

**Social Networks and Secondary Migration of New Immigrants to  
Canada**

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## **1. Introduction**

Immigrants in Canada are highly concentrated in some cities and regions. In 2001, 39% of all immigrants were living in one metropolitan area, Toronto; 14% were found in Vancouver and 12% in Montreal. Only 23% of immigrants were established in regions outside the seven largest urban centers in Canada<sup>1</sup>, compared with 53% of the overall Canadian population. Recent projections show that these trends are likely to continue in the future, leading to an increased concentration of immigrants and visible minority groups -- mostly in the metropolises of Ontario and British Columbia (Statistics Canada 2005).

The issues surrounding high geographical concentration and the apparent incapacity of smaller towns and rural areas to attract and retain immigrants was identified as a policy priority in a statement by former Immigration Minister Denis Coderre, that coincided with the release of the first results of the 2001 Canadian census (Abu-Laban & Garber 2005). However, the issue was addressed and policy options explored previously, by Citizenship and Immigration Canada (CIC) prior to the release of 2001 census data (CIC 2000 & 2001).

The issues of geographical concentration and secondary migration of immigrants in Canada has been examined in terms of comparisons with the Canadian population, and in relation to how networks of people from the same country or ethno-cultural group may influence these two phenomena. It has been shown, on one hand, that internal migration of immigrants and Canadian-born are similar in term of socio-economic dimensions, such as education or employment opportunities (Newbold 1996, Lin 1998). On the other

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<sup>1</sup> Montreal, Ottawa, Toronto, Winnipeg, Calgary, Edmonton and Vancouver.

hand, the effects of pre-existing ethnic communities on new immigrants' choices of initial destination and their internal migration in Canada are mixed. Hou (2005: 22) found that "the size of pre-existing immigrant community *per se* does not have a strong pull or retention effect on immigrants, once other locational attributes that make a location attractive to an immigrant group are accounted for." His findings suggest that immigrants are attracted to urban areas experiencing demographic dynamics. Newbold (1996) found that ethnicity has a small effect on the destination choice of immigrants, while McDonald (2004: 15) concludes that many new immigrants choose a specific destination because of its relatively high concentration of immigrants of the same ethnic group but adds that "the attraction of an ethnic concentration is more complex than a simple size effect" and depends on age, education and home language.

Since these works use census data, the measures of economic opportunities and social network or ethnicity concentration are contextual. For example, censuses do not provide individual information on social capital (network of relatives and friends, participation in association...). Also, for the study of migration in particular, variables related to employment and activity, and family structure, are measured after migration at the moment of the census; whereas, migration is measured over a period (one or five years) preceding the census. Moreover, this situation creates a problem of endogeneity, which is clearly a limitation when studying the effects of individual determinants on internal migration.

Nogle (1994) showed that during the first year following their arrival in Canada, recent immigrants have a very high rate of internal migration that diminishes very rapidly with increasing length of residence. This is a process that cannot be studied using census

data. According to Nogle, this hypermobility pattern, which is typical of the first year in Canada, relates to the process of adjustment to the destination country. But what are the factors of adjustment explaining the high migration of immigrants after their arrival in the country? Nogle is not clear on this point.

In this paper, we use the Longitudinal Survey of Immigrants to Canada (LSIC) to study the secondary migration patterns of new immigrants to Canada. This paper focuses on the effect of social networks on the early migration of new immigrants to Canada. Our main hypothesis is that the existence of social networks upon their arrival in Canada is a strong factor in the initial adjustment of immigrants and might be a prerequisite for job search in the new labor market environment. The rationale behind this is that job search needs information that members of social networks (relatives and friends) already established in the country can provide to a new immigrant. By doing this, relatives and friends can influence the migration decisions of new immigrants. A study using LSIC data shows that relatives and friends are the most frequently-cited sources of help to new immigrants in seeking housing, accessing health services and finding employment (Chui 2003). As LSIC provides information on the relative/friends established in Canada and full residence and employment histories, it is possible to study the effects of both job situation and personal networks on new immigrants' internal migration. Although the effect of economic situation on migration is well-documented in the literature (Ritchey 1976 for a review), it is not so for the effect of social networks. The next section gives some theoretical background on social capital and its place in migration studies.

## **2. Social capital and migration studies**

Personal (or social) networks are hypothesized in migration studies to have an impact on internal movements of people, and networks are a basic ingredient of social capital. From Bourdieu to Coleman, there is no single definition of social capital, but Portes proposes one that is commonly used in empirical literature: “the ability of actors to secure benefits by virtue of membership in social networks or other social structure” (Portes 1998: 6). The role of ties is crucial to understand the concept of social capital, as it is the very existence and the strength of these ties that determine the way social capital is used. In the situation of strong ties and a dense network, where there is some degree of social closure, social capital emerges as a way to impose norms and expectations and to create trust between actors involved into the network. Coleman (1988) proposes the concept of social closure and gives the example of a neighborhood community involving parents and children and where parents are able to impose norms on their children, permitting the establishment of a community able to monitor all and every parent’s children’s activities. In immigration studies, enclaves are cases of “dense concentrations of immigrant or ethnic firms” that permit to their members to get a privileged access to job, employment mobility, and capital (Portes 1998). But, these dense networks may also have negative effects: they may reduce innovation or restrict freedom to some of their members (women or children, for example), including freedom of movement.

In contrast to these social closure situations, Granovetter (1973) argues that weak ties matter more, because they give access to indirect influences outside the close network of relatives and friends and to different kinds of opportunities (like employment opportunities), and facilitate the integration of individuals into a range of distant

communities (as opposed to only the local community). Weak ties can create bridges between networks, thus, allowing the transmission of information and the diffusion of innovative behaviors across these networks.

Both strong ties and weak ties (or dense and loose network) have their echo in migration studies. Not surprisingly, geographical mobility is associated with social capital, because migration decisions are related to ties established in both the place of origin and the area of destination. There are some basic mechanisms through which the presence of friends and relatives deter out-migration. One is related to the presence of a spouse and children in one's family, especially if the spouse is working and the children are enrolled in school (Mincer 1978). Thus, spouses will be more reluctant to move because of his or her attachment to the labor market at origin and the uncertainties related with the integration at destination. Children represent ties to the community, presumably because parents are developing friendships in the community built around their children, making or reinforcing the idea that their community is a good place to raise children (Long 1972). This would be a classical case of a social closure situation, as described by Coleman.

Others have suggested that the decision to migrate is determined by a *cumulative inertia*, originating from the length of residence in a given place: the probability to migrate diminishes as the length of residence increases. In this perspective, length of residence is simply a proxy for satisfaction with the community, presence of relatives, and other social ties. The implication of this residence inertia hypothesis is that out-migration is not stimulated by the low economic conditions *per se*, but by the ties (such

as having relatives, owning a house or by a feeling of integration into the community) holding people to their current place of residence (Toney 1976).

Another mechanism is attributable to the presence of a dense network of friends and relatives from one's same ethnic or immigrant group. These groups can provide alternative opportunities within the ethnic community through jobs and business relations, family and co-ethnic friends, and community associations, such as the church (Kobrin & Speare 1983). The classical and extreme example of this ethnic aspect of social capital is provided by the immigrant enclave, described by Wilson and Portes (1980), which ties immigrants together in a vertically-integrated structure of economic activity. Immigrant communities actually provide a frequent field of research to study the effect of social capital on the incorporation of new immigrants. The opportunity structure represented by these ethnic communities helps to overcome the initial integration obstacles that new immigrants have to face in their new country (Portes & Sensenbrenner 1993).

Social networks act not only to deter migration and bind people to their community; having a web of friends and relatives elsewhere in some distant location (within a same region or country, or in another country) may stimulate the decision to move to this distant location. These friends and relatives serve as information channels on living conditions and jobs at destination and can provide material assistance and other kinds of support that are necessary to the initial adjustment of migrants to their new place of residence (Choldin 1973, Ritchey 1976). The role of networks on international migration is also well documented, especially in the North American context (see a review in Massey et al 1998). Networks, in the international context, lower the risks and

the costs associated with movement across international borders and constitute a strategy to get information about jobs and access to recruitment practices put in place by local entrepreneurs (Sassen 1995).

The relation between networks and migration is generally not a direct one. The decision to migrate is often mediated by job search and satisfaction with existing individual or family economic conditions. Even residence inertia may be understandable in a given economic context: satisfaction with the community or possessing a house can be indications of economic well-being or job satisfaction. Therefore, the evaluation of the effects of networks on migration decision has to take into account other factors that may explain geographical mobility: labor attachment and socio-demographic characteristics.

### **3. Data and methods**

The data we use come from the Longitudinal Survey of Immigrants to Canada (LSIC) realized by Statistics Canada. The survey is designed to study new immigrants' adaptation processes to the Canadian society, in terms of labor market participation, housing, educational credentials or language. The survey also includes two modules related to social networks, namely "social interactions" and "group organization". Moreover, a module on residence histories ("places where lived" module) permits the identification of migrations since landing to Canada and tracks individuals in their successive residences across the country. LSIC is a survey of individuals, even though it also contains information on the household, the partner, and children. The survey follows all the Statistics Canada standards in term of sample selection, survey design and data

collection. LSIC is a 3-wave panel survey and, at the present moment, only the first two waves are available.

The sampling frame was taken from the administrative database of Citizenship and Immigration Canada (CIC) on all immigrants landing to Canada. Some basic information (age, sex, class of immigrant, country of origin) was also extracted from this database and added to the survey data file. The survey frame was built over a 12-month period between October 2000 and September 2001 by simply adding new monthly landings. The sample is divided into two components, a core component to represent the target population of new immigrants and additional samples to target sub-populations (six in total, including government-sponsored refugees and overall immigrants in Alberta). The initial sample size was determined to obtain 5000 completed core interviews at wave 3. This gave an initial sample allocation of 20,322.

Wave 1 took place about six months after landing (between April 2001 and March 2002); wave 2 occurred about two years after landing, and wave 3, four years after landing. In all three operations, collection was done over a 12-month period and a majority of interviews were conducted face-to-face. Given non-responses, unresolved or untraced immigrants and other reasons, the final number of respondents was 12,040 at wave 1 and 9,322 at wave 2. In this particular work, we only use data from wave 2. The total sample represents about 160,800 new immigrants aged 15 years-old and over, who landed to Canada in 2000-2001, regardless of their status as main applicants or dependants. Children, as well as immigrants applying from within Canada, are excluded from this target population. All calculations made and all results shown in the paper are weighted to represent this population of new immigrants.

The statistical method is survival analysis and we describe and analyze the first migration (transition to a second residence) of new immigrants in Canada since their landing. We use Kaplan-Mayer estimates to show the univariate effects of main covariates of migration and proportional hazards modelization for the exploration of its determinants in light of social network theory. The proportional hazards model broke up migration propensity as a function of a time baseline and a set of covariates whose effects are multiplicative (and proportional) on the baseline. Specifically, we apply a constant-piecewise model where the constant transition rate is allowed to vary within pre-defined time segments (Blossfeld & Rohwer 1995). The dating level available in the survey permits to define time in terms of days since landing. Individuals are censored when they migrate for the first time, or at wave 2.

The definition of migration is a crucial aspect of the analysis. All residence changes since landing are recorded in the “places where lived” module, which includes intra-municipal moves. The survey provides codes for census metropolitan area (CMA) and provinces, but all other locations have to be identified by using the first three digits of postal codes. In this paper, migration is defined as a move from or to any of the 27 coded CMAs, and any moves between regions identified by the first digit of postal codes if they are not already defined as a CMA move. There are 18 such regions and all of them, but in Ontario and Quebec, form an entire province or territory. Our definition of migration, thus, excludes any move between two places that are not census metropolitan areas and that are located within the same first-digit postal code region.

We mainly study migration according to characteristics at landing. Most of these characteristics are recorded from the database of immigrants maintained by Citizenship

and Immigration Canada, used to define the sample frame for the survey. Other characteristics at landing are obtained from retrospective questions asked at first wave; among them, those dealing with the presence of relatives and friends at the time that the respondent arrived in Canada. These four questions are found in the “social interaction” module:

- When you arrived in Canada did you have relatives already living here?
- Does “this relative/do most of these relatives” in Canada live in same city as yourself or an area nearby?
- When you arrived in Canada did you have friends (who were not relatives) already living here?
- Do most of these friends live in same city as yourself or an area nearby?

One meaningful covariate in migration studies is labor market participation. Labor market participation differs from the rest of the covariates in that it is not a characteristic at landing, but a time-varying covariate. The labor situation of the respondent is updated each time there is a change in their employment status. This is possible because the survey provides complete job histories (analogous to residence histories).

We have defined five job situation categories:

- Employed (part or full time).
- Unemployed because job came to an end (involuntarily unemployed).
- Unemployed because respondent left job for non-work reason such as illness, caring for family members, school, retirement, etc.
- Unemployed because respondent left job for work reason: another job found, dissatisfaction with job, etc.
- Never employed in Canada (a person is never employed in Canada until he or she found his or her first job in Canada).

Table 2 in the appendix gives the percentage distribution of days at risk and moves by values of each covariate, as well as the crude migration rate. It is worth mentioning the unequal distribution of some covariates across their different values. For example, most new immigrants are living in Montreal, Toronto, Vancouver and the rest of Ontario before their first move. Most immigrants are also working or have never worked in Canada (yet) when they moved for the first time. Few are in an unemployment situation.

#### **4. Results: migration experience since landing**

We first present a descriptive analysis of migration intensity since landing for a few basic covariates. Chart 1 shows the effect of time on internal migration of new immigrants during their first 2.5 years of residence in Canada. Panel A displays hazard rates by 30-day period and panel B the cumulative probability of migrating for the entire weighted sample. The main feature of chart 1 is the very high migration rate during the very first three or four months following arrival in Canada. From the sixth month on, the level of migration is much lower and slightly decreasing. After 2.5 years in Canada, 9% of new immigrants have moved from their residence at landing to another region.

Level of migration varies by some individual characteristics before landing, such as immigrant category, level of education (chart 2), and initial region of residence (chart 3). Refugees quickly change their residence after arrival. After 60 days in Canada, 5% of them have moved to another city, while at most 2% of the economic and the family classes of immigrants have done so. After 840 days (almost 2.5 years), nearly 14% of refugees, 10% of economic immigrants and 5% of family class immigrants have migrated

to some other place in Canada. These findings confirm the high level of migration of refugees observed by others, which seems to be related to the size of the community where they are sent (Nogle 1994, CIC 2001). Based on a study conducted in Alberta in 1998, the reasons for relocation given by refugees are insufficient or inadequate employment opportunities and the desire to be closer to family and friends. CIC concludes from this finding that “small cities may not be capable of influencing the rate of out-migration of refugees in a major way, since only a small fraction of the answers point directly to matters they have some control over” (CIC 2001: 33). In general, Quebec and the Prairies provinces receive a high share of refugees; but, due to secondary migration, a larger share of refugee-class immigrants, compared to those from the economic and family-classes, eventually come to Ontario.

One characteristic of the refugee population is that many of them do not choose their destination, because they have to settle initially in the community inhabited by their sponsors (Chui 2003). More than 22% of refugees did not choose their current place of residence at first wave, a phenomenon that virtually does not exist for economic and family class immigrants. This also contributes to explaining the high out-migration rate of refugees.

On the contrary, family class immigrants have low migration because they reunite with family members and their subsequent decision to move is contingent upon the family member who sponsored the immigrant(s). Economic immigrants are found in an intermediate position between refugees and family class immigrants. They migrate less than refugees but more than family class immigrants. It is interesting to note that the

most important reason principal applicants in the economic class give for choosing a particular area at first wave is to join relatives or friends (Chui 2003).

The effect of education illustrates the role of human capital on migration behavior: people with higher education are generally open to a geographically larger labor market and are more aware of employment opportunities existing elsewhere. The most significant difference, in terms of educational attainment, is between immigrants with a university diploma and those without.

For these last two characteristics, the variation of migration rates is not high between groups. Variations of migration rates are much higher for first region of residence in Canada (chart 3). Migration rates are highest in the Atlantic provinces. The difference with the other regions is especially large after the first year in the country. After 750 days in Canada, almost one-third of new immigrants residing in the Atlantic region have changed their place of residence. Table 3 in the appendix indicates that in more than 90% of cases, these moves meant an out-migration from the Atlantic provinces, mostly to the three large urban centers of Montreal, Toronto and Vancouver, as well as in the rest of Ontario.

The difference between the Atlantic and the other regions, in terms of region of destination, is significant. Less than 20% of new immigrants who came to the central part of Canada (Quebec, Ontario and the Prairies - excluding the MTV zone<sup>2</sup>) moved within 800 days of landing. Even less secondary migration occurs from Western Canada, especially in Alberta, and in the MTV zone. Thus, western Canada and large urban centers have high retention rates of new immigrants. The data in table 2 in the appendix also show that attraction is high for Ontario in general and for MTV: 72% of moves have

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<sup>2</sup> MTV stands for Montreal, Toronto, and Vancouver.

one of these two regions as destination. The Atlantic, the Prairies (excluding Alberta) and Quebec (excluding Montreal) have very low attraction as destinations for new immigrants: less than 10% of all first migrations.

The next three variables display high variations in migration propensities as well. First, job situation has a strong effect on migration (chart 4, panel A). In our analysis, job situation may change with time for the same individual. We use in the title for chart 4 the expression “synthetic cohort” to indicate that we treat the data as if individuals had the same job characteristic during the entire exposure period. The main point to stress in panel A of chart 4 is the high migration rates of workers who left their job voluntarily. More than one-third of workers who left their job for personal reasons, and 22% of those who left their jobs for work-related reasons, moved to another city within their first 2.5 years in Canada. Currently, working people are the least mobile, followed by individuals who have not worked since their arrival in Canada. Workers whose jobs ended involuntarily are more mobile than these two latter groups, but much less than those who have left their jobs voluntarily. The exceptionally high propensity to move among workers who left their jobs for personal reasons points to a possible endogeneity relationship between this leaving-job category and migration decision: people do not necessarily move because they left their job, but they rather put an end to their job because they want to move.

Any actual move must be preceded by a decision to move. In the situation where a job is ended for voluntary reasons, the move will probably take place while the immigrant is not working, but the decision to move will have been taken before that point in time. The anticipation effect of these situations must be taken into account in survival

analysis where time is a crucial component of behaviors. It is like with fertility analysis: fertility decisions are not taken at the birth of the child, but months before, at conception or a couple of months after conception.

In panel B of chart 4, we back-dated migration by 10 days, supposing that the decision to migrate is taken at least 10 days before the actual move (moves that took place during the first 10 days in Canada were not back-dated). The effect of this on migration rates for workers who left their jobs and whose jobs had ended is striking. For instance, the cumulative percentage of immigrants who left their jobs for personal reasons, who moved after 2.5 years in the country, was reduced from 35% when actual migration dates are used, to 20% when moves are back-dated by only 10 days. This result shows the importance of distinguishing between the decision to migrate from the actual migration in survival analysis, just as by analogy, in fertility studies when to the date of conception is preferred over the date of the actual delivery. Migration rates for people who never worked in Canada and currently working immigrants are hardly changed by this back-dating operation.

However, by back-dating migrations, we also create a problem concerning anticipated job termination (end of contract, for instance). In this particular situation, it might be that some immigrants decide to move because they know their contract is ending. The time at which they decide to move might correspond with their job status at the moment of the move (not working because job ended), but not with their employment situation 10 days before if they were working at that moment.

There is no straightforward solution to deal with these endogeneity-types of situations. In the remaining part of the paper the effect of job situation on migration decision is evaluated by using both actual and backward dates (by 10 days).

To complete this univariate analysis, we present Kaplan-Mayer estimates of cumulative migration probability according to the presence and location of friends and relative in Canada at landing (chart 5). This information is taken from retrospective questions asked at first wave and has been detailed in the section “data and methods” of this paper. The striking point is that having friends and relatives living in other parts of Canada has a significant effect on migration risks. After six months (180 days) in Canada, about 10% of new immigrants who have friends or relatives in some other distant location in Canada moved to another city. Unfortunately the data do not allow for the identification of the place(s) where these relatives of friends live. The results indicate that immigrants who have relatives living in an area nearby reduces their risk of first migration; however, having friends nearby does not. Migration risks are the same for those who do not have friends and for those who do have most of their friends living nearby. But for those who have friends living far away from their place of residence, migration risks among immigrants are almost as high as for those who have relatives in a distant location. Given these results, one could ask to what extent the family class situation explains the low migration propensity of immigrants having relatives nearby.

To investigate, in more detail, the effect of these covariates on the risk of first migration in Canada, we have run a series of Constant-piecewise proportional hazards models. The results appear in table 1, in which we have omitted the hazard rates for the baseline (time since landing at each 30 days intervals). We present seven models. The

four first are stepwise. Model 5 includes the two covariates related to having friends and relatives in Canada, but excludes the covariate “immigrant category.” Model 6 is the full model with actual date of migration. Model 7 is the same as model 6 with the exception that migrations are back-dated by 10 days as explained above. All results are displayed in the form of relative risks (RR).

Model 1 shows the effect of sex, age, partnership status, and immigrant category on migration risks. Sex and partnership status have no significant effect on migration in any of the seven models. This result for partnership status is surprising given the well-known effect that being in a couple tends to lower the risks of migration. What we see is an increasing effect on migration for people in dissolution (mostly by partnership split-up) but the coefficient is not statistically significant. The effect of age goes in the expected direction: migration risks of young immigrants are higher than for older ones in all seven models.

In model 1, immigrant category has a similar effect as in chart 2, panel A: refugees have the highest migration intensity and family class immigrants the lowest. However, this high migration effect among refugee-class immigrants disappears in model 2 when first region of residence in Canada and ethnic origin are introduced. In an additional model, whose results are not shown here, we have verified that the covariate of residence alone captures the positive refugee effect on migration risks (RR for refugee in this model is 0.98; and 0.44 for family class). The evidence from our models confirms the fact that the basic reason for the high migration of refugees is related to their dispersion throughout Canada. The effect of these two latter covariates does not change markedly in models 2 to 7.

High migration rates are characteristic of the Atlantic and the Prairies (Manitoba and Saskatchewan) regions, while Montreal-Toronto-Vancouver (MTV) has strong retention effects. Alberta has a strong retention as well. Our results indicate that this is due to the provincial weight of the cities of Calgary and Edmonton that makes this province comparable to MTV (in term of urbanization, availability of jobs, etc.).

Non-Visible Minority immigrants have low migration risks, but when education and job situations are introduced in model 3, the difference with the other visible minority groups is somewhat reduced --though not completely erased. The most mobile groups are South Asians, Blacks and West Asian/Arabs. Migration differences between ethnic groups need to be investigated further.

As in the univariate results, having a university diploma increases the risk of migration. This effect is stable across models. Regressions models 3-6 also show the same pattern as in life-tables for job situations, when actual migration dates are used: working people are the least mobile and those who have left their job voluntarily the most mobile, particularly among those who voluntarily left their jobs for personal reasons. Values of relative risks are reduced when migration dates are back-dated by 10 days. In particular, the RR value for “left job for work reason” is no longer significant. The effect of other covariates in model 7 is virtually not affected by the back-dating of migration. Our tentative conclusion is that back-dating migration is probably preferable, as it adds a “correction” that helps capturing migration decision better than the date of actual migration by itself. The interpretation of the results for “job situation” is not affected by this operation, since the relative position of migration intensity across the values of this covariate does not change; they are only reduced by removing part of the

variability. Incidentally, the value and statistical significance of relative risks for job situations in models 6 and 7 suggest that this covariate could be grouped further in, at most, three categories: working people, voluntarily not working, and not working for other reasons (job ends and never worked in Canada).

Model 4 introduces the covariate of work intentions in Canada. A retrospective question asked to all respondents at first wave was about their work intention in Canada before landing and whether or not they had a job arranged at arrival. One could think that immigrants with a job arranged at arrival would have a low propensity to move, but table 1 models 4-7 indicate that they actually migrate like immigrants having a positive work intention in Canada, even though the coefficient are not statistically significant at 5% in models 5-7 after adding the covariates of relatives and friends in Canada. The reasons for this are not clear, but a probable explanation might be related to the high expectations that these immigrants have in respect with their new job in Canada and the real situation of the labor market they have to face, in terms of income or recognition of their educational credentials or job experience.

The two covariates of most interest, relatives and friends in Canada at landing, display similar results as in life-tables: having friends or relatives living in a distant location increases migration risks. Having relatives living nearby has a retention effect; having friends living nearby does not exhibit a retention effect. Models 4 and 6 permit the comparison of the effects of immigrant status when covariates related to having relatives and friends in Canada are included in the model and when they are not. The issue is that the immigrant category of family class could be correlated with having family in Canada before landing. Results show that it is partially the case: when this

covariate is added to the equation corresponding to model 6, the effect of family class (compared to the two other categories) is slightly reduced, from a relative risk of 0.44 in model 4 to a value of 0.55 in model 6. The reduction, however, remains weak. In the opposite situation, when the immigrant category covariate is introduced to a model already including the covariate of relatives in Canada, (comparing models 5 and 6), the relative risks associated with the presence and location of relatives in Canada are virtually not affected.

Given that having friends and relatives in Canada residing in a faraway place increases the internal migration risk of new immigrants, it may be interesting to examine the possible combinations of presence of friends and relatives in Canada, to determine which of these situations have more weight on migration decisions. We have run model 6 again with the only difference that the covariates relatives in Canada and friends in Canada are in interaction: instead of having four estimated relative risks (plus the two reference categories) as in model 6, we get eight (plus one reference category) in the new model. The rest of covariates are exactly the same. Results for the covariate of interest are displayed in chart 6.

First, we note that migration risks are low when most relatives are near in all three values of friends in Canada and that they are high when most relatives are far in all three categories of friends in Canada. There is no such a systematic relation for the values corresponding to the friends-in-Canada covariate. There is also an interaction effect between the two covariates: migration risks across categories of friends in Canada vary with categories of relatives in Canada. In the absence of relatives in the country, the risk of migration increases significantly when most friends are living in a far-off area;

and the increase is even larger when both friends and relatives are living in a distant location. On the contrary, when most relatives are near, the fact of having friends in Canada, wherever they live, does not produce a significant effect on migration risks. Thus, having both relatives and friends in Canada at landing has a complex relationship with the internal migration behavior of new immigrants. Having most relatives nearby clearly deters migration, even after controlling for immigrant category. However, out-migration is extremely responsive to the presence of both friends and relatives living in other cities and provinces. In a few words, the effect of pre-established social ties is strong on out-migration rates of new immigrants, while the retention effect of these ties is exhibited through the presence of relatives, but not friends, living nearby.

To test the hypothesis that hypermobility among those who recently immigrated to Canada is a result of social networks, we have computed the relative risks of these two covariates in interaction with the baseline (days since landing) and estimated from the same survival model (chart 7). In this exercise, we verify whether the presence and location of friends and relatives in Canada at landing has a defined time effect on the migration risks of new immigrants to Canada. Given some restrictions of the software<sup>3</sup>, time is defined in 8 pieces of 60 days each, plus a last and open interval. As in chart 5, relative risks are estimated with covariates of the full model 6 in table 1.

In chart 7 panel A, referring to relatives already living in Canada at landing, the differential effect of time is confirmed. The risk of migration is notably increased during the first six months (180 days) after arrival for immigrants who have most of their relatives in a distant location, compared to those having no relatives. Migration risks are

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<sup>3</sup> The software is the *stpiece* module of Stata. When using the option of the interacting a covariate with the baseline, Stata restricts the number of time pieces to nine. *Stpiece* is an optional module that can be downloaded from the Stata website at [www.stata.com](http://www.stata.com).

reduced during the first 8 months (240 days), when most of relatives live nearby. After 6-8 months in Canada, the presence and location of relatives no longer stimulates greater mobility, compared to those who do not have relatives.

The differential effect of time radically increases the likelihood of geographical mobility among immigrants who have friends in faraway places in Canada (panel B). During the first eight months in Canada, relative risks of migration among people who have friends elsewhere in the country is four times greater than those without friends at landing, with a maximum reached between the third and sixth month in Canada. We also see an effect of having friends nearby, although it varies irregularly with time.

## **5. Conclusion**

The main conclusion of this paper is that internal migration constitutes a step in the settlement process of many new immigrants to Canada. Migration from abroad is a first step to reach Canada, but often another move is necessary to get closer to relatives or friends already established in the country. In this sense, the use of the term “secondary,” to identify internal migration of immigrants is justified. The very high internal migration intensity that takes place just after arrival is explained by the fact that secondary migration constitutes the completion of an unfinished journey between a given origin abroad and a final destination within Canada. A significant number of new immigrants clearly did not land where they wished to, and decided to move to the destination they had in mind before leaving their last country of residence. Evidence of this international-internal step migration process lies in the effect of social networks in Canada at landing: it is strong (relatives as well as friends are involved) and swift (it takes place within the

first six months of landing) in generating migration flows out of the first place of settlement in Canada. Meanwhile, the retention effect of these networks is basically exhibited through the presence of relatives living nearby, and it is more spread along the time line. This second step may also coincide with job or housing search. It is necessary to better understand how labor force participation and other aspects of the early integration, such as education credentials and housing, influence the migration of new immigrants to Canada. In order to further examine these influences, the migration and integration patterns of new immigrants need to be studied over a longer period of time.

In terms of policy implications, it follows from our main conclusion that any policy aimed at retaining new immigrants in their original place of landing must take into account the kin network of these people. In particular, such a policy should try to send people from the same kin network to the same destination, while making sure (or trying to figure out) that they do not have any other relatives in some other distant places in the country. A cumulative process of kin in-migration could be put in place with this in mind: once a first family is accepted for settlement in a given place (a medium-sized town for example), subsequent family members may be more likely to settle in the same area. Of course, it is not a question of promoting coercion measures to fix people to their landing place. It is a question of grouping kin together, in order to reach a reasonable level of dissemination of immigrants across towns and cities in all of Canada. It is also clear that time is a strong consideration: the quicker new immigrants are fixed to their new place of residence in terms of housing, transportation (in small- and medium-sized towns and cities mobility is very limited if one does not possess a motor vehicle), health

care, schooling and network of relatives and friends, the lower the probability that they will move away from this place.

One has to be aware that, in any case, there will be always a certain amount of new immigrants for whom their first place of residence in their new country is just a springboard for reaching an ultimate destination elsewhere in the country. Against this, there is probably no available policy.

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Table 1. Constant-piecewise proportional hazard models explaining first migration of new immigrants during their 840 first days in Canada. Relative risks (RR)

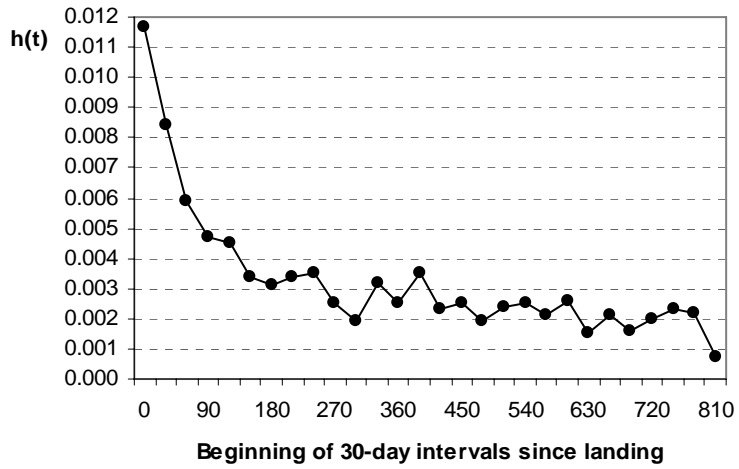
Covariate	Value	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
<b>Sex</b>	Male	1	1	1	1	1	1	1
	Female	0.95	0.95	0.88	0.90	0.89	0.91	0.95
<b>Age group</b>	15-24	0.92	0.94	0.94	0.98	0.94	1.04	1.11
	25-34	1	1	1	1	1	1	1
	35-44	0.77 *	0.77 *	0.80 *	0.80 *	0.83	0.79 *	0.75 *
	45-54	0.71 *	0.72 *	0.75	0.77	0.78	0.77	0.72 *
	55 and over	0.60 *	0.67	0.69	0.80	0.66	0.87	0.91
<b>Partnership status</b>	In partnership (ref)	1	1	1	1	1	1	1
	In dissolution	1.33	1.31	1.34	1.34	1.45	1.44	1.38
	Never in partnership	0.83	0.82	0.92	0.92	1.00	0.91	0.88
<b>Immigration category</b>	Family class	0.48 *	0.40 *	0.44 *	0.44 *		0.55 *	0.56 *
	Economic (ref)	1	1	1	1		1	1
	Refugee	1.40 *	0.90	1.01	1.00		1.01	0.98
<b>Region of residence</b>	MTV (ref)		1	1	1	1	1	1
	Atlantic		5.62 *	5.71 *	5.54 *	4.94 *	4.80 *	4.67 *
	Quebec		3.10 *	3.06 *	3.02 *	2.56 *	2.56 *	2.68 *
	Ontario		3.44 *	3.56 *	3.55 *	3.56 *	3.58 *	3.55 *
	Prairies		3.55 *	3.95 *	3.91 *	4.00 *	3.92 *	3.79 *
	Alberta		0.99	1.03	1.03	0.98	0.97	0.98
	BC		2.42 *	2.59 *	2.61 *	2.11 *	2.35 *	2.44 *
<b>Ethnic origin</b>	White (ref)		1	1	1	1	1	1
	Chinese		1.71 *	1.36 *	1.40 *	1.35 *	1.34 *	1.49 *
	South Asian		2.05 *	1.90 *	1.93 *	1.96 *	2.03 *	2.10 *
	Black		1.74 *	1.59 *	1.60 *	1.60 *	1.61 *	1.76 *
	South East Asian		1.01	1.02	1.04	1.07	1.09	1.12
	Latin American		1.38	1.25	1.25	1.23	1.27	1.35
	West Asian, Arab		1.70 *	1.48 *	1.51 *	1.60 *	1.57 *	1.62 *
	Other groups		1.46 *	1.27	1.31	1.26	1.25	1.29
	<b>Education</b>	Hi School/Trade (ref)			1	1	1	1
College				1.15	1.12	1.11	1.09	1.11
University				1.53 *	1.47 *	1.49 *	1.41 *	1.44 *
<b>Job situation</b>	Never worked in Canada (ref)			1	1	1	1	1
	Job ends			1.31	1.24	1.21	1.22	1.09
	Left job personal reason			3.81 *	3.65 *	3.68 *	3.74 *	2.46 *
	Left job work reason			2.24 *	2.14 *	2.12 *	2.12 *	1.48
	Working			0.49 *	0.46 *	0.47 *	0.47 *	0.61 *
<b>Work intention</b>	No plan to work in Canada (ref)				1	1	1	1
	Plan to work in Canada				1.34 *	1.41 *	1.40 *	1.43 *
	Job arranged at arrival				1.62 *	1.52	1.50	1.32
<b>Relatives in Canada</b>	No relatives (ref)					1	1	1
	Relatives near					0.52 *	0.61 *	0.60 *
	Relatives far					1.46 *	1.52 *	1.58 *
<b>Friends in Canada</b>	No friends (ref)					1	1	1
	Friends near					0.93	0.89	0.88
	Friends far					1.81 *	1.74 *	1.77 *
<b>Log pseudolikelihood</b>		-68117	-65689	-63477	-63417	-62762	-62554	-63127
<b>Prob &gt; chi2</b>		0.000	0.000	0.000	0.000	0.000	0.000	0.000

\* Significant at 0.05

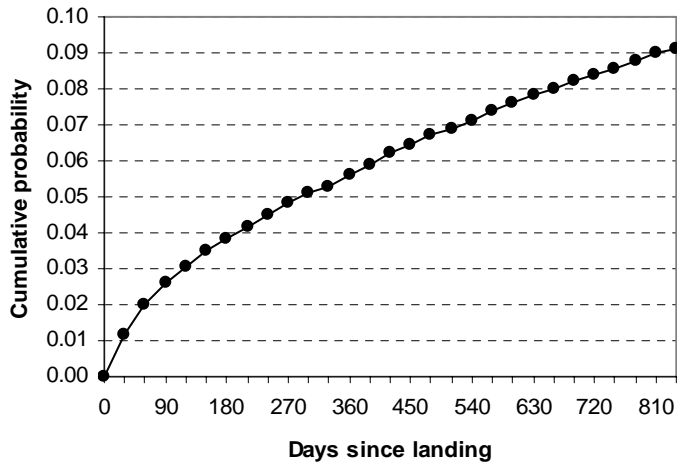
\* Significant at 0.05  
 Notes: MTV stands for Montreal-Toronto-Vancouver.  
 Results for the baseline (days since landing) are not shown.  
 Source: LSIC 2<sup>nd</sup> wave, own calculations

Chart 1. Hazard rates and cumulative probability of first migration since landing in Canada. Immigrants arrived in Canada between October 2000 and September 2001

Panel A.  
Hazard rates

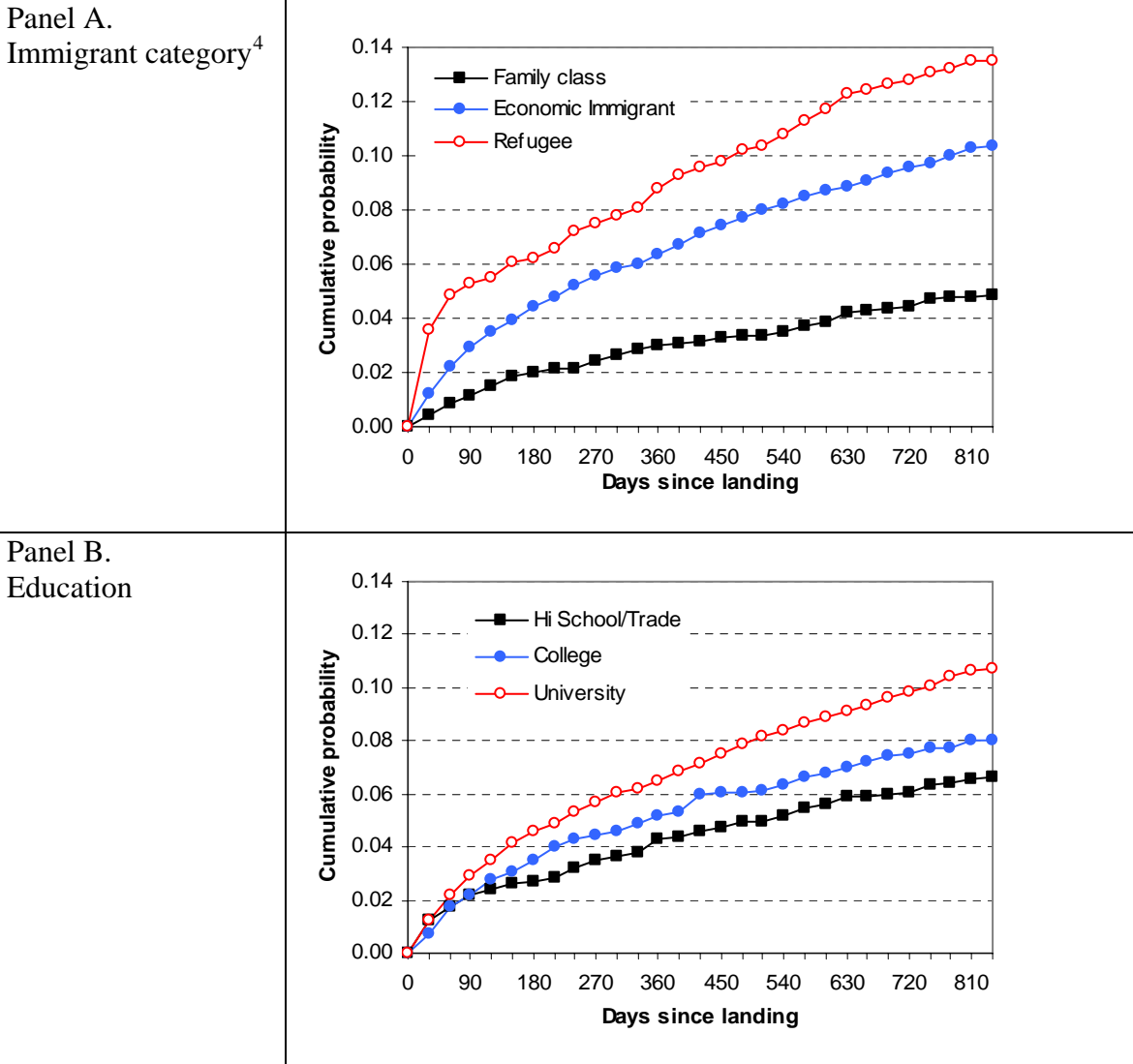


Panel B.  
Cumulative probability



Source: LSIC 2<sup>nd</sup> wave, own calculations

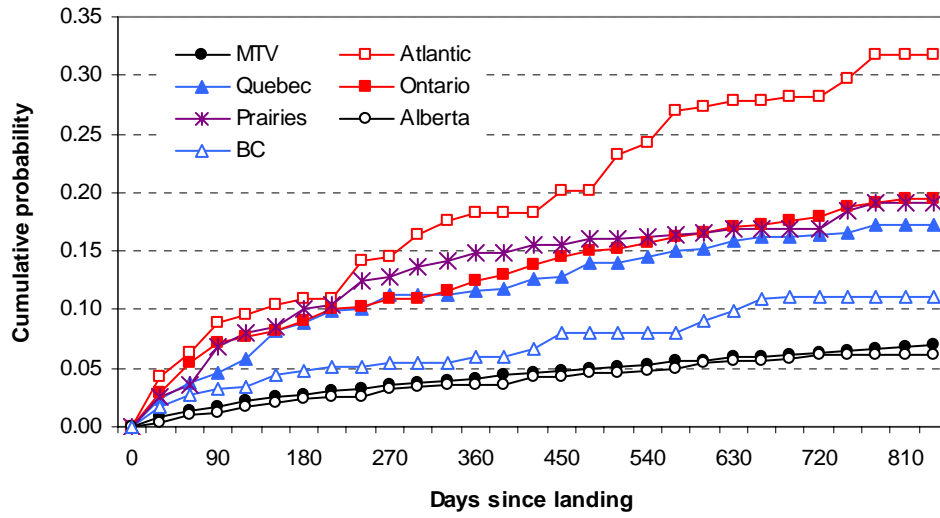
Chart 2. Cumulative probability of first migration since landing in Canada for selected characteristics at landing



Source: LSIC 2<sup>nd</sup> wave, own calculations

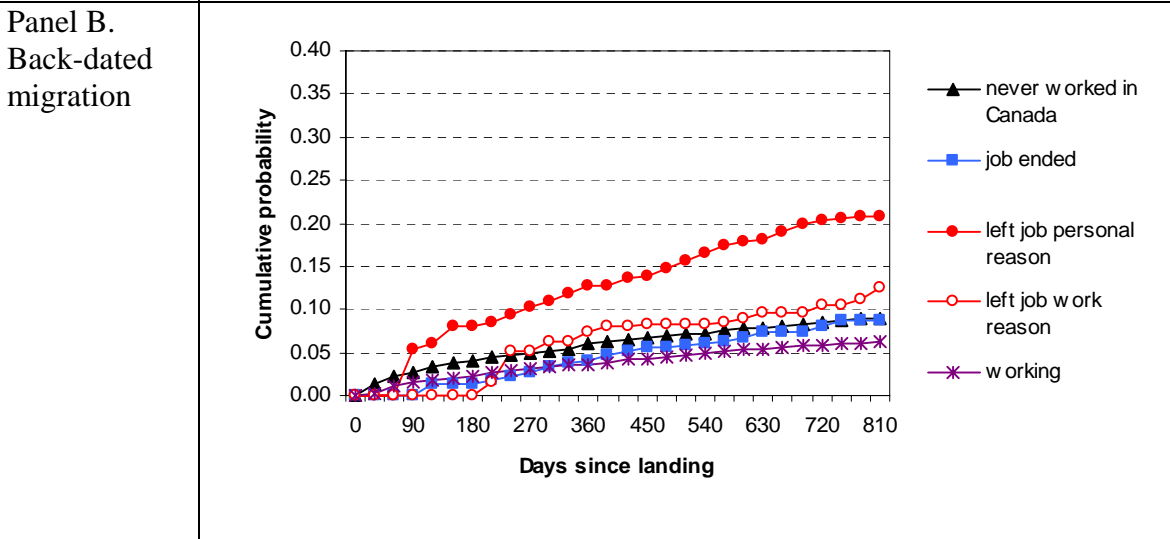
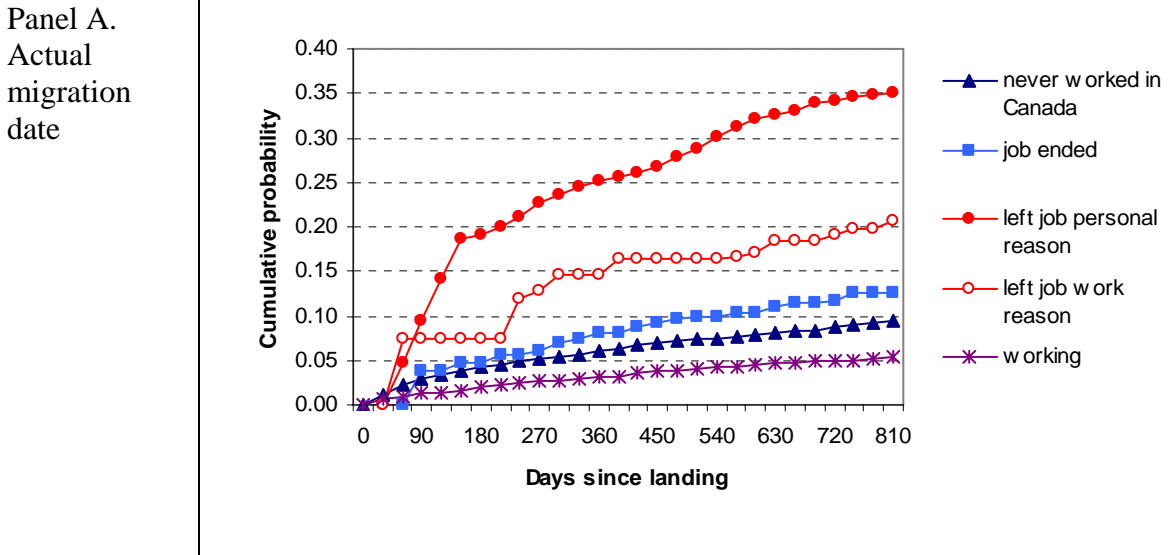
<sup>4</sup> Economic immigrants (principal applicants and their spouse and dependants) are formed by skilled workers, entrepreneurs, investors and all other categories not included in the refugee and the family class groups.

Chart 3. Cumulative probability of first migration since landing in Canada for first region of residence in Canada



Source: LSIC 2<sup>nd</sup> wave, own calculations  
 Notes: MTV stands for Montreal-Toronto-Vancouver.

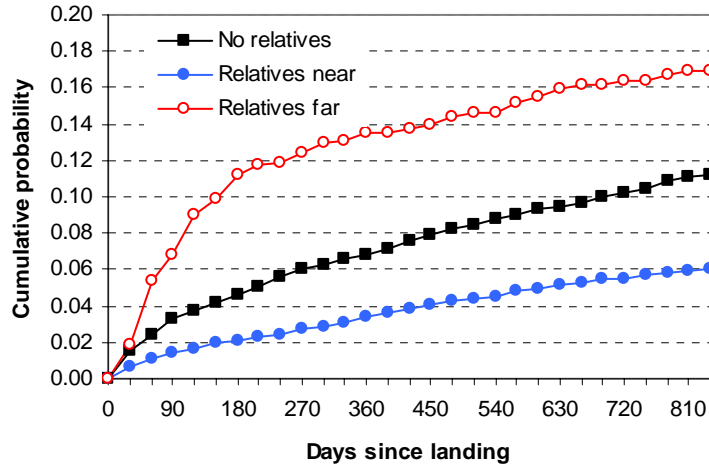
Chart 4. Cumulative probability of first migration since landing in Canada for job situation (synthetic cohort)



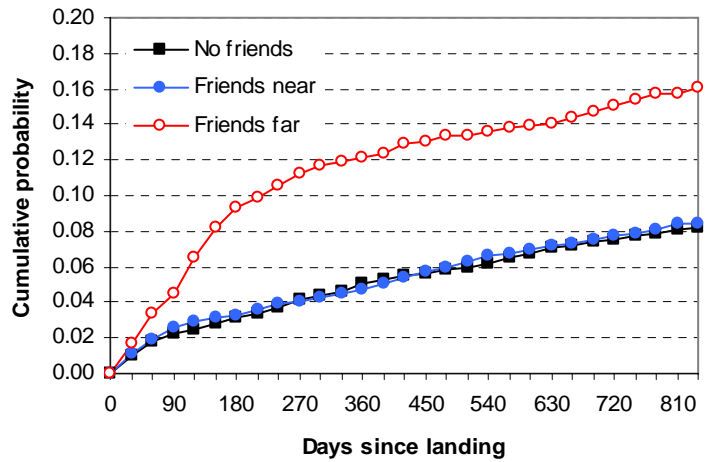
Source: LSIC 2<sup>nd</sup> wave, own calculations  
 Notes: “Job end” because of seasonal nature of work, layoff, ending of contract, dismissal by employer, etc.  
 “Personal reasons” refer to caring for family members, education, new residence, illness, retirement...  
 “Work reasons” refer to found a new job, dissatisfaction with job...

Chart 5. Cumulative probability of first migration since landing in Canada for presence and location of friends and relatives at landing

Panel A.  
Relatives in Canada

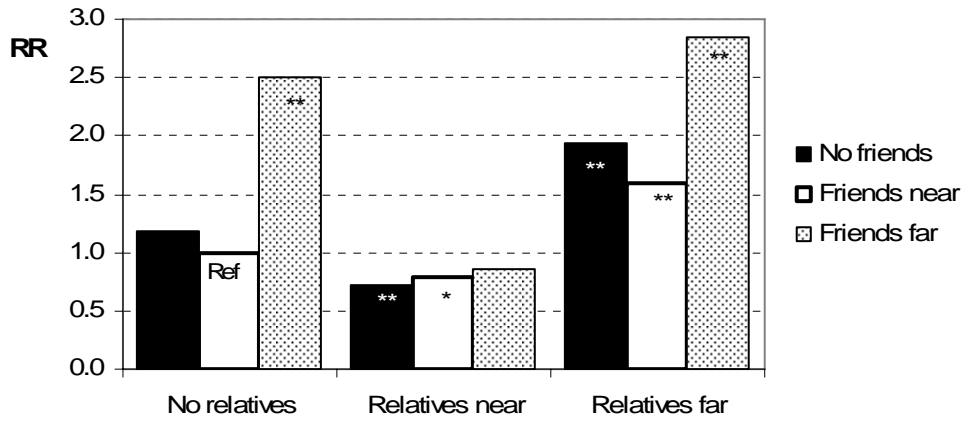


Panel B.  
Friends in Canada



Source: LSIC 2<sup>nd</sup> wave, own calculations

Chart 6. Relative risk of migration according to covariates of having relatives and friends in Canada at landing in interaction, estimated from model 6.



\*\* Significant at 0.05 \* Significant at 0.10

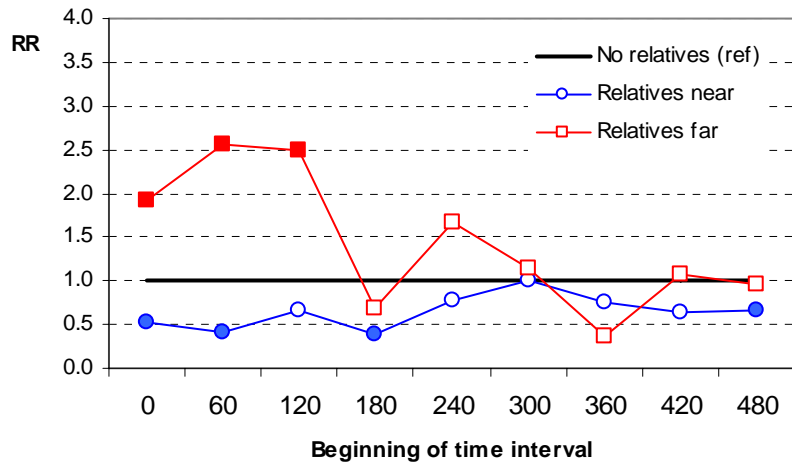
Log pseudolikelihood = -62.446 (sig. 0.000)

Results for the baseline and all other covariates included in model 6 are not shown.

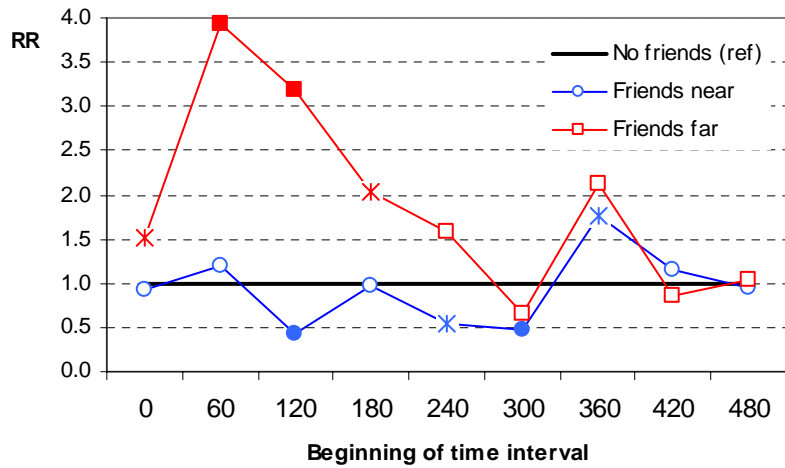
Source: LSIC 2<sup>nd</sup> wave, own calculations

Chart 7. Relative risk of migration according to covariates of having relatives and friends in Canada at landing in interaction with the baseline, estimation with model 6.

Panel A: Presence and location of relatives at landing



Panel B: Presence and location of friends at landing



Full dot significant at 0.05; \* Significant at 0.10; plain dot not significant at 10%  
 Results for all other covariates included in model 6 are not shown.  
 Source: LSIC 2<sup>nd</sup> wave, own calculations

**Table 2. Distribution of days at risks and migrations (in percentage), and annual crude migration rate (%)**

<b>Covariate</b>	<b>Value</b>	<b>Days at risk</b>	<b>Migrations</b>	<b>Annual migration rate (%)</b>
Sex	Male	49.3	51.7	4.50
	Female	50.8	48.3	4.09
Age group	15-24	16.5	14.4	3.75
	25-34	39.4	47.3	5.14
	35-44	26.4	26.5	4.30
	45-54	9.8	8.2	3.60
	55 and over	7.9	3.7	1.99
Partnership status	In partnership	75.6	76.4	4.33
	In dissolution	3.8	3.5	3.93
	Never in partnership	20.6	20.2	4.20
Place of residence	MTV	75.0	56.2	3.22
	Atlantic	0.7	3.0	17.90
	Quebec	1.9	4.0	9.16
	Ontario	9.8	22.7	9.89
	Prairies	2.4	5.7	10.09
	Alberta	7.8	5.5	2.99
	BC	2.4	3.0	5.47
Visible minority status	Non-Visible Minority	20.4	16.1	3.38
	Chinese	21.3	24.0	4.85
	South Asian	25.7	27.8	4.64
	Black	4.8	6.6	5.85
	South East Asian	8.4	5.1	2.60
	Latin American	2.7	2.6	4.17
	West Asian, Arab	10.8	12.4	4.92
	Other groups	5.9	5.4	3.97
Immigration category	Family class	27.7	14.4	2.23
	Economic	66.5	76.5	4.94
	Refugee	5.9	9.1	6.62
Education	Hi School/Trade	29.5	21.2	3.09
	College	17.0	15.0	3.79
	University	53.5	63.8	5.11
Employment	Never worked in Canada	42.3	55.8	5.72

status (actual date)	Job ends	4.0	4.3	4.61
	Left job personal reason	3.7	11.9	14.01
	Left job work reason	1.5	3.0	8.49
	Working	48.5	25.0	2.24
Employment status (back-dated)	Never worked in Canada	42.3	57.0	5.86
	Job ends	4.0	3.9	4.19
	Left job personal reason	3.7	7.6	8.96
	Left job work reason	1.5	2.0	5.71
Work intentions in Canada	Working	48.5	29.6	2.65
	No plan to work in Canada	15.1	9.9	2.81
	Plan to work in Canada	79.3	83.7	4.53
Relatives in Canada	Job arranged at arrival	5.5	6.4	4.92
	No relatives	44.6	55.7	5.36
	Relatives near	49.3	32.0	2.78
Friends in Canada	Relatives far	6.1	12.3	8.68
	No friends	43.2	38.4	3.82
	Friends near	47.2	43.6	3.97
Total	Friends far	9.6	18.0	8.03
		100.0	100.0	4.29

Source: LSIC 2<sup>nd</sup> wave, own calculations

Table 3. Distribution of first migrations by origin and destination (%)

Origin	Destination							Total
	MTV	Atlantic	Rest of Quebec	Rest of Ontario	Prairies	Alberta	Rest of BC	
MTV	30.0	-	-	43.8	-	12.3	-	100.0
Atlantic	49.0	6.3	-	24.5	-	20.2	-	100.0
R. Quebec	70.8	-	13.7	8.9	-	5.9	-	100.0
R. Ontario	61.1	-	9.7	19.0	-	5.5	-	100.0
Prairies	35.5	-	-	18.5	-	41.1	-	100.0
Alberta	34.3	-	-	8.5	11.2	37.9	7.7	100.0
R. BC	50.5	-	-	11.6	-	35.5	-	100.0
Total	40.4	-	-	31.9	-	14.5	-	100.0

Source: LSIC 2<sup>nd</sup> wave, own calculations

Notes: MTV stands for Montreal-Toronto-Vancouver.

- : indicates 5% or less.