Logistic regression coefficients on probability of remitting.
 *** Significant at .01; ** significant at p <.05; * significant at p <.1.

Table 7. OLS regression on the amount remitted, by Region of Birth

	N. America, W. Europe & Oceania	Eastern Europe	Carribean & Guyana	Central & South America	Sub-Saharan Africa	West Asia, Mid-East & North Africa	Eastern Asia	Southeast Asia	South Asia
	<u>B~</u>	<u>B~</u>	<u>B~</u>	<u>B~</u>	<u>B~</u>	<u>B~</u>	<u>B~</u>	<u>B~</u>	<u>B~</u>
Sex									
Male (Ref grp)									
Female	-0.536	-0.086	-0.083	-0.445	-0.229	-0.268	0.056	0.048	-0.173
Age group									
15 to 24	-0.747	-0.074	-0.155	-0.408	-0.179	-0.438**	0.046	-0.136	-0.147
25 to 34 (Ref grp)									
35 to 44	0.157	-0.154	-0.030	-0.077	0.137	-0.292*	-0.143	0.041	-0.077
45 to 54	-0.147	-0.036	-0.418	0.852	0.509	-0.031	-0.019	-0.014	-0.003
55 or older	-0.317	-0.206	-0.416	-1.125	-1.073	0.217	-0.390	-0.095	-0.144
Family income									
Less than \$10,000	(dropped)	-0.414	-0.163	0.786	-0.165	-0.823**	-0.298	-0.916**	-0.549
\$10,000 to \$24,999	0.354	-0.476***	-0.256	-0.441	-0.435**	-0.524***	-0.047	0.109	-0.472***
\$25,000 to \$44,999 (Ref grp)									
\$45,000 to \$69,999	0.271	0.161	-0.093	0.009	0.157	0.422**	0.095	0.418***	0.232**
\$70,000 or more	1.233**	0.331**	0.024	0.901**	0.823***	0.549**	0.361**	0.486***	0.363***
Savings abroad									
No saving abroad (Ref grp)									
Less than \$5,000	0.101	-0.133	0.109	0.330	0.479	0.048	0.633**	-0.100	-0.069
\$5,000 to \$24,999	0.791	0.263	-0.274	-0.732	0.551	0.613	-0.037	0.140	0.175
\$25,000 or more	0.443	0.803*	2.865	-1.025	-0.831*	0.571	-0.021	0.201	-0.225
Missing	0.054	-0.648*	0.419	-0.921	-0.817	-0.374	0.209	0.506*	-0.263
PMK on income									
Respondant (Ref grp)									
Other	0.539	0.029	-0.015	-0.047	-0.168	-0.037	-0.219	-0.161	0.104
Employment status									
Employed full-time (Ref grp)									
Employed part-time	-0.387	-0.151	0.072	-0.534	0.157	0.061	-0.072	-0.220	-0.204
Unemployed, not in the labor force	0.230	-0.001	-0.049	-0.567*	0.044	-0.110	0.017	-0.164	-0.210**
Education at landing									
Less than high school	0.881	-0.621	-0.466*	-0.801	-0.499	0.022	-0.296	-0.396*	-0.066
High school	0.382	-0.048	-0.636**	-0.646	-0.540*	0.044	-0.261	-0.263	-0.149
Post-sec. Diploma/certificate	0.768**	-0.183	-0.566*	-0.540	-0.244	0.204	-0.172	-0.086	-0.031
University degree (Ref grp)									
Place of residence									
Toronto CMA (Ref grp)									
Montreal CMA	0.188	0.030	0.208	0.290	-0.676**	0.101	0.094	0.214	0.296
Vancouver CMA	0.773	-0.029	0.987	0.538	-0.242	0.011	-0.065	0.072	0.423***
Calgary, Edmonton, CMA	1.079***	0.187	-0.714	0.037	-0.223	0.215	0.234	0.061	0.064
All other	0.870**	-0.015	-0.092	0.404	-0.427	-0.019	-0.074	0.001	0.211
Number of children in hhld									
No children (Ref grp)									
One	-0.645	-0.016	-0.062	0.361	-0.109	-0.618***	-0.025	-0.210	-0.121
Two or more	-0.520	0.109	-0.317	-0.149	-0.428*	-0.381**	0.069	-0.273*	-0.352**
Sponsorship									
Not sponsoring/No intention (Ref grp)									
Spouse/Child	0.711	0.830***	0.381	-0.488	0.623**	0.225	-0.011	0.047	-0.070
Parent/Grandparent	0.732	0.063	0.242	-0.339	0.114	0.261	0.210	0.073	0.060
Member of organization									
No (Ref grp)									
Yes	0.493	-0.072	-0.065	-0.083	0.044	0.051	0.052	0.067	-0.188*
GDP/capita (continuous)	0.033	-0.020	0.022	-0.251***	-0.013	0.043**	-0.007	-0.005	-0.123
Constant	5.343***	7.306***	7.322***	9.694***	7.892***	7.450***	7.645***	7.038***	8.384***

~ OLS regression coefficients on natural log of amount remitted.
 *** Significant at .01; ** significant at p <.05; * significant at p <.1.

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