CULTURAL DIFFERENCES IN THE REMITTANCE BEHAVIOUR OF HOUSEHOLDS: EVIDENCE FROM CANADIAN MICRO DATA

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ABSTRACT:

This paper analyses the effect of cultural differences amongst ethnic groups on the remittance behaviour of native and immigrant households in Canada. In contrast to the New Economic of Labour Migration (NELM) literature that examines remittance motivation in the framework of extended family agreements, we embed remittances in a formal demand system, suggesting that they represent expenditures on social relations with relatives and/or friends and contribute to membership in social/religious organizations respectively. The results indicate strong ethnic group cultural differences in the remittance behaviour of recent Asian immigrant households and highlight the importance of differentiating with respect to cultural background when analysing the determinants of remittances.

KEYWORDS: international migration, household behaviour, remittances

JEL CLASSIFICATION: C31, D12, F22, F24

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1. Introduction

The literature on household money transfers to persons outside the household is substantial, analysing the remittance behaviour mainly in terms of motivation. These are categorised to be either altruism, self-interest, exchange, co-insurance or loan-agreements between extended family members (Lucas and Stark 1985).

The motivation models make different predictions about the effect of specific determinants on remittances. For example, under the altruistic hypothesis (i.e. the migrant cares about the relatives left behind), once the migrant's income is taken into account, the education level should not have an effect on remittances (Rapoport and Docquier 2006). Under the exchange hypothesis, i.e. remittances "buy" various types of services like taking care of the migrant's relatives or his assets in the home country, the education level is expected to have a negative impact on remittances as educated migrants have a lower propensity to return and thus reunite with their families in the host country and invest less in home country assets (Cox 1987). While under the informal family loan hypothesis, more educated migrants are expected to remit more in order to repay for the initial investment made by the family in their education (Poirine 1997; Cox *et al.* 1998; Ilahi and Jafarey 1999).

To date, most studies focus on analysing remittance receiving households in a particular migrant sending country and the empirical results are quite diverging: confirming or contradicting the predictions of one or the other remittance motivation models. For example, Lucas and Stark (1985) established that remittances received by households in Botswana rose significantly with the migrant's years of schooling. The effect is even stronger among the recipient household head's own young (i.e. children, grandchildren, nephews, and nieces), giving support to the notion that remittances are partially a result of an understanding to repay initial educational investment. Similarly, Cox *et al.* (1998) found evidence for the loan repayment hypothesis by analysing remittance receiving households in Peru and distinguishing between parents-to-children and children-to-parents transfers. On the other hand, Brown's (1997) estimation results illustrate that Western Samoan migrants to Australia (conversely to migrants from Tonga) remitted more if they received financial assistance from their relatives at home for migration proposes. However, he found no evidence that the level of education attainment could be associated with any difference in remittance behaviour.

Research to date suggests that these observed differences in remittance behaviour might be caused by cultural differences in social and/or family norms. Nevertheless, little

systematic research has been done so far on the effect of ethnic group cultural differences on the remittance behaviour of households.[1]

As reflected by the Canadian Ethnic Diversity Survey (2003), Canadian ethnic groups exhibit differential contact with their relatives in their country of origin. For example, 62% of those of Filipino ancestry reported monthly or more frequent contact with their relatives compared to 46% of those of Chinese, 31% of those of Italian and 20% of those of German origin.[2] And such differences are determined, at least partially, by cultural differences in social/family norms. For example, Elliott and Gray (2000) explain in a report for the New Zealand Immigration Service that the responsibility to care for parents and grandparents is a key component of the family systems in South and South East Asia. Similarly, in Oceania young adults are expected to contribute to both nuclear and extended family commitments. Conversely, in Western societies such family obligations are less important because they have been replaced by well developed social security and financial systems.

This paper builds on this literature by assessing the effect of ethnic group cultural differences on the remittances behaviour of native and immigrant households in Canada. For several reasons, we consider the Canadian context appropriate for this exercise. Canada's foreign-born resident population is large: 5.6 million or about 19% of the total population in the 2001 census; the vast majority of these foreign-born residents are admitted into Canada on a permanent basis (96%) and due to quick accession to citizenship over 75% of Canada's foreign-born population is naturalised. Canada's immigrant population is thus quite homogeneous in terms of legal resident and citizenship status. However, it is quite diverse in terms of ethnicity. Traditional migration sources are countries from Western and Southern Europe (i.e. UK, Italy, Germany and Portugal) which in 2001 still made up about 30% of the stock of foreign-born population. Nevertheless, in the 1980s and 1990s immigration dramatically shifted towards Asian and Central and Eastern European sources, which now represent about 38% and 11% of the immigrant population respectively (Citizenship and Immigration Canada 2002).

2. Theoretical considerations

In contrast to extant micro-analysis that models remittance behaviour in the framework of informal agreements between extended family members, we embed remittances in a formal demand system and suggest that they represent expenditures on social relations with relatives and/or friends and contribute to membership in social/religious organizations respectively.

[1] One exception would be Wolff *et al.* (2007).

This modelling is, nevertheless, consistent with remittance motivation theory, in which remittances are expected to influence the social relations between family members too. For example in the altruistic model, the degree of altruism of the relatives towards the migrant may influence and be influenced by remittances. In the inheritance model, the migrant is assumed to send remittances to maintain a good relationship with the parents and, thus, help insure a possible inheritance. In the exchange model, remittances "buy" various types of services such as taking care of the migrant's relatives or his assets in the home country. In the co-insurance model, the financial support provided by the migrant ensures that relatives will support him in the future in case of need. Similarly, loan repayments for the investment of the family in the initial education and/or migration cost could be regarded as assuring his further membership in the family.

In line with Deaton and Muellbauer (1993), we allow for a two-stage budgeting process, in order to characterize the household's remittance decisions with respect to consumption. Thus, in the first stage, the household may allocate total expenditures on consumption and on the composite good "social relations outside the household". In the second stage, the expenditures on "social relations outside the household" determined in the first stage are distributed between expenditures on social relations with relatives and/or friends and contributions to group membership (i.e. membership in a religious, charitable, professional group, etc.). The differentiation between the expenditures on the two types of social relationships is not only of sociological relevance. The costs involved are also different: while contributions to group membership are in the majority of cases tax deductible, transfers to relatives are not.

2.1 The demand system

It is a basic premise of this paper that the act of private remittances is embedded in the household's utility maximization framework and is, thus, a part of the household's allocation process across a general expenditure system. The chosen demand system estimated is the Linear Approximate/Almost Ideal Demand System (LA/AIDS) proposed by Deaton and Muellbauer (1980), because it satisfies the microeconomic theory of demand (i.e. allows for exact aggregation and the imposition of homogeneity and symmetry restrictions) and permits a two-stage budgeting procedure.

For the i^{th} commodity, the model can be specified as follows:

[2] See Statistics Canada (2003); these numbers are in part reflecting time of arrival in Canada.

$$w_i = \alpha_i + \sum_j \gamma_{ij} \ln p_j + \beta_i \ln\left(y / p^*\right) + \varepsilon_i \quad (1)$$

where $w_i = p_i \times q_i / y$ is the budget share of the i^{th} good, p_j is the price of the j^{th} good, y represents total expenditures, and p^* is a Stone price index (i.e. $\ln p^* = \sum w_i \ln p_i$). To ensure that this demand system conforms to the utility maximization properties, equation (1) must satisfy the adding up, homogeneity and symmetry conditions:

$$\textit{adding up}: \quad \sum_{i=1}^{n} \alpha_i = 1;\ \sum_{i=1}^{n} \beta_i = 0;\ \sum_{i=1}^{n} \gamma_{ij} = 0 \quad (2)$$

$$\textit{homogeneity}: \quad \sum_{j=1}^{n} \gamma_{ij} = 0 \quad (3)$$

$$\textit{symmetry}: \quad \gamma_{ij} = \gamma_{ji} \quad (4)$$

The adding up conditions are ensured by the fact that the budget shares of the goods in the system add up to one: $\sum w_i = 1$. Homogeneity and symmetry have to be tested and they can be parametrically imposed. The LA/AIDS is simple to interpret. In the case of constant relative prices and "real" expenditure (y / p^*), the budget shares are constant. This is the natural starting point for the predictions using the model. Changes in real expenditures operate through β_i; these add to zero and are positive for luxuries and negative for necessities. Using the estimate β_i, Engel elasticities can be calculated as follows:

$$e_i = 1 + \left(\beta_i / \overline{w}_i\right) \quad (5)$$

where e_i is the Engel elasticity and $\overline{w}_i$ is the mean share of expenditures on the i^{th} good for the entire sample. The Engel elasticity is greater than unity for luxuries, less than unity for necessities, and equal to one for normal goods.

2.2 Demographic controls, immigration entry and assimilation

In the demand analysis for various commodities the LA/AIDS is often supplemented with demographic variables in order to reduce the bias due to unobserved household characteristics (see Teklu 1996; Adrangi and Raffiee 1997; Meenakshi and Ray 1999). Following this approach, we additionally estimate a demographically enhanced demand system:

$$w_i = \alpha_i + \sum_{j=1}^{n} \gamma_{ij} \ln p_j + \beta_i \ln\left(y / p^*\right) + \delta_{ik} X_k + \varepsilon_i \quad (6)$$

where X_k represents a set of demographic control variables that depict the life-cycle stage of the immigrant and Canadian households, i.e. gender, age, education, marital status, household size, home ownership, and net change in assets and liabilities (i.e. savings).

Finally, based on the model of Caroll *et al.* (1994), the demand system is further augmented in order to capture eventual immigration entry and assimilation effects with respect to the remittance behaviour of households:

$$w_i = \alpha_i + \sum_{j=1}^{n} \gamma_{ij} \ln p_j + \beta_i \ln\left(y / p^*\right) + \delta_{ik} X_k + \sum_s \left(\phi_{is} + \theta_{is} D\right) \times IG_s + \varepsilon_i \qquad (7)$$

where IG_s is a dummy variable that is equal to one if the household belongs to immigrant group *s* and zero otherwise. *D* denotes the duration of the foreign-born household residence in Canada. Immigrants are assumed to arrive with a set of cultural values and tastes which are different from those of the natives; this is reflected by possible non-zero values for ϕ_{is}. Thus, the set of parameters ϕ_{is} can be interpreted first as a general *immigration entry effect.* If ϕ_{is} differs significantly across immigrant groups, we consider this an evidence for country/region specific *cultural effects* as well. Over time, via assimilation, the behaviour of immigrants may become more similar to that of the host group. In our model this would be the case when the sign of θ_{is} is opposite to the sign of ϕ_{is}. In this case, the immigration entry and/or cultural effects would vanish after ϕ_{is}/θ_{is} years of residence in the host country.

2.3 Weak separability

According to Deaton and Muellbauer (1993), a necessary and sufficient condition for the second stage of the two-stage budgeting process is weak separability. Weak separability of a utility function over a given set of commodities implies that the marginal rate of substitution between any two goods within one group of goods is independent of the level of consumption of any other group of goods. If this condition holds, then it is correct to specify the demand for these product groups separately. The sole connection between the commodity groups is via the income or expenditure effect.

Following Hansen (1993), Allen's partial elasticities of substitution allow us to test for the existence of weak separability. The utility function is weakly separable into the commodity groups A and B if two conditions are satisfied: (a) the partial substitution elasticities between different commodities of the group A and of the group B are identical, i.e. $\sigma_{lm} = \sigma$ for all $l \in A$ and $m \in B$, and (b) the utility sub-functions are homothetic:

$$\sum_l \beta_l = 0 \text{ and } \sum_m \beta_m = 0 . \quad (8)$$

From the relation between substitution elasticities and compensated price elasticities we have: $\sigma_{lm} = 1/\overline{w}_m \times \Theta^*_{lm}$. The compensated price elasticities are calculated as $\Theta^*_{ij} = \overline{w}_j + \gamma_{ij}/\overline{w}_i$ for $i \neq j$. Thus, from the condition (a) we obtain the testable restriction:

$$1 + \gamma_{lm}/\overline{w}_l\overline{w}_m = \sigma . \quad (9)$$

To test if the conditions (8) and (9) are satisfied, we apply a likelihood ratio (LR) test comparing the system of equations with and without the restrictions imposed.

3. Data and Descriptive Statistics

3.1. Family Expenditure Survey (FAMEX)

The data sets used for this analysis are taken from the waves 1986 and 1992 of the Family Expenditure Survey (FAMEX), Statistics Canada. Data were collected in the form of a detailed questionnaire during one or several interviews. Thus, income, expenditure and remittance data in the surveys are self-reported.

The focus of the empirical part of this study is to investigate the possible differential patterns of private remittances by Canadian-born and foreign-born households. The Canadian-born population is used as a reference group since presumably its members have no immediate attachments abroad. The survey years 1986 and 1992 are of interest because they encompass a dynamic period of expanding Canadian immigration inflows which dramatically shifted to Asian source countries.[3] The wave 1990 was not included because in comparison to 1986 and 1992 it has observations only from households in urban areas.[4] Data from the year 1996 were omitted as well because they do not include information on the immigrant's year of arrival, which is assumed to significantly affect remittances.

Only observations with positive and non-zero income and total expenditures were kept in the regressions. Observations with negative expenditures for the different expenditure groups and with "masked" or "non-stated" responses for the variables of interest were excluded as well.[5] In addition, the household head is considered to be the member of the household mainly responsible for its financial maintenance (i.e. pays the rent, mortgage, property taxes, etc.).[6] This definition of the household head will enable us to categorize a

[3] In 1968 75% of Canadian immigrants came from Western Europe and North America, by 1992 25% came from these regions.
[4] A further reason for the omission of the survey year 1990 was the rejection of the test for non-occurrence of structural breaks when pooling the 1986, 1990 and 1992 surveys.
[5] Following this screening, a total of 853 observations were excluded.
[6] We assume that this person determines also the household's expenditure patterns.

foreign-born household as one in which the financial maintenance responsibility is borne by a foreign-born person. The data from the pooled 1986 and 1992 surveys, given the above screening, yield 18,995 surveyed households.

Data used in this study do not allow us to differentiate between transfers sent inside or outside Canada. However, we can distinguish between a transfer to a person and to a charity. An inspection of the actual remittance data indicates that some households specialize in the type of transferred funds. Specifically, 8.5% of the households remit money exclusively to charitable organizations and about 17% remit money only to individuals, while 66% remit to both individuals and charitable groups.[7] We hypothesize that charitable remittances should respond differently to household income since these donations are tax deductible in Canada and do not imply a contractual motive to extended family members.

Table 1 reports some descriptive statistics by birth status and for the two survey years included in the study: 1986 and 1992. We are able to differentiate between five pre-defined population groups: Canadian-born, immigrants from North America and Western Europe, from Southern and Eastern Europe, from China, Asia and Oceania, and Others and Non-Stated.[8] The last group was excluded from the analysis since it was deemed too heterogeneous.

[Table 1: about here]

Group mean values show that the Asian immigrant population contains more males as household heads, is younger and more educated, includes a lower portion of separated/divorced household heads, has households with the largest average size, and has a significantly shorter immigration history in Canada than the remaining foreign-born groups. Also, Asian immigrant households earn the highest average incomes but save least.

However, the greatest average remittances, both to persons and to charities, are made by immigrant households from North America and West Europe. They remitted about 35% more than Asian immigrant households in 1992. The North American and West European group have the greatest share of household heads separated or divorced (which we assume to positively affect remittances to persons) and the greatest income per household member (which we assume to positively affect remittances to both persons and charities).

[7] The remaining 8.5% did not make any remittances.

[8] The geographical origin of the individual is defined in these broad regional groups by the Canadian Family Expenditure Survey and there is no additional information about the country of birth. Therefore, a disaggregation of the population by smaller regional groups or by country of birth was not possible.

[Figure 1: about here]

Age of the household head seems to significantly influence the remittance activity of the household as well (see Figure 1), however, with differences among the population groups. On average Canadian-born and South and East European immigrants make the greatest remittances to persons after age 65 (CA$ 1,375/year and CA$ 1,944/year respectively). While North American and West European households remit the greatest average amounts between age 35 to 64 (CA$ 1,678/year). Only Asian immigrant households keep their average remittances to persons quite stable over the whole lifetime.

As a share of total expenditure, all population groups remit most after age 65. The share is the biggest for South and East European (9.5%) and the smallest for Asian immigrants (4.7%). Finally, the largest average remittances to charities are made by households in all population groups after age 65 (CA$ 400 to 600 or 2 to 3% of the total expenditures).

3.2 Prices

The prices used for eight (out of ten) commodity groups (i.e. Food, Shelter, Household Operations and Furnishing, Clothing, Transportation, Personal and Health Care, Recreation, Education, and Tobacco and Alcoholic Beverages) included in this study are consumer price indices (CPI) that vary over time and across five regions (Atlantic Provinces, Quebec, Ontario, Prairies, and British Columbia) and are assumed to be fixed within the regions (see Table 2). For Remittances to Persons Outside the Household and Remittances to Charities we computed price indices based on the CPIs of the above eight commodity groups.

[Table 2: about here]

We argue that the value of one remitted dollar to a person outside the household equals to one dollar of forgone consumption. Thus, we calculated for each household in our sample the price index of Remittances to Persons as the sum of the CPIs of the eight expenditure groups presented above, weighted by the respective share of the expenditure group in total expenditures.

Charitable donations are tax deductible. Thus, the price for one dollar donated to charities equals the value of forgone consumption minus the tax deduction received for the

donation of that one dollar. The CPIs for Remittances to Charities are computed as follows: $CPI_{chaor,i} = 100 + (CPI_{poh,i} - 100) \times (1 - Taxr_i)$. Where: $CPI_{chaor,i}$ is the CPI of Remittances to Charities for the i^{th} household; $CPI_{poh,i}$ is the CPI of Remittances to Persons for the i^{th} household; and $Taxr_i$ stands for the tax rate applicable for the i^{th} household. The tax rates are uniquely computed for each household through a combination of the federal and provincial tax rates.

4. Empirical Results

LA/AIDS is a system of seemingly unrelated equations with identical regressors and cross-equation restrictions, e.g. $\gamma_{ij} = \gamma_{ji}$. For estimating the system, therefore, we use Zellner's Seemingly Unrelated Regression (SUR). For the dependent variable the following must hold: $\sum w_i = 1$. This restriction implies further restrictions on the right hand side, in particular $\sum \varepsilon_i = 0$. The residuals are linearly dependent and their covariance matrix is singular.[9] Green (2002) shows that the solution to the singularity problem is to arbitrarily drop one of the equations and estimate the remainder. The residuals covariance matrix of the system with $n-1$ equations is non-singular. The coefficients of the n^{th} equation result from the "adding-up" restriction. Furthermore, in the SUR-model, when all equations have the same regressors, the efficient estimator is single-equation ordinary least squares; i.e. GLS is the same as OLS. Thus, we use in this analysis SUR and OLS alternatively: SUR in most cases, in particular when we impose cross-equation restrictions and OLS for single equation estimation.

4.1 Homogeneity and symmetry

One of the tasks of this empirical analysis is to test if the restrictions implied by utility theory hold for the demand equations when including the unique expenditure items relating to remittances. The homogeneity restriction is first tested by using a likelihood ratio (LR) test comparing the separate OLS regressions for each commodity group in the study, with and without the restriction imposed. Then, we test for homogeneity, symmetry and both homogeneity and symmetry by comparing the SUR estimates for the whole system, with and without the restrictions imposed. The test is undertaken for both the uncontrolled for demographics LA/AIDS model (eq. 1) and the demographics augmented model (eq. 6).

[9] See Hansen (1993).

[Table 3: about here]

The test results for the homogeneity and symmetry restrictions are presented in Table 3. Since we assumed different expenditure patterns for the four population groups in the study, we conducted the tests for each group separately. In fact, different results are generated by the restriction tests. In the uncontrolled for demographics setting, when running separate OLS regressions, the hypothesis of homogeneity cannot be rejected at the 95% level in six out of ten equations in the system for the Canadian-born population, all ten equations for the North American and West European and the South and East European immigrant population, and nine out of ten equations for the Asian immigrant population. When running the entire system, the homogeneity restriction cannot be rejected in the case of the North American and West European and the South and East European immigrant groups. Finally, the symmetry restriction is rejected at the 99% level for all population groups.

In the controlled for demographic characteristics setting, the tests for homogeneity and symmetry performed similarly. The weak performance of the homogeneity and symmetry tests is not necessarily proof of irrational behaviour. In fact, it might have been caused by the lack of sufficient cross-variation for the price variables (i.e. the prices vary only between two years and five Canadian provinces/regions) and, thus, leads to large standard errors on the price parameters. Nevertheless, when estimating the expenditure elasticities we will impose the homogeneity and symmetry restrictions (eq. 3 and 4) parametrically in the SUR model.

4.2 Weak separability

The LR-test results show that weak separability cannot be rejected only in the case of Asian immigrant households. The χ^2-statistic is 10.84 in an unrestricted setting and 8.93 when restricting for homogeneity and symmetry, with both values lower than the 95% level critical value. For all other population groups weak separability is rejected by the LR-test.

This implies that in the case of Asian households remittances to charities are a substitute for remittances to persons. This behaviour actually resembles Muslim charity traditions. According to the Koran, 2 to 5% of the income should be donated to the poor (including extended family members) or an Islamic cause; this Islamic tax is known as *Zaqqat* (ECORIS, 2005). However, Asian immigrants in Canada are predominately from China, Hong Kong, India and the Philippines and belong to other religious groups. Therefore, it is not straightforward how the above explanation applies to non-Muslim Asian immigrants.

Another explanation for the weak separabilty in the case of Asian households is owing to the quite low variance in the transfers share to relatives and friends (see sections 4.3 and 4.4). Because transfers to charities represent only about 20% of the total transfers outside the household, their variance has a less significant impact on the weak separablility test results.

In the remainder of the paper, the demand sub-system for relations with relatives and/or friends and group membership is specified for Asian households separately. The LA/AIDS system thus contains only two equations (one for the share of remittances to persons and one for the share of remittances to charities) and has total remittances as an independent argument (instead of total expenditures).

4.3 Expenditure elasticities

Engel elasticities for Canadian-born and foreign-born residents across income groups are estimated in an LA/AIDS system, under an uncontrolled as well as a controlled setting. Table 4 reports the estimated expenditure elasticities for the pooled 1986 and 1992 surveys without imposing restrictions for homogeneity and symmetry.[10] The estimated expenditure elasticities with restrictions imposed (Table 5) mimic those of the unrestricted estimates.

If the model is correct and demographic arguments condition remittances then significant differences should arise between the controlled and uncontrolled elasticity measures. And indeed, expenditure elasticities for remittances to persons and remittances to charity/religious groups are in a controlled setting up to two times greater than estimates derived in an uncontrolled one. In the remainder of this section we would like to focus on the first set of estimates because they reflect the net income effect on the remittance activity more accurately.

[Table 4: about here]

[Table 5: about here]

The results are differentiated by foreign-born status and income group to capture any effects owing to the immigrant origins or their position in Canada's income distribution. Given these categories, the range of calculated values for the expenditure elasticities for remittances to persons greatly exceed unity for the Canadian-born households and the North American and

[10] Elasticity estimates for the traditional goods on the basis of FAMEX as reported by Didukh (2001, 2002) and Geiger (2002) over a wide variety of commodities are within the range reported here.

all European immigrant households, which seem to treat social relations to persons outside the household as a luxury item. At the same time, elasticity estimates for remittances to persons in the Asian case are close to unity, meaning that they consider expenditures in these social ties as a normal good.

The results indicate significant differences in the remittance activity of the population groups across the cited income classes and imply that households value differently the relationships with relatives and/or friends outside the household, dependent on their cultural background. On the one hand, for the North American and all European immigrant households, the relationship among the household members (i.e. the nuclear family) appears to be of primary importance and only when total household consumption is large enough do these households become more generous towards other relatives and friends. On the other hand, for Asian households, the remitted share to persons outside the household is more stable with changes in total expenditure, which could be evidence of stronger ties with their extended family.

The estimated expenditure elasticities to charities of all households in the top income half are below unity, implying that they consider group membership a necessity. This is actually in line with the general experience, that religious participation weakens (or at least it does not strengthen) as a person/household becomes wealthier. However, for households in the bottom income half, the elasticity is around unity for the Canadian-born and the South and East European (for North American and West European even exceeding unity), meaning that these households increase charitable spending probably as a means to improve their status in their social group as their income rises.

Asians are again an exception with households in both income halves treating remittances to charities as a necessity.

4.4 Demographic controls

We now turn to the effects of household demographic characteristics on remittance behaviour. We argue that remittances are embedded in the household's life cycle experience and illustrate it with a series of simulations. These simulations are depicted in the Figures 2 and 3 and are constructed from the reported estimates for remittances to persons and to charities in the Tables 6 and 7. In short, for each representative household we place the mean values for all the model's variables (except age and age-squared) and cross multiply by the relevant coefficients. This produces the household's estimated remittances share by age for its constituent parts.

Figure 2 reveals several important features of the remittance experience over time and across various population groups. We note that the share of remittances to persons of Asian households has the lowest variance over lifetime. Moreover, from all population groups, Asian households remit to persons the greatest share of expenditures over the active lifetime of the household head (i.e. until age 60).[11] Both these could be a sign of contributions to the extended family, whose size is more stable over their lifetime.

Non-Asian households' transfers to persons increase dramatically as the age of the household head exceeds 50. This result may arise as members of the nuclear family (i.e. own children) leave the household. The largest transfers are, however, made after retirement age, perhaps as inter vivo transfers to heirs.

[Figure 2: about here]

These simulated patterns conform to our earlier reported stylised facts (Figure 1). To wit, the Canadian born increase their remittances to persons from an average of CA$ 700/year under the age of 34 to around CA$ 1,050 between age 35 and 64 and further to about CA$ 1,375/year after age 65. Similarly, South and East Europeans increase their remittances to persons from an average of about CA$ 900/year under age 34 to about CA$ 1,300/year between age 35 and 64 and almost CA$ 2,000/year over age 65. The remittances to persons sent by North American and West European immigrant households reach a maximum at midlife (ca. CA$ 1,700/year) and fall again after age 65 to about CA$ 1,250/year. While those of Asian households being quite stable among age groups, at values between CA$ 1,100 and 1,250/year.

From Figure 1 we should further note that the substantial increase of expenditure shares remitted to persons after age 65 observed from the simulation is partly due to the significant decrease in all expenditures (except remittances to persons and to charities).

The possible explanation that the share of expenditures remitted to persons increases with the number of the close family members living outside the household, is also confirmed for the Canadian-born and North American and West European households by the positive sign of the coefficient of the separated/divorced dummy. This implies that if the spouse lives outside the household or the household head is divorced[12], the household remits a significantly higher share of its expenditures to persons outside the household

[11] The F-tests employed confirm the existence of significant differences in means between the predicted values.
[12] The FAMEX marital status group includes widowed persons as well. However, we expect that this will not bias our results. Both separated, divorced and widowed household heads might have a higher propensity to

[Table 6: about here]

Another important result is that education negatively affects the budget share remitted to persons in the case of South and East European and Asian immigrant households, confirming the prediction of the exchange hypothesis (see Cox 1987). Under the exchange hypothesis, because more educated migrants have a lower propensity to return, they are less likely to invest in home country assets and likely to reunite with their close family members in the host country, both negatively affecting remittances.

Figure 3 depicts the simulated charitable remittances for various households. In general all population groups increase their minuscule charitable donations from about 0.5% at age 25 to around 2-3% at age 75. Furthermore, all immigrant groups remit slightly less to charities compared to the Canadian-born, with no sign of convergence over time.

[Figure 3: about here]

[Table 7: about here]

4.5 Immigration Entry and Assimilation Effects

We finally estimate the augmented share equation (eq. 7) with the immigration entry and assimilation effects. Table 8 reports the estimation results for the expenditure share of the remittances to persons, the expenditure share of the remittances to charities, and the related F-test comparing the immigrant group coefficients (i.e. the entry effects) and the interactions of the immigrant group coefficients with the variable for the time spent in Canada (i.e. the assimilation effects).

[Table 8: about here]

The immigrant group coefficient for remittances to persons is significant only for the Asian households. This indicates that at the time of entry, their expenditure share remitted to persons is 1.7% higher compared to that of Canadian-born households (and implicitly also 1.7%

remit. Separated and divorced household heads might remit more because they have a greater number of close relatives (i.e. [ex]spouse, children) living outside the household. Similarly, widowed household heads might invest more in relations to persons outside the household (i.e. remit more) in order to substitute for their loss of social relations within the household.

higher compared to other immigrant households). The coefficients are significantly different between immigrant groups. The χ^2 statistic of the F-test being 3.54 and, thus, greater than the 95% critical value. This implies the existence of ethnic group cultural differences in the remittance behaviour of households at time of entry.

There is no evidence of assimilation between the foreign-born and the Canadian-born remittance behaviour over time. In the case of immigrant households from Southern and Eastern Europe, the remittance behaviour difference grows over time. Each additional year spent in Canada increases their expenditure share remitted to persons by 6.2%. The χ^2 statistic derived from comparing the convergence patterns is 3.66 and thus greater than the 95% critical value. This implies that there exist ethnic group cultural differences with respect to the speed of assimilation to the Canadian-born remittance norm as well.

Regarding remittances to charities, all foreign-born households remit a slightly smaller share of expenditures (0.5 to 0.7%) compared to Canadian-born households. However, the χ^2 statistic of both F-tests is lower than the 95% critical value, showing that there is no evidence for ethnic group cultural differences in the remittance behaviour of households to charities.

5. Conclusions

Most studies on remittance behaviour have used household data in a particular migrant sending country, thus analysing the behaviour of a culturally homogenous population. The empirical results vary significantly between the studied populations, leading to suggestions that the disparities might be attributable to cultural differences. However, little systematic research, if any, was done to directly test the hypothesis that cultural differences play a discernable role in the remittance behaviour of migrants.

We have tested for cultural effects by comparing the remittance behaviour of immigrants to Canada who come from different world regions, and therefore represent different cultures. The empirical results suggest significant differences in the remittance behaviour among the population groups. Expenditure elasticities computed separately for each immigrant group reveal that Asian households consider remittances to relatives and/or friends a normal good, while all other immigrants and the Canadian born regard them a luxury good. Moreover, running estimations with pooling all population groups and controlling for immigrant groups and time spent in Canada shows that Asian households remit to persons a greater share of their expenditures at time of arrival, with no evidence of convergence to the Canadian-born norm over time.

We must note that in the Canadian context remittances represent only a small share of the immigrant households' budget until retirement years, most probably because the vast majority of immigration to Canada is permanent, with a generous family reunification policy. Nevertheless, our findings give additional insights into the transfer behaviour of permanent migrants in general and have important policy implications. The differential response with respect to changes in total expenditures (or income) suggests that during periods of economic downturn in migrant host countries – like the one we are currently passing through – migrants originating form countries with a nuclear family tradition (and/or with more developed social systems) would probably decrease their private monetary transfers more dramatically. These differences in transfer behaviour will certainly change the geography of international remittance flows. Recent World Bank estimations of regionally aggregated remittance flows to developing countries confirm these expectations. Remittance flows to developing countries in Europe and Central Asia are estimated to have fallen in 2009 by about -14.7 percent, while migrants' remittances to South and East Asia and Pacific by only -1.5.to -1.8 percent (Ratha *et al.* 2009).

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Table 1: Descriptive Statistics by Population Group (1986/1992; mean values)

Variable	Population Group							
	Canadian		N.Am&W.Eu.		S&E Europ.		Ch.,Asian&Oc.	
	1986	1992	1986	1992	1986	1992	1986	1992
Female as HH head (prop.)	0.31	0.43	0.33	0.42	0.23	0.32	0.21	0.32
Age of HH head	45.60	46.69	53.93	54.44	51.13	52.97	42.00	45.18
Education	2.49	2.69	2.75	3.04	1.94	2.36	3.22	3.18
Married with HH member (prop.)	0.63	0.63	0.62	0.63	0.76	0.72	0.85	0.75
Single – never married (prop.)	0.15	0.14	0.09	0.08	0.04	0.05	0.09	0.13
Separated/Divorced/Widowed (prop.)	0.22	0.23	0.29	0.29	0.20	0.23	0.06	0.12
HH size	2.68	2.57	2.50	2.39	3.03	2.75	3.93	3.22
Home ownership (prop.)	0.56	0.60	0.66	0.66	0.71	0.74	0.55	0.55
Years since immigration	n.a.	n.a.	27.58	31.16	24.72	28.30	11.19	13.36
HH income after taxes (CA$)	36,189	36,404	39,012	37,807	39,966	35,784	43,063	38,213
Income per HH member (CA$)	13,503	14,165	15,605	15,819	13,190	13,012	10,956	11,867
Net change in assets (CA$)	1,563	1,737	3,634	1,865	2,432	1,365	-282	1,222
Remittances to persons (CA$)	988	1,033	1,173	1,711	1,500	1,322	1,227	1,173
Remittances to charities (CA$)	395	322	557	588	225	309	292	316
No. of Observations	8,530	7,898	780	594	405	317	233	238

Notes: prop. = proportion; Education levels are 1 = less than 9 years, 2 = some or completed secondary, 3 = some post-secondary, 4 = Post secondary degree, 5 = University degree; Monetary values in 1992 Canadian dollars

Table 2: Prices Indices Across Canadian Regions: 1986 and 1992

Year	Region	Expenditure Group							
		Food	Shelter	HH Op. & Furn.	Clothing	Transp.	Pers. & Health Care	Recr. and Educ.	Tob. & Alcohol
1986	**Atlantic**	82.9	68.2	85.2	75.9	60.3	71.0	77.7	58.3
	Quebec	87.6	58.4	81.2	74.3	79.1	67.9	71.7	58.3
	Ontario	85.7	78.0	83.5	78.3	77.3	74.2	75.5	54.1
	Prairies	84.0	62.2	77.1	80.5	57.3	68.5	71.5	50.7
	BC	88.4	80.3	84.5	81.7	63.5	71.0	77.6	55.3
1992	**Atlantic**	98.2	80.4	98.1	96.5	75.9	88.7	101.3	104.5
	Quebec	97.8	72.0	96.7	99.7	90.1	90.7	100.1	101.1
	Ontario	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Prairies	98.6	75.1	92.1	102.8	77.5	92.2	94.6	95.1
	BC	104.7	102.0	99.2	99.8	97.9	88.0	97.1	104.4

Notes: the base used for the price indices is Ontario 1992.
Source: Pendakur (2001), Didukh (2001), and Browning and Thomas (1998a,1998b).

Table 3: Test for Homogeneity and Symmetry Restrictions

Commodity Group	Population							
	Canadian		N.Am.&W.Eu.		S&E Eu.		Ch.,As.&Oc.	
	chi^2	p-value	chi^2	p-value	chi^2	p-value	chi^2	p-value
Uncontrolled Setting								
Food	5.62	0.018	1.36	0.244*	3.28	0.070*	1.35	0.246*
Shelter	5.22	0.022	1.05	0.307*	2.14	0.143*	0.87	0.350*
HH Op. & Furnishing	2.29	0.130*	1.20	0.274*	0.86	0.353*	12.10	0.001
Clothing	2.11	0.147*	0.38	0.536*	2.37	0.124*	0.04	0.841*
Transportation	0.29	0.591*	0.54	0.462*	0.04	0.849*	2.85	0.091*
Heath & Pers. Care	0.86	0.355*	0.92	0.337*	1.12	0.291*	0.02	0.902*
Recreation & Educ.	2.18	0.140*	0.14	0.713*	0.09	0.770*	1.68	0.195*
Tobacco & Alcohol	1.04	0.307*	0.01	0.940*	0.02	0.881*	0.31	0.578*
Remit. to persons	7.08	0.008	0.01	0.941*	1.62	0.203*	0.53	0.466*
Remit. to charities	8.35	0.004	0.29	0.591*	0.79	0.373*	2.64	0.104*
System								
Homogeneity	32.43	0.000	5.37	0.801*	9.56	0.387*	24.83	0.003
Symmetry	7523.39	0.000	531.94	0.000	190.65	0.000	329.48	0.000
Homog. & Symmetry	10358.00	0.000	795.41	0.000	321.71	0.000	388.63	0.000
Controlled for Demographic Characteristics								
Food	1.76	0.184*	2.02	0.155*	1.74	0.187*	0.82	0.366*
Shelter	26.89	0.000	4.04	0.044	3.36	0.067*	0.05	0.817*
HH Op. & Furnishing	6.95	0.008	1.79	0.181*	0.61	0.435*	13.91	0.000
Clothing	8.37	0.004	1.36	0.244*	6.39	0.012	0.04	0.849*
Transportation	0.63	0.427*	0.76	0.382*	0.23	0.629*	2.77	0.096*
Heath & Pers. Care	3.27	0.071*	0.32	0.572*	1.60	0.207*	1.89	0.169*
Recreation & Educ.	0.32	0.574*	0.10	0.757*	0.43	0.511*	1.83	0.176*
Tobacco & Alcohol	1.45	0.229*	0.00	0.976*	0.12	0.726*	1.18	0.277*
Remit. to persons	10.94	0.001	0.51	0.477*	0.84	0.360*	0.35	0.556*
Remit. to charities	20.51	0.000	0.79	0.374*	0.05	0.819*	2.02	0.155*
System								
Homogeneity	72.98	0.000	10.00	0.351*	11.65	0.234*	26.47	0.002
Symmetry	6289.78	0.000	446.69	0.000	158.00	0.000	291.03	0.000
Homog. & Symmetry	7426.94	0.000	506.40	0.000	179.64	0.000	337.09	0.000

Notes: * chi-value smaller than the 95% critical level.

Table 4: Expenditure Elasticities Calculated from LA/AIDS, Unrestricted (1986/1992)

Population Group	Expenditure Group	Uncontrolled			Controlled		
		Income Group			Income Group		
		all	top Y/2	bottom Y/2	all	top Y/2	bottom Y/2
Canadian	Food	0.74	0.69	0.74	0.63	0.62	0.64
	Shelter	0.60	0.67	0.58	0.61	0.66	0.63
	HH Op. & Furnishing	1.06	1.08	1.07	1.03	1.11	1.06
	Clothing	1.26	1.18	1.31	1.27	1.22	1.35
	Transport	1.68	1.57	1.91	1.65	1.48	1.81
	Heath & Pers. Care	0.92	0.75	0.98	0.90	0.73	1.00
	Recreation	1.40	1.33	1.46	1.36	1.33	1.38
	Tobacco & Alcohol	0.93	0.87	1.00	1.00	1.04	0.98
	Rem. to persons	**1.13**	**1.09**	**1.32**	**1.85**	**1.45**	**1.95**
	Rem. to charities	**0.60**	**0.40**	**0.60**	**1.02**	**0.84**	**0.98**
N. American & W. European	Food	0.78	0.72	0.74	0.63	0.62	0.59
	Shelter	0.63	0.77	0.62	0.65	0.68	0.69
	HH Op. & Furnishing	1.14	1.15	1.23	1.14	1.20	1.23
	Clothing	1.24	1.12	1.33	1.18	1.08	1.41
	Transport	1.51	1.41	1.63	1.48	1.43	1.47
	Heath & Pers. Care	0.89	0.68	0.92	0.85	0.59	1.00
	Recreation	1.46	1.40	1.59	1.39	1.34	1.49
	Tobacco & Alcohol	1.04	0.72	1.15	1.01	0.91	1.07
	Rem. to persons	**1.11**	**0.98**	**1.24**	**1.91**	**1.83**	**1.82**
	Rem. to charities	**0.72**	**0.31**	**0.81**	**1.17**	**0.60**	**1.20**
S&E European	Food	0.78	0.68	0.79	0.67	0.63	0.71
	Shelter	0.50	0.52	0.52	0.49	0.55	0.53
	HH Op. & Furnishing	1.14	1.16	1.20	1.11	1.10	1.23
	Clothing	1.36	1.27	1.33	1.34	1.29	1.47
	Transport	1.71	1.65	1.99	1.59	1.48	1.67
	Heath & Pers. Care	1.00	0.86	1.03	0.96	0.83	1.01
	Recreation	1.53	1.41	1.43	1.41	1.29	1.22
	Tobacco & Alcohol	1.10	1.17	1.08	1.10	1.60	0.70
	Rem. to persons	**0.93**	**0.60**	**1.20**	**2.03**	**1.55**	**2.31**
	Rem. to charities	**0.38**	**0.37**	**0.47**	**0.86**	**0.30**	**0.95**
Chinese, Asian & Oc.	**Rem. to persons**	**1.08**	**1.08**	**1.10**	**1.09**	**1.08**	**1.10**
	Rem. to charities	**0.77**	**0.80**	**0.71**	**0.75**	**0.79**	**0.69**

Notes: Elasticities are computed using the formula $e_i = 1 + (\beta_i / \overline{w}_i)$, where $\overline{w}_i$ is the mean share of expenditures on the i^{th} good for the entire sample and β_i is the estimated household total expenditures coefficient.

Table 5: Expenditure Elasticities Calculated from LA/AIDS, Restricted for Homogeneity and Symmetry (1986/1992)

Population Group	Expenditure Group	Uncontrolled			Controlled		
		Income Group			Income Group		
		all	top Y/2	bottom Y/2	all	top Y/2	bottom Y/2
Canadian	Food	0.75	0.65	0.71	0.61	0.58	0.59
	Shelter	0.65	0.76	0.62	0.71	0.77	0.70
	HH Op. & Furnishing	1.07	1.03	1.03	1.03	1.09	1.05
	Clothing	1.30	1.17	1.29	1.22	1.14	1.25
	Transport	1.58	1.60	1.95	1.66	1.58	1.91
	Heath & Pers. Care	0.91	0.73	0.96	0.84	0.67	0.95
	Recreation	1.40	1.23	1.42	1.28	1.18	1.29
	Tobacco & Alcohol	0.89	0.84	1.03	0.91	0.90	0.89
	Rem. to persons	**1.17**	**1.13**	**1.28**	**1.78**	**1.43**	**1.81**
	Rem. to charities	**0.62**	**0.31**	**0.50**	**0.97**	**0.83**	**0.90**
N. American & W. European	Food	0.78	0.68	0.69	0.61	0.60	0.54
	Shelter	0.68	0.81	0.68	0.72	0.72	0.76
	HH Op. & Furnishing	1.08	1.09	1.14	1.11	1.16	1.22
	Clothing	1.24	1.12	1.24	1.11	1.05	1.24
	Transport	1.54	1.49	1.82	1.62	1.60	1.74
	Heath & Pers. Care	0.85	0.64	0.88	0.76	0.51	0.92
	Recreation	1.40	1.36	1.47	1.27	1.25	1.32
	Tobacco & Alcohol	1.07	0.80	1.37	0.88	0.80	0.90
	Rem. to persons	**1.06**	**1.04**	**1.13**	**1.77**	**1.64**	**1.66**
	Rem. to charities	**0.56**	**0.15**	**0.50**	**1.03**	**0.42**	**1.06**
S&E European	Food	0.79	0.66	0.74	0.65	0.62	0.65
	Shelter	0.56	0.55	0.57	0.57	0.55	0.62
	HH Op. & Furnishing	1.12	1.08	1.15	1.08	1.06	1.20
	Clothing	1.35	1.20	1.29	1.29	1.20	1.37
	Transport	1.66	1.74	2.04	1.66	1.69	1.81
	Heath & Pers. Care	0.98	0.81	1.01	0.90	0.69	0.97
	Recreation	1.51	1.33	1.39	1.35	1.16	1.14
	Tobacco & Alcohol	1.12	1.24	1.20	1.03	1.47	0.54
	Rem. to persons	**0.85**	**0.65**	**1.19**	**1.89**	**1.52**	**2.15**
	Rem. to charities	**0.25**	**0.35**	**0.34**	**0.70**	**0.39**	**0.81**
Chinese, Asian & Oc.	**Rem. to persons**	**1.07**	**1.07**	**1.10**	**1.09**	**1.08**	**1.10**
	Rem. to charities	**0.80**	**0.82**	**0.71**	**0.76**	**0.79**	**0.69**

Notes: Elasticities are computed using the formula $e_i = 1 + (\beta_i / \overline{w}_i)$, where $\overline{w}_i$ is the mean share of expenditures on the i^{th} good for the entire sample and β_i is the estimated household total expenditures coefficient.

Table 6: Regression Equation Coefficients (OLS) Predicting the Expenditure Share of Remittances to Persons, 1986/1992

	Canadian		N. Am. & W. Eu.		S&E European		Ch., Asian & Oc.	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Log of Total Expenditures	0.004	0.027	0.004	0.038	-0.003	0.048		
	[0.001]***	[0.002]***	[0.005]	[0.007]***	[0.007]	[0.011]***		
Log of Total Remittances							0.062	0.067
							[0.014]***	[0.013]***
Log of Price for Food	-0.459	-0.590	-0.832	-0.516	-0.129	-0.488		
	[0.183]**	[0.175]***	[0.654]	[0.582]	[1.199]	[1.241]		
Log of Price for Shelter	0.236	0.260	0.264	0.107	0.051	0.094		
	[0.080]***	[0.076]***	[0.270]	[0.241]	[0.488]	[0.485]		
Log of Price for HH Op. & Furnishing	-1.946	-2.614	-2.027	-0.660	-0.181	-1.348		
	[0.804]**	[0.764]***	[2.689]	[2.402]	[4.843]	[4.749]		
Log of Price for Clothing	0.302	0.329	0.768	0.392	0.046	0.267		
	[0.135]**	[0.128]**	[0.492]	[0.440]	[0.936]	[0.959]		
Log of Price for Transportation	0.049	0.051	0.062	-0.021	0.042	0.083		
	[0.040]	[0.038]	[0.135]	[0.121]	[0.234]	[0.228]		
Log of Price for Health & Pers. Care	0.122	0.170	0.175	0.079	-0.241	-0.073		
	[0.053]**	[0.049]***	[0.176]	[0.166]	[0.423]	[0.371]		
Log of Price for Recreation	0.532	0.803	0.023	-0.367	-0.163	0.243		
	[0.293]*	[0.278]***	[0.983]	[0.888]	[1.768]	[1.739]		
Log of Price for Tobacco & Alcohol	0.900	1.165	1.448	0.725	-0.100	0.641		
	[0.367]**	[0.347]***	[1.238]	[1.101]	[2.261]	[2.226]		
Log of Price for Rem. to Persons	0.096	0.145	0.319	0.426	0.432	0.614	2.938	0.859
	[0.066]	[0.062]**	[0.196]	[0.210]**	[0.438]	[0.367]*	[1.057]***	[1.168]
Log of Price for Rem. to Charities	-0.109	0.026	-0.323	-0.355	-0.633	-0.655	-4.653	-1.593
	[0.096]	[0.096]	[0.290]	[0.316]	[0.640]	[0.533]	[1.574]***	[1.726]
Female		-0.002		-0.004		0.013		-0.010
		[0.001]*		[0.005]		[0.009]		[0.039]
Age x 100		-0.168		-0.068		-0.411		-0.501
		[0.023]***		[0.105]		[0.164]**		[0.895]
Age Squared x 1,000		0.025		0.014		0.053		0.030
		[0.003]***		[0.011]		[0.018]***		[0.092]
Education x 10		0.002		-0.027		-0.047		-0.542
		[0.004]		[0.017]		[0.022]**		[0.123]***
Married (with HH member) x 100		-0.002		0.411		-0.093		4.130
		[0.142]		[0.584]		[1.261]		[5.898]
Separated/Divorced/Widowed		0.013		0.016		0.014		-0.005
		[0.002]***		[0.006]**		[0.015]		[0.077]

(continued on the next page)

Table 6: Regression Equation Coefficients (OLS) Predicting the Expenditure Share of Remittances to Persons, 1986/1992 (continued)

	Canadian		N. Am. & W. Eu.		S&E European		Ch., Asian & Oc.	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
No. of Persons a Member		-0.010		-0.014		-0.014		-0.024
		[0.001]***		[0.002]***		[0.003]***		[0.013]*
House Ownership		0.001		0.003		0.009		-0.053
		[0.001]		[0.004]		[0.009]		[0.039]
Log of Net Change in A&L		-0.049		0.046		0.135		-0.013
		[0.028]*		[0.069]		[0.091]		[0.225]
Years Since Immigration x 100				-0.023		-0.006		-0.405
				[0.020]		[0.030]		[0.219]*
Constant	1.753	2.324	1.322	0.486	3.891	1.325	8.450	4.551
	[0.465]***	[0.584]***	[1.513]	[1.542]	[2.471]	[3.167]	[2.722]***	[3.793]
Observations	16,428	16,428	1,374	1,374	722	722	417	417
R-squared	0.02	0.14	0.02	0.11	0.03	0.17	0.07	0.15

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 7: Regression Equation Coefficients (OLS) Predicting the Expenditure Share of Remittances to Charities, 1986/1992

	Canadian		N. Am. & W. Eu.		S&E European		Ch., Asian & Oc.	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
Log of Total Expenditures	-0.005	0.001	-0.005	0.003	-0.007	-0.002		
	[0.001]***	[0.001]	[0.002]**	[0.004]	[0.003]***	[0.003]		
Log of Total Remittances							-0.062	-0.067
							[0.014]***	[0.013]***
Log of Price for Food	-0.504	-0.296	-0.541	-0.299	-0.085	-0.042		
	[0.100]***	[0.096]***	[0.400]	[0.385]	[0.473]	[0.473]		
Log of Price for Shelter	0.261	0.155	0.156	0.041	-0.058	-0.067		
	[0.042]***	[0.040]***	[0.166]	[0.163]	[0.178]	[0.182]		
Log of Price for HH Op. & Furnishing	-2.410	-1.460	-1.208	-0.192	1.191	1.033		
	[0.423]***	[0.407]***	[1.702]	[1.677]	[1.921]	[1.913]		
Log of Price for Clothing	0.250	0.119	0.360	0.167	0.059	0.120		
	[0.071]***	[0.068]*	[0.313]	[0.300]	[0.375]	[0.359]		
Log of Price for Transportation	0.078	0.034	0.025	-0.020	-0.070	-0.043		
	[0.021]***	[0.020]*	[0.083]	[0.081]	[0.091]	[0.082]		
Log of Price for Health & Pers. Care	0.155	0.120	0.109	0.073	-0.131	-0.105		
	[0.027]***	[0.026]***	[0.114]	[0.114]	[0.145]	[0.141]		
Log of Price for Recreation	0.842	0.487	0.172	-0.162	-0.709	-0.615		
	[0.154]***	[0.149]***	[0.609]	[0.601]	[0.676]	[0.708]		
Log of Price for Tobacco & Alcohol	0.985	0.601	0.719	0.258	-0.426	-0.370		
	[0.193]***	[0.185]***	[0.800]	[0.782]	[0.939]	[0.907]		
Log of Price for Rem. to Persons	-0.204	-0.033	0.046	0.211	-0.046	-0.011	-2.938	-0.859
	[0.041]***	[0.042]	[0.111]	[0.121]*	[0.114]	[0.110]	[1.057]***	[1.168]
Log of Price for Rem. to Charities	0.348	0.089	0.027	-0.223	0.091	0.042	4.653	1.593
	[0.059]***	[0.062]	[0.159]	[0.174]	[0.143]	[0.162]	[1.574]***	[1.726]
Female		0.001		0.002		0.004		0.010
		[0.001]		[0.003]		[0.004]		[0.039]
Age x 100		-0.056		-0.151		-0.118		0.501
		[0.013]***		[0.059]**		[0.046]**		[0.895]
Age Squared x 1000		0.011		0.020		0.018		-0.030
		[0.001]***		[0.006]***		[0.006]***		[0.092]
Education x 10		0.030		0.034		0.026		0.542
		[0.002]***		[0.013]***		[0.014]*		[0.123]***
Married (with HH member)		-0.005		-0.008		-0.014		-0.041
		[0.001]***		[0.007]		[0.014]		[0.059]
Separated/Divorced/Widowed		-0.007		-0.009		-0.024		0.005
		[0.001]***		[0.007]		[0.017]		[0.077]

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Table 7: Regression Equation Coefficients (OLS) Predicting the Expenditure Share of Remittances to Charities, 1986/1992 (continued)

	Canadian		N. Am. & W. Eu.		S&E European		Ch., Asian & Oc.	
	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled	Uncontrolled	Controlled
No. of Persons a Member x 100		0.004		0.076		0.025		2.383
		[0.021]		[0.097]		[0.088]		[1.294]*
House Ownership		0.003		0.005		0.002		0.053
		[0.001]***		[0.003]		[0.003]		[0.039]
Log of Net Change in A&L		0.033		0.015		0.013		0.013
		[0.007]***		[0.018]		[0.017]		[0.225]
Years Since Immigration x 100				0.030		0.009		0.405
				[0.010]***		[0.009]		[0.219]*
Constant	1.495	0.765	1.040	0.596	0.591	-0.102	-7.450	-3.551
	[0.270]***	[0.251]***	[0.881]	[0.924]	[0.934]	[1.053]	[2.722]***	[3.793]
Observations	16,428	16,428	1,374	1,374	722	722	417	417
R-squared	0.02	0.11	0.02	0.08	0.06	0.16	0.07	0.15

Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 8: Entry and Assimilation Effects, 1986/1992

	Share of Remittances to Persons		Share of Remittances to Charities	
	OLS	F-test (p-value)	OLS	F-test (p-value)
Log of Total Expenditures	0.028		0.001	
	[0.002]***		[0.001]	
Log of Price for Food	-0.688		-0.261	
	[0.163]***		[0.087]***	
Log of Price for Shelter	0.276		0.132	
	[0.070]***		[0.037]***	
Log of Price for HH Op. & Furnishing	-2.686		-1.218	
	[0.708]***		[0.373]***	
Log of Price for Clothing	0.384		0.100	
	[0.121]***		[0.064]	
Log of Price for Transportation	0.065		0.023	
	[0.035]*		[0.018]	
Log of Price for Health & Pers. Care	0.149		0.104	
	[0.047]***		[0.024]***	
Log of Price for Recreation	0.782		0.385	
	[0.257]***		[0.135]***	
Log of Price for Tobacco & Alcohol	1.242		0.508	
	[0.323]***		[0.170]***	
Log of Price for Rem. to Persons	0.171		-0.012	
	[0.057]***		[0.037]	
Log of Price for Rem. to Charities	-0.018		0.060	
	[0.088]		[0.055]	
Female	-0.002		0.001	
	[0.001]*		[0.001]	
Age x 100	-0.171		-0.064	
	[0.022]***		[0.012]***	
Age Squared x 1000	0.025		0.012	
	[0.002]***		[0.001]***	
Education x 10	-0.024		0.296	
	[0.040]		[0.024]***	
Married (with HH member)	0.027		-0.498	
	[0.134]		[0.113]***	
Separated/Divorced/Widowed	0.013		-0.007	
	[0.002]***		[0.001]***	

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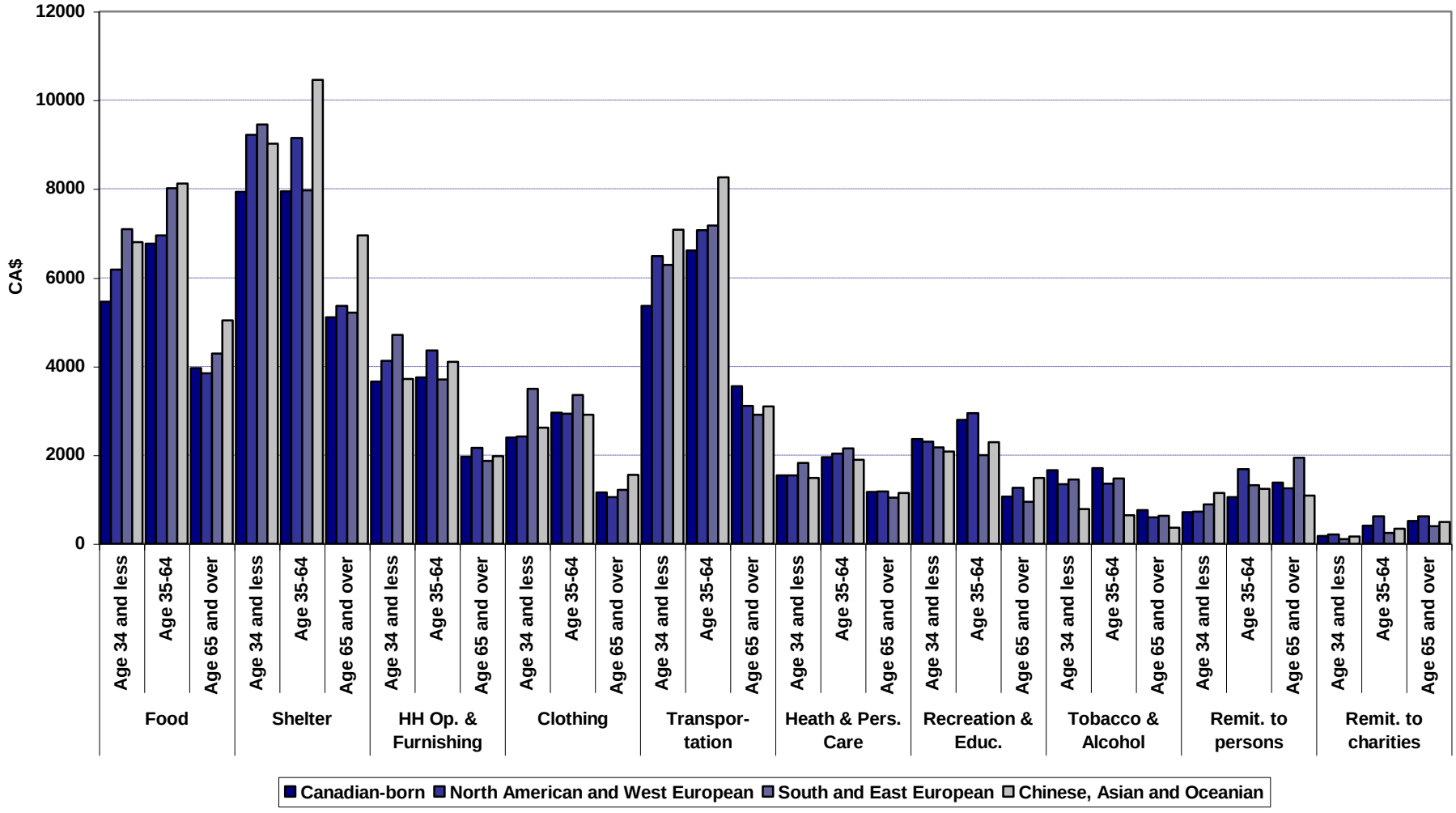
Table 8: Entry and Assimilation Effects, 1986/1992 (continued)

	Share of Remittances to Persons		Share of Remittances to Charities	
	OLS	F-test (p-value)	OLS	F-test (p-value)
No. of Persons a Member x 100	-0.103		0.001	
	[0.004]***		[0.002]	
House Ownership	0.001		0.003	
	[0.001]		[0.001]***	
Log of Net Change in A&L	-0.029		0.030	
	[0.024]		[0.006]***	
North American & West European (NAWE)	0.004		-0.007	
	[0.005]	3.54	[0.003]**	0.15
South & East European (SEE)	-0.006		-0.005	
	[0.006]		[0.002]***	
Chinese, Asian & Oceania (CAO)	0.017	(0.029)	-0.005	(0.863)
	[0.006]***		[0.002]***	
NAWE x Years Since Immigration	-0.015		0.024	
	[0.018]	3.66	[0.011]**	0.49
SEE x Years Since Immigration	0.062		0.011	
	[0.027]**		[0.009]	
CAO x Years Since Immigration	-0.052	(0.026)	0.009	(0.611)
	[0.048]		[0.016]	
Constant	2.420		0.726	
	[0.522]***		[0.224]***	
Observations	18,995		18,995	
R-squared	0.13		0.11	

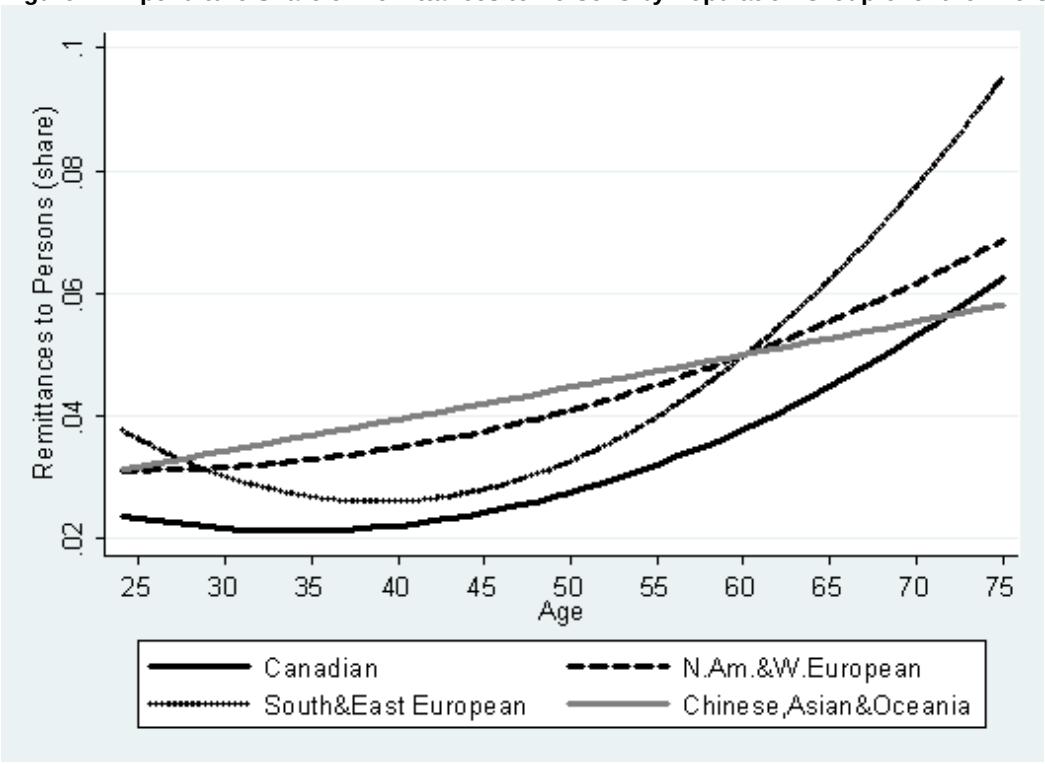
Robust standard errors in brackets
* significant at 10%; ** significant at 5%; *** significant at 1%

Figure 1: Mean Expenditures by Age and Population Groups



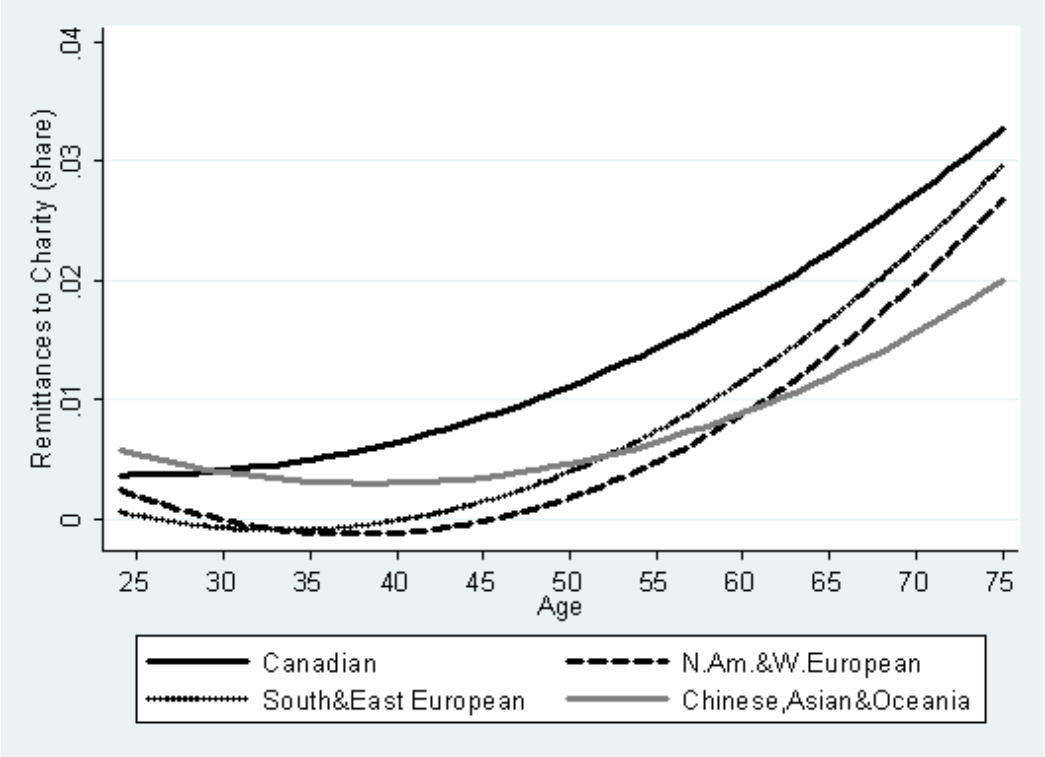
Notes: Values in 1992 Canadian dollars.
Source: Own calculations; Family Expenditures Survey (FAMEX) 1986/1992, Statistics Canada.

Figure 2: Expenditure Share of Remittances to Persons by Population Group over the Life Cycle



Source: Own calculations; Family Expenditures Survey (FAMEX) 1986/1992, Statistics Canada.

Figure 3: Expenditure Share of Remittances to Charities by Population Group over the Life Cycle



Source: Own calculations; Family Expenditures Survey (FAMEX) 1986/1992, Statistics Canada.