THRESHOLD SELECTION IN THE ANALYSIS OF POVERTY INCIDENCE AND DYNAMICS IN CANADA

by

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Abstract

Important insights on the nature of poverty can be derived from the study of factors which contribute to likelihoods associated with both its occurrence and such dynamics as entry into and exit out of poverty. This paper provides a descriptive econometric analysis of potential determinants of poverty incidence, as well as of entering and exiting poverty spells in Canada. By varying the definition of poverty and the inclusivity of the associated thresholds within the regressions being performed, the study also seeks to highlight further nuances in the effects of explanatory variables in relation to probabilities of poverty incidence and transitions. Data sourced for analysis feature the last available panel of the Survey of Labour and Income Dynamics, spanning from 2005 to 2010.

Results suggest that academic achievement, labour characteristics, geography, marital status and household transitions, immigration status and history, and other demographic features significantly influence probabilities associated with poverty. As well, they yield patterns in both significance and magnitude of the observed probability effects of certain individual characteristics in response to varying the definition of the poverty threshold, implying a non-trivial degree of sensitivity of observations to both the way in which poverty was measured and the depth of poverty being analyzed.

Keywords: regression analysis, maximum likelihood, income dynamics, Canada.

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1. Introduction

Effective poverty alleviation policies require accurate identification of critical poverty causing factors. It is therefore often a vital element of public policy design to develop dependable classifications of poverty and a thorough understanding of the mechanisms underlying low income incidence and transitions. Poverty can be defined using a variety of measures spanning the continuum between absolute terms (such as the inability to obtain the necessities of life) and relative terms, which commonly relate to average income. While several different measures are used in Canada, the federal government has not yet officially endorsed one in particular. The choice of a poverty measure is thus a critical debate among analysts and policy-makers relying on a clear definition of who is considered poor. Examination of the nature of poverty must thus not only employ sound empirical methodology, but also check the sensitivity of results to adjustments to the definition of poverty itself.

This paper seeks to highlight the determining factors of both the static and dynamic elements of poverty in Canada, and to explore how their perceived effects change when various prevalent measures of poverty are considered. While most domestic research using poverty data offers snapshots of low-income characteristics, this paper uses panel data available through the Survey of Labour and Income Dynamics (SLID) to also assess low-income spell transitions and thereby better inform poverty reduction policy. This multi-dimensional approach will also allow a robustness check of observations on poverty behaviour across models which employ fundamentally different thresholds that define poverty.

The investigation is prefaced with a summary of past approaches in identifying poverty's contributing factors, using both domestic and foreign data. Following the literature review is a description of the data and poverty definitions used in the analysis, as well as of sample and variable selection. In the fourth section, the reader is presented with a statistical summary contextualizing poverty and the relevant variables. The analysis itself is detailed in the fifth section, which is further divided into five parts, each focusing on a separate empirical approach. The first model, using a logit specification, seeks to provide insight into factors contributing to poverty incidence probability. The process is repeated in an attempt to highlight the influence of non-stationary characteristics by accounting for individual fixed effects. The next pair of models, focusing on probabilities of entry and exit from poverty, is discussed in the third part. In the fourth sub-section, occurrence dependence is tested for in the previous models for poverty spell entry and exit. Lastly, a hazard analysis approach is used to explore duration dependence in the exit model. Each of the five parts of the final section opens with a review of the underlying theory, and then provides a detailed discussion of estimation results.

Education, age, household composition, immigration, and family status of the sample members are found to be significant contributors to poverty occurrence risk, as well as to variation in entry and exit probabilities. Choice of poverty definition often plays a major role in how variables enter the models being discussed, with some effects appearing be stronger when either milder or more severe poverty is being analyzed. In addition to employing the latest panel dataset from the SLID, this study also works to expand on previous research by featuring employment variables such as the amount of labour supplied and industry of employment in its regression models. Both of these sets of indicators are shown to strongly influence poverty risks, especially at the lower, less inclusive thresholds. Extent of recent poverty experiences, as well as durations of current spells, are less reliable but often still statistically significant risk elements. This once more highlights the necessity of using a variety of poverty measures.

2. Literature

Pivotal to the transition from simply comparing poverty rates between various subpopulations to hazard modeling and duration analysis of poverty was a shift in focus to poverty's dynamic nature. Data on poverty spell duration, for example, provides further insight into issues that social policy can target in an effort to reduce poverty: causes for long- and short-term poverty may differ. In their 2003 publication, Ross Finnie and Arthur Sweetman argue that "to identify the proximate causes of movements into or out of poverty necessitates observing those transitions, and to place poverty spells in a broader context depends on observing the rate at which individuals move back into poverty after escaping" (p. 292). They employ 1.419 million observations from the 1992-1996 panel of Canada's Longitudinal Administrative Databank (LAD) to model the probabilities of poverty incidence, entry, exit, and re-entry as functions of demographic variables and situational attributes (family status, they find, is a strong determinant of movements into and out of poverty). The authors take advantage of the panel data aspect to also test for (and find significant evidence of) occurrence dependence for poverty entry and incidence, to confirm their results regarding the determinants of poverty transitions using a fixed-effects specification, and also to examine poverty exit and re-entry through a duration analysis framework. Further insights can be gained in applying these analytical techniques to the Canadian Survey of Labour and Income Dynamics. The SLID contains valuable data on education and detailed labour market characteristics such as employment patterns and employment industry.

The duration analysis approach used by Finnie and Sweetman (2003) – and adapted here for use with the SLID – is akin to those previously used by

Gunderson and Melino (1990) to study strike durations, as well as by Ham and Rae (1987) to study unemployment spells. In fact, it represents a convenient modification of the logit probability model specification found in this essay's analysis of poverty exits, thereby making low-income spell hazard analysis a natural extension to it. This connection, as well as the methodology as a whole, merits a discussion of the underlying empirical theory. Main contributions by Cox (1972), Keifer (1988a, 1988b, 1990), Hujer, Maurer, and Wellner (1996), and others are discussed in detail in the Regression Analysis section further in this paper. Devicienti (2011) shows the importance of accounting for repeated spells by highlighting that results on poverty persistence are sensitive to the way transitions in and out of it are defined.

Variety in methodology of empirical analysis of low income can be found by expanding focus to studies of foreign data. Djavad Salehi-Isfahania and Mehdi Majbouriba (2013) use a four-year panel of 5090 households surveyed by the Statistical Center of Iran in 1992 to study the country's poverty dynamics, as well as income mobility, using tobit and censored quantile regression (CQR) models. They find that chronic poverty is a more serious problem in urban than rural areas, while transient poverty is more uniformly distributed geographically. The vector of regressors also contains other demographic information such as geography, personal and family characteristics, migration, and education. Already, the study offers a clear opportunity for expansion of the econometric toolbox with which to approach the SLID.

Another detail worth mentioning is the use of a cost-of-basic-needs poverty line, defined to correspond to the average per capita expenditure of households with 2200 calories of food intake per adult equivalent person. This threshold is calculated separately for different regions of Iran to take into account price differences between urban areas, rural areas, and Tehran. The authors also analyze what they call an aggregate inter-temporal poverty function, a “particular definition of chronic and transient poverty, which is widely used in the empirical literature because of its many appealing features including decomposability and sensitivity to how poor a person is” (2013, p. 264). Jyotsna Jalan and Martin Ravallion (2000), the function’s original authors, offer a more detailed account of issues such as left-censoring for the non-poor (which necessitates the tobit approach to its estimation using Iranian data). Pending the availability of data which provide an opportunity to employ such methodology, Salehi-Isfahania and Majbouriba’s application of this framework can be adapted to examine low income in Canada, where most studies have focused on modeling poverty using definitions that are insensitive to its degree of severity.

Another work applying foreign data to analyze income dynamics, although this time focusing specifically on the role of household transitions and labour market participation, is that of Simon Burgess and Carol Propper (1998). This study employs data between 1979 and 1991 on 12,686 individuals, aged 14 to 22 years in 1979, from the U.S. National Longitudinal Survey of Youth to “offer a framework for analyzing household income and poverty dynamics and embed in that a relatively simple model of behaviour that [the authors] feel captures the main factors involved” (p. 6). In light of the need for brevity, the components of this framework can be summarized as models of labour supply, household formation and dissolution, and childbearing. The analysis shows that, while “some aspects of an individual’s situation early in life affect their likely subsequent status, particularly the level of completed education, [...] in general transition behaviour is more important” (p. 6). The authors also discuss the convention of using individuals as the units of analysis, and their household incomes (and their relations to a poverty threshold) as the unit of measurement. On one hand, the end goal is examining the well-being of those individuals. On the other, decisions of other individuals in the household also have an effect, prompting the suggestion of analyzing the entire household's behaviour. This critical discussion motivates the use of a behavioural model to link individual decisions to household income dynamics. This comes in sharp contrast with most attempts at poverty research – including this essay – which focus on binary indicators for poverty, which they argue is "an administrative state [having] no impact on utility over and above that of the component processes" (p. 10).

The traditional approach of defining poverty in relative terms using thresholds like the Low Income Measure or the Low Income Cut-Offs, however, has the benefit of facilitating international research. Robert Valetta's (2006) comparative analysis of poverty transitions and persistence examines Canada, Germany, Great Britain, and the United States. The study uses data from overlapping six-year panels in the 1990's, constructed using the Cross National Equivalent Files. The research is motivated by an abundance of other international comparisons which only focus on poverty incidence frequencies and their time trends: "to fully understand poverty from a socio-economic and policy perspective, […] it is important to move beyond static comparisons of cross-section poverty by analyzing the dynamics of poverty" (Valetta, 2006, p. 261). Employing regression analyses of poverty entries, poverty exits, and the incidence of chronic poverty – all entering a pooled logit model as binary dependent variables – he examines the roles of individual characteristics observed in the first of each sequential pair of years, and changes in characteristics observed between the base year and the next year. Chronic poverty is a concept derived from annual incomes measured over the entire length of the panel, and is explained by characteristics observed in the panel's first year. He finds that "employment status and family living arrangements, and changes therein, are the most important factors associated with poverty incidence and persistence among individuals from working-age households in these countries," while the "association between employment status and poverty persistence is especially pronounced in Canada and the United States" (p. 282). Valetta's research also takes the additional step of illustrating that government policies explain a significant amount of the variation between the poverty dynamics in North America and those in Europe.

3. Data Selection for Estimation

3.1. Survey of Labour and Income Dynamics

The Survey of Labour and Income Dynamics (SLID) targets all residents of Canada, excluding those in the Yukon, the Northwest Territories, Nunavut, and residents of institutions and aboriginal reserves. Samples for the SLID are selected from the monthly Labour Force Survey (LFS), which is in turn drawn from an area frame and is based on a stratified, multi-stage design that uses probability sampling of six independent rotation groups. Each of those groups is rotated out – removed from of the sample and replaced – once per month. Every panel consists of two LFS rotation groups and includes roughly 17,000 households, and is surveyed for six consecutive years. With a new panel introduced every three years (so that two panels always overlap), the SLID offers annual data from 1996 to 2010.

In 2011, the last year during which the SLID was active, it was estimated to have covered 87.4% of its target population (as determined by Census population projections), with a cross-sectional response rate of 67.3% (Statistics Canada, 2012). Although high, this proportion compares less favourably to the coverage usually achieved by the set of annual files from which the Longitudinal Administrative Databank was constructed (Finnie and Sweetman, 2003, p. 293). A significant contributor to the difference in quality of the two databases is that while the LAD uses tax data, the filing of which is very high in Canada due to incentives to recover tax deductions (and due to filing being mandatory in other cases), participation in the LFS is voluntary. However, unlike the LAD, the dataset used here offers insight on a wider range of topics. This includes information on the nature and patterns of labour market activities (including employer attributes such as industry and firm size), education, other personal characteristics (demographics, family status and dynamics, and geography and geographic mobility), as well as income and wealth.

The following study will use the 2005-10 panel of the SLID, containing observations on 42,030 individuals and their households. The survey of this panel contains data on occurrence of each of the three major definitions of income poverty that are examined in this paper and discussed in subsection 3.2.

3.2. Defining Poverty

There are several poverty measures readily available through the SLID: the Low Income Cut-Offs (LICOs), the Low Income Measure (LIM), and the Market Basket Measure. As well, data from the SLID on rent, condominium fees, and mortgage payments allows a "housing poverty" indicator to be defined by comparing monthly dwelling expenses to household income. A specific value of this ratio may then be chosen to constitute a poverty threshold – an interesting idea for further study. Each set of poverty indicators discussed here is generated from data on household income (and sometimes expenditure) – reflecting the nature of poverty as an attribute of the household or family unit. Note that the explanatory variables which will appear in the following analysis, however, will focus on the individual as the unit of social welfare measure. The rationale for this discrepancy is that household members tend to share resources, and are also influenced by the characteristics of and the decisions made by their co-habitants.

The LICOs are income thresholds at which families are likely to spend 20% more of their income on food, shelter and clothing than the average family, calculated using household expenditure data. The cut-offs vary by seven family sizes and five different residence area population groups in order to capture differences in the cost of living amongst community sizes. To account for changing spending patterns, Statistics Canada regularly rebases LICOs according to the Survey of Household Spending (previously the Family Expenditure Survey) data. The cut-offs are then also adjusted for inflation.

The Low Income Measure (LIM) is defined as 50% of median after-tax household income, adjusted to take into account household needs by dividing the total income by the square root of the household size. The Measure is employed in this paper, wherein it is compared to the adjusted net household income of each respondent. This defines a poverty threshold that is both derived from and applied to data from a single income survey. This removes the need for periodic (and possibly not sufficiently frequent) adjustments that are necessary for keeping the Low Income Cut-Offs up to date. The LIM thus has the advantage of making observations on poverty immediately comparable both internationally and across time periods. Due to its simplicity and dependability, the LIM and thresholds around it (multiplying it by 1.5 and 0.5, thereby directly relating to the 25-th and 75-th percentiles of Canada's income distribution) are included in the analysis. In doing so, the analysis which follows allows conclusions to be made about not only what the determining factors of low-income behaviour are, but also about how their influence differs when more or less severe poverty is considered.

A much more recent innovation, the Market Basket Measure (MBM) is included in the analysis for its potential to provide yet another perspective on the nature of poverty by using basic-needs expenditure data to define the low-income threshold, as was the case with the LICOs. The individual's share of the household's disposable net annual income (where the portion is calculated by dividing this income by the square root of the number of that household's members) is compared to a threshold based on the aggregate cost of a "basket" of food, clothing, shelter, and other necessities for a reference household. As with the LICOs, the MBM threshold must be regularly updated to account for inflation –

as well as for changes in the composition of the "basket" of necessary goods and services. However, in contrast to the LICOs (household-level definitions of which, for most observations of Panel 5 of the SLID, are only available using the 1992 version), the study is able to use MBM thresholds last rebased in 2011.

3.3. Sample and Variable Selection

The SLID sample is narrowed down to individuals who stayed in the panel for all six years by removing those who died, were institutionalized, moved out of the country, or did not respond for other reasons in any year. In doing so, sample attrition due to income problems is expected to generate a degree of bias in this study due to its subject matter. The analysis is then further limited to adults aged 20 and older who are not full-time students in any year of the panel, so that poverty status is less likely to signify a stage of transition by youth to their economic independence. The trimmed and balanced panel contains observations on 20,926 individuals and their households. Longitudinal weights are applied to these observations in the course of executing the regressions discussed here.

The independent variables in the subsequent regressions include sex, age, immigration status and the number of decades since immigration, population size of the residence area, province of residence, marital status, household dynamics, and a series of calendar year dummy variables that account for business cycle effects and other trends. In addition to offering an updated variation on work previously undertaken by Ross Finnie and Arthur Sweetman in 2003, this paper also sources the SLID for data on education and labour market activity. Specifically, the regressions include variables representative of individuals' highest level of academic attainment, total number of hours worked and paid for (in all jobs) during the reference year, and their industries of employment[1]. The following series of regressions estimates the predictive capacity of these variables on the probability of poverty incidence (defined for each year as the individual's annual household income crossing below the specified poverty threshold), as well as on the probabilities of entry into and exit out of poverty spells.

[1] Variables specifying the industry of employment are given by SLID Grouping #2 for industry code of employer, constructed in 2007 using the North American Industry Classification System.

4. Descriptive Results

4.1. Poverty Incidence Trends

While the Low Income Cut-Offs, the Low Income Measure, and the Market Basket Measure provide a useful variety of definitions for poverty with which to examine it, they are also sufficiently conceptually different to make direct quantitative comparison between the measures themselves impractical. However, an important tool for the analyst's ability to visualize the process of comparing effects of other variables on behaviour of income in relation to these thresholds is an understanding of how inclusive each of these thresholds is. Figure 1, presented at the end of the study, displays annual frequencies of poverty incidence in the sample referred to for this study, as captured by the three different approaches for defining low income.

The critical observation from Figure 1 to be made here concerns a clear difference in the direction taken by the trends of poverty incidence as measured using different expenditure criteria (the MBM and the LICOs) and that which is based on a purely relative measure (the LIM). Poverty frequencies appear to fall over time under the former set of definitions. However, more and more people experience an income decrease beneath the half-median mark between 2005 and 2008, followed by a decline afterward. The LIM is likely to have produced this pattern in annual poverty incidence frequencies due to the way in which average incomes themselves have behaved in this time window. Within the scope of this panel of the SLID, Canada experienced a period of relative growth until 2008. The upward movement of the national income distribution's median has likely accounted for much of the increase in the perceived poverty rate which is defined using that mark and reflected by the LIM poverty frequency trend. Similarly, the fall in this frequency from 2008 and onward is unlikely to be owed to an improvement of incomes among the poor. Instead, this behaviour probably results from the falling median income of the entire population as part of the recession occurring in that period. Although these trends are very subtle, results of following analyses must be based on regression models that are carefully adjusted for time trends. As well, there is a marked difference that can be observed at this stage between the degrees to which the three poverty definitions are inclusive of the potentially poor sample participants: the LIM captures anywhere between two and three times the incident counts as the LICOs in any given year. It is also apparent that the three measures are not perfectly correlated, indicating significant differences in how their underlying definitions affect the way in which they reflect poverty. The observations motivate the use of each of the three thresholds to define poverty indicators in later analysis, as well as adding calendar year dummies to the list of regressors to help account for macroeconomic fluctuations in Canada.

The second graph in Figure 1 repeats the above exercise with the LIM, and adds trends for its variations. The two new plots are the poverty frequencies using 0.5 times the LIM (a threshold which corresponds to one quarter of median income in Canada) and 1.5 times the LIM (similarly – corresponding to three-quarters of median income). This is done to show the behaviour, across time, of poverty frequencies using poverty definitions that vary in their exclusivity of the potentially poor population but are still similar in their fundamental design. One sees that, indeed, the pattern taken by the LIM-defined poverty trend in the first graph is very likely to differ from the others due to the information which was used to design it: the three trends appear to be little more than multiples of one another. However, another vital observation here is that the vast majority of the poor defined by the Low Income Measure in fact have incomes reaching relatively close to that margin in every year. Meanwhile, in each year over five thousand individuals received less than 75% of the median income in Canada. This is over double the poverty incidence frequencies which the trend applying the Low-Income Measure portrays in those years. Observations made from the second part of Figure 1 suggest that it would be valuable to include regressions which utilize the two thresholds around the LIM in the following study. This will help to bring attention to the demographic and other types of factors which influence poverty experiences associated with the *severely poor* sample participants (those below half of the LIM) differently from the *mildly poor* (those falling below 1.5LIM).

In comparing the frequencies of poverty incident occurrence within the sample, the size of which remains constant across tabulations, observations made on the corresponding trends effectively reflect patterns in the actual poverty rates that these poverty definitions capture in the sample. Therefore, the five thresholds presented here can be ranked with respect to how inclusive they are of the poor population in any given year by comparing the poverty rate trends in Figure 1. The most inclusive threshold is 1.5LIM, followed by the Low Income Measure itself. The Market Basket Measure threshold, the Low Income Cut-Offs, and the threshold given by halving the LIM then follow, respectively.

4.2. Demographics of Poverty

Also found at the end of the paper, Table 1 illustrates the distribution of total poverty incident frequencies across basic demographic groupings, using a single threshold (the Low Income Measure). This offers an elementary level of understanding of *who* is poor, although not necessarily *why*. Data retrieved about the panel participants in 2005 is used to group them according to the basic control variables critical to even basic models for regression analysis of poverty incidence and low-income spell duration. The first row gives an idea about the distribution of poverty incidence frequencies for the entire survey sample: over three-quarters of participants did not encounter any poverty in the duration of their panel. Consider now those who do experience at least one low-income incident during the specified time frame. The proportion of the total sample which these individuals represent is referred to as poverty *prevalence*. The distribution of poverty occurrence counts for this group tends to accumulate toward only one year of six. At the opposite tail of this distribution is also a small peak: more people experience poverty for the entire duration of the survey period than for exactly five years of it. This indicates possible right censoring of longer poverty spells. These can include much more persistent low-income patterns known as chronic poverty, potentially starting before and ending long after the survey time frame.

These remarks on the shape of the incidence frequency distribution reappear in most groups appearing further down the chart. There are exceptions, however: individuals who were married or in a common-law relationship, those in their twenties, non-immigrants, and those who immigrated between 20 and 29 years ago at the time of the 2005 survey appear to experience poverty for all six years (and are possibly caught in an even longer poverty spell at the time) the least often.

More observations can be made by narrowing the focus to comparing groups generated by the variables of interest. Women tend to experience poverty more often than men at each frequency, and an analogous pattern appears for individuals who have a spouse or common-law partner relative to those who do not. Furthermore, those who previously had a spouse (but widowed, separated, or divorced before 2005) experienced occurrence counts higher than one year noticeably more often than those who never had a spouse. People who had a child before the age of twenty fare similarly in relation to those who did not, except that there is also a higher frequency of former teen parents who experienced one year of poverty out of the six. Prevalence of poverty dominates among the youngest members of the sample, as well as those in the early retirement age bracket of 60 to 69 years. However, those in their twenties tend to be poor much more often for only one year – while those in their sixties experience the low-income incident frequencies of four years or more noticeably more often. This may be reflective of an important difference in poverty behaviour from a policy-making standpoint, where addressing driving factors of long-term poverty gains special priority at higher age brackets and youth poverty is more likely to be associated with transitional unemployment and continued higher education. Poverty occurrence at most frequencies is more common among recent immigrants, although the relative frequency of a single brief episode of low income is found most often among those who immigrated between one and three decades before the survey date. People who did not identify as immigrants did not display any consistent patterns in poverty occurrence frequency relative to those who did. Turning lastly to the population of the region of residence[2] as a source of variation, one finds the highest level of occurrence frequency over the six-year period to be more common among residents of large urban centres, reaching as high as 3.92% of respondents local to an area of 500,000 individuals and as low as only two percent of rural area residents. There are no other consistent patterns which surface from comparing the variation in the relative frequency of each poverty incident count of less than six between the elements of the area size grouping, but populations of rural areas and areas with populations under 30,000 people face lower poverty prevalence.

One classification which plays a significant role in comparisons of poverty frequencies which has been omitted thus far is the geographical location of the survey participants. Figure 2 illustrates the poverty incidence frequency

[2] The variable detailing area populations in the SLID follows the 2006 Census geography-base boundaries.

distribution over the six-year period in a method analogous to Table 1, for each province. The format of this presentation allows the reader to immediately recognize how the provinces rank with respect to poverty prevalence, which is reflected by the total length of each bar in the graph. Newfoundland and New Brunswick experienced the highest prevalence rates (the proportions of residents who were poor for at least one year between 2005 and 2010), reaching almost as high as one-third of the sizes of their respective samples. The other east coast provinces fared better, but will nevertheless be combined with these two in following regressions in order to make the most of the small subsample sizes in achieving significant (if less detailed) results. Quebec's prevalence rate is 25.6%, and its breakdown into individual low-income incident frequencies out of six years shows that the prevalence statistic there tends to be composed more from individuals who were poor for between two and four years. Meanwhile, long-term poverty is noticeably more prevalent in Newfoundland and New Brunswick.

Saskatchewan's prevalence rate trails three percentage points behind Quebec, and is followed closely by British Columbia, Prince Edward Island, Manitoba, and Ontario, in that order. The prevalence rate in British Columbia is composed predominantly by individuals who experience poverty for a small part of the panel duration. It is also the only province with no accumulation at the six-year poverty frequency category, which indicates lower prevalence of the type of poverty which is experienced chronically in a six-year window (and perhaps beyond) relative to prevalence composed of sparsely occurring incidents. Alberta has by far the lowest poverty prevalence rate, 14.3%. While resembling British Columbia in its relatively low prevalence of high individual rates of poverty experience over six years, there is an even stronger overall tendency toward short-term poverty. Less than one percent of Albertans in the SLID sample experience poverty for more than four years in total, and approximately half of those who do experience any poverty (7% of the sample, to be more precise) have only a single one-year poverty incident over the survey panel's timeframe. The different patterns of poverty occurrence from one province to another makes this another important set of variables for any elementary model analyzing its determining factors.

4.3. Income Dynamics

Figure 3 displays a series of graphs[3] which shift the focus of discussion toward the characteristics of low-income transitions. The goal is to illustrate where, in relation to two different poverty thresholds, adjusted household incomes of the sample participants appear in the first and then last years of the 2005-2010 panel. Each marker represents an appropriately sized accumulation of sample participants, and its position on the horizontal axis reflects the ratio of their income in 2005 to the poverty margin defined in that year. Similarly, placement along the vertical axis provides information on the distance of their 2010 income to the same poverty measure, redefined for the corresponding year. Vertical and horizontal lines have been added to demark the actual low-income thresholds, which appear on these axes at the ratio values of one. Two measures of poverty are used – the LIM and the MBM poverty threshold – to ascertain consistency of results. As such, the income variables compared against each of the thresholds are also different. In particular, the Market Basket Measure threshold is meant to be compared against disposable net household income, adjusted for household size, while income from which the Low Income Measure is derived is only reduced by the taxes. Highlighting the distinction between these approaches is important not only as a cautionary measure for the reader's reference in this section, but also

[3] Each point, or *marker*, is sized to reflect the magnitude of the accumulation of individuals which it represents, in relation to the true population, by applying the "importance weight" variable provided by Statistics Canada for use with the SLID. Each accumulation point contains a minimum of six individuals.

because it motivates the analysis of available data under each approach in tandem. Unlike comparing results of regressions using different percentiles of median income as the poverty threshold, including more than one unique definition of poverty may yield interesting observations for which the relative level of one's income may not account as well as their type of poverty.

In the context of income mobility relative to either poverty threshold, however, the patterns observable in Figure 3 are very similar and altogether expectable. There is a weak tendency to retain one's distance to a specific income threshold from the beginning of the five-year period to its end. Most individuals who started out receiving no more than five times the threshold in income remain in that bracket. However, both those who receive little or much income at first appear to face a significant probability of seeing their position change toward the opposite.

In order to focus on transitions out of poverty, the top pair of graphs in Figure 3 is re-rendered to display only groups of those individuals whose appropriately adjusted incomes fell underneath the corresponding thresholds in the beginning year, 2005. Referring to the horizontal axis, the accumulation of people who were experiencing relatively mild poverty at this time is slightly denser than near the ratio value of zero (which corresponds to no income). As well, the end-state of the overwhelming majority of the initially poor at all levels appears to be to either remain in poverty in 2010, or to receive an annual income which is equal at most four times the poverty line in that year.

The fifth and sixth graphs repeat the above exercise, except now displaying only those who avoided poverty in the panel's first year instead of experiencing it. This step is designed to study patterns of entry into poverty and other income ranges over the span of the half-decade in question. A noticeable portion of those who started out as non-poor but receiving less than five times the poverty threshold end up in poverty at the end of the period, but most remain in the original bracket or improve. Of those who first received between 10 and 20 times the LIM or MBM, most saw their income fall beneath that range, relatively few remained in it, and fewer members of that group yet saw their distance from the poverty threshold increase. There are no markers indicating transitions from the 10-to-20 ratio range to beneath the low-income threshold in either the LIM or MBM case. As a result, the majority of high-income observations in 2010 are in fact supplied by individuals whose income-to-poverty threshold ratios initially appeared in the lower ranges. In fact, among those who entered the high income bracket in 2010, there is a surprisingly uniform distribution of initial incomes between the values of one times the LIM or MBM and ten times. This suggests that those individuals who received anywhere between the poverty threshold value and ten times that margin in 2005 are far more likely than their higher-earning counterparts to receive high income in 2010.

4.4. Low-Income Spell Duration

Lastly, a basic account is made of the distribution of poverty spell length frequencies in order to preface the next section's analysis of duration dependence in the poverty exit model. Tabulations of frequencies of poverty spells of each length – ranging for 1 to 5 years – are presented in Table 2 as proportions of the total number of poverty spells of all lengths in the 2005-2010 period. This is done using each of the five low-income thresholds being considered in the study. A trend common to the five repetitions is that at least half of all poverty experiences are short-lived, meaning that the poverty indicator expires after exactly one year. Each total duration of low-income experiences occurs nearly half as frequently in the SLID sample as the next-longest spell duration, in years.

A pattern differentiating the tabulations is also evident. Recalling the relationship between the thresholds as captured by Figure 1, the distribution of spell lengths appears to build at the lower values when a less inclusive threshold is being considered. In other words, deep poverty tends to be experienced briefly relative to longer durations more often than milder forms of poverty: nearly ninety percent of poverty incidents characterized by adjusted household income falling under the half-LIM mark end within two years. On the other hand, mild poverty tends to be not so short-lived. Extending the latter set of observations beyond the available data suggests the potential conclusion that chronic poverty is more commonly observed when more inclusive thresholds are used to gauge low-income rates.

5. Regression Analysis

5.1. Poverty Incidence

5.1.1. Theoretical framework. The term *poverty incidence* here refers to the event wherein the survey participant's adjusted net annual household income falls below the LICOs defined in that year, the MBM threshold, the LIM or the previously described thresholds around it (henceforth referred to as "0.5LIM" and "1.5LIM") in the reference year. In this section, a set of regressions is estimated to identify the factors which contribute to the likelihood of poverty occurrence in any one of the six years of the panel, and to compare the associated effects across the five thresholds. The five binary incidence indicators defined by the above thresholds are used, one at a time, as the dependent variable Y_{it} in the model:

$$\Pr(Y_{it} = 1 \mid X_{it}, \mu_i, \delta_t) = \Lambda(X'_{it}\beta + \mu_i + \delta_t + u_{it}) \tag{1}$$

where $\Lambda(.)$ denotes the logistic cumulative distribution function. The regressors listed previously are represented by the vector X_{it}. Unobservable time-invariant individual fixed effects are denoted by μ_i (but are not accounted for at this point), aggregate time shocks are represented by δ_t, and u_{it} is the time-variant (random) unobservable term. The logit specification is selected in order to avoid problems common to linear probability models: heteroskedasticity, predicted probability values falling outside the unit continuum, and possibly negative estimated variances (Greene and Hensher, 2010, p. 687). All regressions discussed in this and all subsequent subsections are executed using Stata MP 11, and the *svy* package is used each time to apply the longitudinal person weight variable "ilgwt26" provided by Statistics Canada for use with Panel 5 of the SLID.

5.1.2. Specification building. Following subsection 3.3, which outlines the selection of independent variables relevant to analysis undertaken in this and further parts of the Regression Analysis section, a set of regressions is first executed in order to provide context to the statistical and economic significance of those variables in both the basic incidence model and those which follow. To make the results easily comparable, and to minimize inconsistencies due to periodic rebasing of the threshold's definition, the regressions are conducted with the use of only the Low Income Measure to generate the dependent poverty incidence variable. Beginning with the list of essential demographic characteristics commonly used in similar studies and whose relevance in the analysis is summarized in the Descriptive Results section, Table 3 shows the outputs of a succession of regressions, simply labeled as #1 through to #5, whose vectors X_{it} of independent variables are incrementally appended. As in all following tables, the resulting coefficient estimates are exponentiated to provide a more intuitive interpretation of them as relative probabilities of an affirmative outcome occurring when only the variable corresponding to that coefficient is switched on. In other words, each element b of the coefficient matrix β, estimated by one of the regressions, undergoes the transformation $\kappa = e^b$. The resulting value κ is an odds ratio signifying the likelihood of the dependent variable equalling 1 (i.e., being flagged as "true") as a result of switching on only the dummy variable corresponding to the coefficient b. The "base case" against which that probability is compared is the scenario wherein all independent variables appearing in the regression are set to zero – or turned off. The reference groups (binary indicators omitted in X_{it} that represent the baseline scenario against which the probabilities of alternative outcomes are measured) are displayed in parentheses in each table. Along with the odds ratios, the tables also display the corresponding standard errors and degrees of statistical significance of the original coefficient estimates. Ratios equal to 1 and with no corresponding standard errors correspond to results of regressing on a variable which, all else held constant, does not vary across observations and is thus entirely uninformative for the purposes of this analysis. If a standard error is displayed, however, an exponentiated coefficient value of one simply means that the alternative scenario where the corresponding variable is turned on is 100% (that is, equally) as likely to happen as the base case. Likewise, values larger (or smaller) than one correspond to higher (or lower, respectively) relative probabilities for the occurrence of the alternate case.

The first regression, which features binary variables that separate the data by groupings discussed in subsection 4.2 (respondents' sex, immigration status, age, population of residence area, teen parenthood, and marital status); by geography (East Coast Provinces, as well as Manitoba and Saskatchewan, have been combined due to similarity of intermediate regression results to narrow down specifications to a more manageable size); and by calendar year indicators (in order to account for incidence frequency trends discussed in 4.1). All factors enter the first specification with at least some degree of significance with immigration, area size, teen parenthood, sex, and geography playing the biggest roles.

Specification #2 adds detailed information on household dynamics. The associated regression results highlight, in particular, the significance of parental exit from one's household since the previous year's survey date.

The third, fourth, and fifth specifications feature additional information on respondents' education, labour participation, and industry of employment, respectively. These variables are a valuable part of the Survey of Labour and Income Dynamics as they do not appear in conjunction with income and detailed demographic data in other micro-datasets managed by Statistics Canada (excepting the Census files). Indeed, all three groupings often enter the corresponding regressions, as well as the final one, with statistically significant coefficients at the 0.1% significance level. The dummy variables accounting for time effects are hardly significant in either increment of specification building, but will be included in the full regression to make the other estimates more comparable between regressions whose dependent variables utilize different poverty thresholds. As previously observed, variation in the approach to defining poverty can lead to different patterns of who is defined as experiencing low income from year to year.

5.1.3. Estimation results for complete model. The results of maximum likelihood estimation of model (1) with the full list of regressors, using the default Stata logit function modified to account for individual “importance weights”, are listed in the first set of columns of Table 4. As expected from the Descriptive Results, sex of the respondent indeed accounts for much variation in poverty incidence in a statistically significant way – but in an unexpected one. Odds ratios ranging from 0.75 to 0.78, statistically significant at least at the 5% level, appear in the first row of Table 4 and signify that women are about three-quarters as likely as men to fall under each of the three measures of poverty more inclusive than the Low Income Measure. Individuals who immigrated to Canada between 1985 and 2005 have a much higher probability (both statistically and economically) of entering poverty than non-immigrants. The figures are similar across the three definitions of poverty, and no clear pattern emerges from varying the definition of the LIM to make it more or less inclusive. Those in their thirties are slightly more likely to be poor in any given year than their younger counterparts, using the LIM; and those over fifty years of age are significantly less likely to fall under one and a half times this measure.

The area size grouping yields mixed results: regressions indicate that those living in census regions between one and five hundred thousand people are significantly less likely to be poor than those in more populous areas (when using the MBM threshold and LICOs), but somewhat more so if mild poverty (given by the 75% median income threshold) is considered. This pattern becomes more pronounced as smaller and smaller areas are compared, with rural area residents being less than half as likely to fall below the LICOs in any year of the panel than those of large cities and almost twice as likely to fall under 1.5 times the LIM. Having a child before the age of twenty is both a statistically and economically significant detriment to one's ability to avoid poverty incidents under most thresholds in a relatively uniform manner, with only the specification which uses the half-LIM threshold to define the dependent variable failing to capture its effect as such. Switching to geography, residing in Quebec or the East Coast Provinces positively (and strongly) influences one's likelihood of experiencing a poverty incident any worse than one defined by the MBM, relative to being a resident of Ontario. The probability ratio is higher under more inclusive thresholds, while usually not statistically significant when extreme poverty is considered or when LICOs are used. Meanwhile, living in Alberta in the reference year is consistently demonstrated here to reduce a person's probability of experiencing poverty in that year by at least one-third.

As expected after the specification-building exercise of this model, individual-invariant fixed effects owed to time trends are barely captured by the Low Income Measure. However, the LICO specification demonstrates a sharp and continuing reduction of poverty risk as years are assumed to elapse with all other variables held at the baseline case.

The next set of regressors reveals that married individuals are dramatically less likely to experience any definition of poverty than the always-single. This effect is consistent between the LIM, MBM, and LICO, while perturbations of the LIM reveal this tendency to be most relevant when considering deeper levels of poverty. There is also strong statistical evidence that divorcees, widowers, and former common-law partners are 66% more likely to fall under the 1.5LIM threshold than those who had never entered these relationships. This is reflected by the corresponding odds ratio of 1.66 in the fifth column of Table 4, a figure significant at the 0.1% level. Transitions in parental presence in the respondent's household play a statistically valuable role, as well. A parent's entry is associated with a 73% reduction in risk of incidence of mild poverty, and as much as a 93% reduction otherwise (when using the Market Basket Measure threshold, in this case). The effect, as well as the pattern therein, is reversed when studying the effects of a parent's exit: risk is noticeably elevated and reaches 231% of the baseline probability in the case of severe poverty. There is no conclusive evidence of the role of other household dynamics featured in the model, although it is suggested that child exit more than doubles risk of severe poverty while at the same time reducing probability of mild poverty occurring.

Progressively higher levels of academic achievement (or equivalent levels of professional training) are associated with a correspondingly progressive reduction in poverty risk by all regressions except the one utilizing the half-LIM threshold. Odds ratios range from 0.84, for recipients of High School Diplomas (relative to those who are not at least such), to the 0.20's and 0.30's – for achievers of a Ph.D. or an equivalent level. However, while finishing high school tends to be more effective at reducing the chance of entering less inclusive types of poverty, Master's and Doctorate recipients experience a more noticeable reduction in mild poverty avoidance probability.

Lastly, variables on labour characteristics are examined. Working more in the reference year (past the 1,500 hour mark, in particular) is met with a very significant poverty occurrence risk reduction. Comparing results both among models using the three poverty definitions and among those that employ thresholds around the LIM yields a second pattern, reminiscent of the value of graduating secondary school. Specifically, aiming to work more is likely to reduce one's risk of entering poverty more as lower income is considered in the regressand's definition.

The analysis concludes with reviewing the contribution of information on industry of employment to the models. As with the full LIM specification discussed in subsection 5.1.2, these variables often enter the other specifications with significance at the 5% level. There are only two exceptions to this, with one of them being a case of output being suppressed due to variation in that industry indicator being perfectly correlated with the dependent variable. The five regressions, often with 99.9% confidence, demonstrate various degrees of improvement in poverty outlooks for all survey participants who did not work in the agriculture industry. Values of odds ratios for experiencing poverty in any given year range from as high as 44% (for foresters and loggers) and 49% (for construction workers) to as low as 3% for those employed in the utilities sector. These figures undergo extreme changes when varying the threshold definition, as well. For example, employment in the fishing and hunting industry reduces the outlook of poverty probability under the most inclusive threshold (1.5LIM) by 59%, while they are 96% less likely than agriculture sector workers to fall below the 0.5LIM mark. But employment in mining, oil, and gas extraction reduces risk of poverty given by the LIM by 92% and less so under both variations of the measure. Comparisons between using the LIM, MBM, and LICOs are also extreme and unreliable. Fishers and hunters, while yielding a well-behaved pattern given the LIM-centered variables, face no consistent risk pattern when their chances are gauged using the three poverty definitions. Other times, as with construction workers, the level of inclusivity of the latter three thresholds yields a pattern when used in analyzing their poverty risks, wherein deeper poverty is more likely to be avoided by working in their industry relative to the base case. In most cases, however, a type of pattern which has been previously observed continues to persist: some individual characteristics tend either to increase or decrease probability effects when depth of poverty considered in the analysis is changed to one direction. Often this is evident through the set of regressions using median income to define the dependent poverty variable, but previously discussed differences in the way that the LIM, the LICOs and the MBM threshold capture poverty rates can also be referenced in this way. On the other hand, these definitions are diverse enough to create divergences in usual patterns that are difficult to account for.

5.2. Fixed Effects Analysis

5.2.1. Theoretical framework. While the original model is already informative about explanatory effects of static individual characteristics on poverty occurrence, many household dynamics do not appear significant. In an attempt to change this (and to confirm the validity of existing conclusions), the aforementioned unobserved individual fixed-effects are now removed: μ_i is isolated as a fixed- or a random-effect element of the model (1). Note that the Chamberlain (1980) technique for fixed-effect logit estimation, although being a natural alternative, attempts to account for between-group variation by discarding observations that contribute to it. When applied here, too few observations remained to yield reliable estimates for most coefficients. Random-effects applications of logit and probit have also been attempted in the course of deciding on the approach to be taken in this section, but their predictive capacity tends to far overreach the limits of the feasible probability continuum ranging from 0 to 1. The analysis will thus employ a re-specification of the original incidence model into a simple linear probability framework:

$$\Pr(Y_{it} = 1 \mid X_{it,} \mu_i, \delta_t) = X'_{it}\beta + \mu_i + \delta_t + u_{it} \qquad (2)$$

Following an application of the Hausman (1978) specification test packaged with Stata MP 11, μ_i is determined[4] to best be treated as a fixed-effect element in the model. Note also that applying the Breusch-Pagan (1979) test reveals a strong but not unexpected tendency toward heteroskedasticity that pervades the linear specification. Addressing this remains outside of the scope of this study.

Finally, note that the vector X_{it} is recycled from model (1) in its entirety. While the goal of fixed-effects analysis is to adjust for time-invariant traits and circumstances while studying dynamic characteristics, all variables aside from the sex indicator tend to exhibit within-group variation. Thus, even as they may be expected to produce odds ratios very close to one (i.e., having little or no effect on incidence likelihood as estimated using this specification), indicators which are not of primary interest in this analysis remain in the set of regressors as controls.

5.2.2. Estimation results. The estimation results would be best compared against those from a set of corresponding simple OLS regressions which ignore the individual fixed-effects. However, intermediate steps undertaken in the analysis showed that the OLS coefficients are very similar to those discussed in subsection 5.1. The exponentiated outputs from regressing the linear re-specification of the

[4] The *hausman* command used here employs the *sigmamore* option, which bases the variance/covariance matrices of both the consistent and efficient estimators on disturbance variance estimate from the efficient estimator. The application of the Hausman test here yields a p-value of zero accurate to four decimal places.

previous model under a fixed-effects framework are thus made available in the second set of columns in Table 4, beside the logit incidence model output.

As expected, the method eliminates the effects of variables which do not change over time for individual panel participants, such as sex and the teen parenthood flag. Variables such as groupings for the number of years which had passed since the person's date of immigration to Canada, and, indeed, their age group, also tend not to change over the five-year length of the panel. As well, the estimates of coefficients of the recent immigrant indicators have been suppressed in all five regressions due to perfect collinearity with the low income indicators.

Data on the province of residence, on the other hand, provides statistically reliable (albeit subtle) confirmation of previous results. While living on the East Coast and the Prairies is reflective of a slightly elevated risk of certain kinds of poverty, Alberta and British Columbia are associated with better income security.

Unlike in previous models, the contribution of the time dummies now levels with that of variables such a person's industry of employment. Most estimates which the set of fixed-effect regressions yields for these variables are significant at the 0.1% level. However, they are also very often economically insignificant.

Becoming married and separating from (or losing) one's spouse are also events which are captured by the FE specification. The results agree with previous observations, and are reliable at the 95% confidence level.

Arriving to the point of interest, the role of household dynamics is now much more pronounced in terms of statistical significance. Because the associated transitions are already partially captured by variation in the Marital Status indicators, the variables Spouse Entry and Spouse Exit yield estimated odds ratios that are very close to one. However, the results do aid the negative effects of entry and the positive effects of exit in relation to one's likelihood of experiencing poverty to surface and become more statistically significant than in the original logit regression analysis of poverty incidence. Furthermore, the single (and favourable) statistically significant result regarding non-birth entry of a child into the household that appeared in the previous model (see first output column in Table 4, Part 3) is now echoed in the results of the other four regressions in the current analysis. Meanwhile, Child Exit is associated with marginally higher poverty risk. Observations on parental entry and exit reflect previous observations. This includes the pattern of poverty ratios tending to slightly more extreme values when more inclusive poverty thresholds are used.

Further on the list of the fixed-effects model's exponentiated coefficient estimates, one finds very little evidence of benefit to higher education. The exception is receiving a Master's Degree or a similar level of achievement, which appears to reduce the risk of falling below the LIM1.5 and the MBM thresholds.

Results from analyzing the quantity and type of labour input follow suit of other largely static individual characteristics when an attempt is made to remove individual fixed effects. The same conclusions can be made about the direction of these effects, for the most part, as when evaluating model (1). However, with much of the within-groups variation in underlying independent variables removed, the exponentiated coefficient estimates from the FE model are much closer to the probability ratio of one. In other words, the fixed-effects specification is no better at producing strong results than the original incidence analysis, although essential patterns remain. It is worth noting, however, that working more hours has previously been linked with higher odds of avoiding deep poverty more so than the more inclusive measures, while the opposite trend emerges here.

5.3. Poverty Transitions

5.3.1. Theoretical framework. The base model for poverty incidence can be retooled to examine determinants of entry into and exit from poverty spells. This is accomplished by simply replacing the dependent variable in model (1) by indicators for these two events, constructed from the incidence variable in the following way. Entries into and exits from low-income spells are defined, for the first year in each adjacent pair of years in the panel, using corresponding changes in the previously used poverty incidence indicator from the first of those years to the second. For example, an individual experiencing poverty in the years 2007 and 2008, but not in 2006 or in 2009, generates the value of 1 for the entry indicator in 2007, as well as for the exit variable in 2008. The entry variable is "false", or set equal to zero, for the first in each adjacent pair of years when there is an opportunity for entry but it does not occur (when the incidence variable equals zero in both of those years). If the individual is poor in both years, and entry into low-income is impossible, the value is coded as missing. Conversely, a pair of years with no poverty generates a missing value for the exit variable in the first of those years, while poverty occurring in both years generates a "false" value. Each of the five incidence variables, defined using the various thresholds discussed in this paper, is used to generate a corresponding pair of transition indicators in this way. Data on individual characteristics and situational attributes, used to construct the regressors for the following analysis, is referenced from the first year in each consecutive pair of years between 2005 and 2010. As with the incidence specification, this model is evaluated under the logit framework. Estimated probability ratios from the poverty entry model regressions are displayed in the five columns on the left-hand side of Table 5, while the set of columns on the right contain results from the five regressions for the exit model.

5.3.2. Estimation results. The exponentiated regression outputs of the entry and exit logit models can be used to assess what factors affect the probabilities associated with these dynamics. Starting from the top of Table 5, the odds ratio of 0.71 in the third column signifies that, in any given pair of years, women are on average 29% less likely than men to enter severe poverty (as defined by one-quarter of Canada's median income). However, the effect loses both statistical and economic significance as this threshold is elevated to higher percentiles. The LICO and MBM thresholds continue to capture this effect, which again fades each time a more inclusive definition is used. The poverty exit model does not demonstrate a statistically significant contribution by the sex variable.

The exit model also does not provide consistent results regarding the effects of variation in time since immigration – although there is some evidence suggesting that leaving poverty is more difficult for recent immigrants and much less so for those who immigrated over forty years prior, relative to non-immigrants. These results are consistent with previous observations on the nature of incidence. On the other hand, the entry model provides convincingly statistically significant evidence that immigrating within a decade of the reference year has a strong detrimental effect (as well as immigrating within a decade before that, with lower statistical and economic significance).

Participants aged 40 to 59 years are shown to be both statistically and economically significantly less likely to both enter a mild poverty spell and to exit poverty spells defined by all thresholds lower than the 1.5LIM definition, relative to those in their twenties. The exit model regressions also yield evidence, significant at the 95% confidence level, that those in their thirties are much less likely to exit poverty spells defined by thresholds more inclusive than the LICOs; and that those older than sixty years of age are approximately half as likely to exit poverty when it is defined by the LICO, the MBM threshold, and the LIM.

Returning to the left-hand side of Table 5, one last available statistically significant (at the 5% level) result appears, regarding the over-60 years age group. Its members appear to face the least risk of entering spells characterized by the Market Basket Measure of poverty, relative to youth, than all other respondents.

Variation in population of the region of residence generates mixed results. Living in a rural or a smaller urban area (as opposed to living in a region with a population over 500,000) is associated with lower risk of entering spells defined by the Low Income Cut-Offs, but higher risk of entering spells of having lower adjusted income than 75% of median income. Analysis of low-income exits leads to appropriately converse observations on the effects of area size, as expected, but also it retains the unusual pattern resulting from varying the poverty definition.

Teen parenthood significantly increases one's risk of entering a poverty spell between any given pair of years, in particular when using the measures derived from expenditure data. Using variations on the LIM, increase in risk of poverty entry owed to turning on the indicator variable corresponding to this characteristic is shown to be more pronounced for more exclusive thresholds.

Observations on the effect of survey respondents' geographic locations with respect to Canada's provincial boundaries achieves results in the poverty exit model which largely agree with the observations on these effects in the incidence model. The exit specification yields few statistically significant estimates, but there are signs that exiting spells may be more likely among residents of Alberta (and much less so for those living in the prairie regions) than for Ontarians.

Year dummies and household transitions enter neither of the two models strongly in a statistical sense, but the coefficient of the indicator for being married is significant at the 0.1% level in each regression for the entry model. Compared to single individuals who had not ever married or entered a common-law arrangement, those who have done either of the two are anywhere between

32% and 67% less likely to enter at least one of the five types of poverty spells (as interpreted using the corresponding odds ratios, ranging from 0.33 to 0.78). No pattern is readily available, however, to describe how the odds ratios vary between thresholds. The exit model demonstrates an almost tripling in the probability of exiting severe property as a result of being married, and a much more modest such increase among those experiencing mild poverty. Both models also offer some (tenuous) signs regarding the detrimental effects of being single but having also had lost one's spouse or partner.

While finishing high school does not appear to yield statistically significant evidence of improvement to one's ability to avoid entering poverty spells, one estimate suggests a large increase in the probability of exiting mild poverty. Achieving an MA or equivalent degree or certification is shown to reduce entry risk by about one-quarter, and also to increase exit probability by as much as 67%. Having a Ph.D or a similarly high achievement reduces the risk of entering mild poverty by 60%. This also elevates exit probabilities using most thresholds, by as much as a factor of seven (the 0.5LIM regression suffers from collinearity).

The effects of working longer hours in the entry model behave similarly to those in the incidence model: with a high degree of both statistical and economic significance, working between 1,500 and 2,499 hours in the reference year helps avert poverty entry when compared to not providing any labour. The effect persists, but to a lesser degree, when examining providing any more hours. Milder poverty is shown to be more difficult to avoid this way, as seen by comparing results for both the different poverty definitions and for the thresholds around the Low Income Measure. There is also evidence, significant at the 5% level, that working more than 1,500 hours as opposed to none can more than double the chances of increasing one's income beyond the LIM, ceteris paribus.

Turning attention now to employment characteristics, the entry model displays many of the same results which have been shown in section 5.2. Working in the utilities, education, and public administration sectors is remarkably helpful in avoiding poverty entry, with almost all other industries offering a valuable alternative to employment in agriculture. In many cases, it can also be seen that the effects associated with working in other industries tends to be more pronounced when considering poverty which is relatively more severe according to its level of exclusivity. Industry of employment is also a valuable factor to consider when finding ways to exit a poverty spell. Finance and insurance, business, healthcare, fishing and hunting, as well as forestry and logging are the respective holders of the top choices for this purpose. Comparing individual coefficient estimates between the five regressions of the exit model, the aforementioned effects often surface as stronger in the cases of deeper poverty.

5.4. Occurrence Dependence

5.4.1. Theoretical framework. This approach, similar to that which was used by Finnie and Sweetman (2003), is meant to explain the extent to which the likelihood of people's transitions into and out of low income depend on their recent histories of poverty experience. It makes use of the specifications of the logit models previously used to study poverty transitions in subsection 5.3.2, but now focuses specifically on poverty entries and exits in the last pair of years in the panel (that is, from 2009 to 2010).

To capture the effects of poverty history on spell entry and exit probabilities – referred to here as *occurrence dependence* – two new variables are added to the sets of regressors of the previous logit transition models. The first, referred to here as *Frequency* of previous poverty experiences, is defined as the number of years during the 2005-08 period when the respondent suffered the level of poverty that corresponds to the definition used to generate the dependent variable in that regression. For example, in the regression where the Low-Income Measure is used to define the spell entry indicator, the Frequency variable equals 0 if the individual's adjusted income did not fall below the LIM in the past four years, 1 if it did in exactly one of those years, and so on, up to a value of 4. This variable follows the design previously set out by Ross Finnie and Arthur Sweetman in their 2003 study.

The other new dependent variable, the *Proximity* of the most recent poverty experience, is a score that rates how close to the transition of interest the last poverty incident occurred. Borrowing its core idea from the aforementioned paper, as well, this variable takes on values between 0 (when no poverty is experienced before 2009) and 4 (which signifies that the most recent incident of low income occurred in 2008). As with Frequency, Proximity is defined separately for each regression, in order to match the respective definitions of poverty from which the dependent entry and exit indicators are generated. These two new variables, which now become part of the vector of regressors X_{it}, necessitate the removal of the model's time dimension (and, thus, also the year indicators).

The individual and household characteristics which enter the set of regressors now employ data from 2009, the beginning year in the panel's last pair of years. The resulting model can thus be conveyed using the following equation:

$$\Pr(Y_i = 1 \mid X_i, \mu_i) = \Lambda(X'_i\beta + \mu_i + u_i) \qquad (3)$$

As in the previous subsection, fixed effects are no longer accounted for. Note also that, due to a decreased number of observations available for analysis, resulting from focusing on transitions in only the last two years of the panel, Frequency and Proximity are each left as ordinal variables having five potential values (ranging from 0 to 4) in order to produce consistent and informative estimates.

5.4.2. Estimation results. The main focus of this section is the set of odds ratios produced using coefficient estimates of the occurrence dependence variables, found in the last part of Table 6. It has been presented in an expanded format to reflect the association between the type of poverty which each regression attempts to provide insight on and the way in which each regression's corresponding Frequency and Proximity variables have been defined. The former of the two, with at least 99% confidence and for all types of poverty except when using the quarter-median income definition, reveals that an additional poverty incident occurring in any year between 2005 and 2008 would reduce one's chances of exiting a spell (of any length) in the 2009-2010 period. The average probability reductions predicted by each such additional incident range from 6% (in the 1.5LIM regression) to as much as 11% (when the LICO is employed). There is also evidence, statistically significant at the 5% level, of having had one's last poverty incident one year more recently slightly increases the risk of entering a poverty spell, defined using the 1.5LIM threshold, in 2010 (without increasing the total number of years during which he or she had experienced poverty in the four years prior to 2009). These findings are consistent with, although less often statistically significant then, analogous results of similar regressions presented by Finnie and Sweetman (2003). Unlike in their paper, however, here the coefficients of the occurrence dependence variables were not estimated separately for different family status groupings of SLID respondents. Instead, this analysis compares results across applications of different poverty measures, using the entire sample.

Returning now to the outputs concerning the original regressors of the transition models, listed in Parts 1 through 4 of Table 6, one can now observe how the current re-specification of these models has altered previous observations. Many coefficients which entered the entry and exit models with a reliable degree of significance no longer do so. Some variables remain useful for interpreting results: immigration, household transition indicators, education, and area population (only in the case of the updated exit model) yield statistically significant results. In fact, there is now very strong evidence to suggest a negative relationship between parental exits from an individual's household and that individual's ability to leave a poverty spell in the following year. This relationship is substantially stronger, both statistically and in magnitude, when exit from more and more exclusive definitions is considered. However, the economic significance of other variables is often reduced and occasionally leads to counterintuitive interpretations. For example, while it appears that being engaged in labour market activities increases poverty spell exit probability when using the Low Income Measure to identify the low-income spells, the opposite result surfaces when estimating the same regressions with the 0.5LIM threshold instead.

5.5. Duration dependence

5.5.1. Theoretical framework. Hazard modeling is a particularly effective tool for studying the duration effects of poverty by interpreting the current length of a low-income spell that is being experienced by an individual at any given year as a determinant of the probability of exiting it before the next year's survey. As shown by Keifer (1990), however, one possible hazard specification which can accomplish the above goal can actually be estimated using logit. The previously used probability model for poverty exits is adjusted in this section to capture these effects of spell duration by adding new binary variables representing the current spell length. Before discussing the model further, however, the empirical theory underlying Keifer's observation is first briefly outlined below.

The hazard rate is the rate at which spells are completed after duration t, given that they last at least until the time period t. In the context of poverty transitions, estimating the hazard rate alone is already valuable due to its ability to illustrate the chronic nature of poverty. This can be accomplished through first choosing a basic hazard function – such as $\lambda(t) = \lambda p(\lambda t)^{p-1}$, if the likelihood of exit from poverty spell at time t, conditional upon duration up to time t, follows the Weibull distribution (Farewell, 1982). Maximum likelihood estimation would then be applied to retrieve approximations for the location parameter λ and the scale parameter p which characterize it. However, a limitation of this approach is that external factors are not given a role in the hazard function. To remain consistent with the goal of studying duration dependence of low-income experiences after controlling for observable individual heterogeneity, the specification must be modified to instead estimate the coefficients of the previously used covariates. Fortunately, in contrast to parametric models, a Proportional Hazards model allows for this by avoiding making an assumption about the distribution of spell durations. A widely used model for continuous transition data is the Proportional Hazards model proposed by Cox (1972): $\lambda_i(t|x_i) = \Phi(x_i, \beta)\lambda_0(t)$, where $\lambda_0(t)$ is referred to as the *baseline hazard* and the cumulative distribution function $\Phi(x_i, \beta)$ is often chosen to equal $exp(x_i'\beta)$.

As Kiefer (1988a) points out, least squares estimation methods can only be used for this linear specification if the data are not heavily censored and a correction for the estimate of the intercept is made in order to account for the nonzero mean of residuals. However, this requires knowledge of the integrated baseline hazard $\Lambda_0(t) = ln\int_0^{T_i=t} \lambda_0(u)du$. Without this information, as well as due to the fact that data on income level transitions available through the SLID are provided on an annual basis, an alternative approach must be found.

The latter issue is more serious. As is the case with other microeconomic panel databases, the infrequency of interviews allows at best a specification of time *intervals* in which certain events have occurred. Subsumed under the term *grouped data* (Keifer, 1988b), which also covers data that are rounded or grouped into new variables, data spanning time intervals causes problems when used with continuous time models. As a consequence of false ties (equal spell durations perceived for different observations when they should not be), the parameter estimates of various models (such as the Cox model) are useless (Blossfield, Hammerle, and Mayer, 1986; Kalbfleisch and Prentice, 1980; Cox and Oakes, 1984). Often the application of discrete Proportional Hazard models is called for in this case. Some researchers have voiced their opposition to making this switch, whenever it can be avoided. Heckman and Singer (1984) and Lancaster (1990) supported working in continuous time and translating to discrete time as necessary, instead. In empirical studies, Meyer (1990) and Gritz (1993) applied discrete time and continuous time models, respectively, to weekly data. Sueyoshi (1995) argues that in the end, the discrete methods used are nothing more than a mapping from a continuous-time specification to the discrete observations. This should be taken into consideration if further work is undertaken to study income dynamics using higher frequency data with the goal of comparing to previous studies. But until such a time as the quality of such data approaches that of high frequency trade data, continuous time models can be safely abandoned.

The subject matter of this essay requires application of discrete time hazard model theory, however, due to the nature of data available through the SLID. Hujer, Maurer, and Wellner (1996) show that, by grouping duration data into $J+1$ separate intervals with the j-th interval defined as $[t_j, t_{j+1})$, $j=0,1,\ldots J$, the discrete alternative to the previously discussed Proportional Hazard model is the discrete hazard rate

$$h_i(j|x_i(t_j)) = 1 - exp[-exp(x_i'(t_j)\beta + ln\int_{t_j}^{t_{j+1}} \lambda_0(u)du]$$

with time varying covariates $x_i(t_j)$ which must remain constant over the interval $[t_j, t_{j+1})$, for all j. Referencing Meyer (1987, 1990), the authors follow up with describing the corresponding likelihood function to be optimized. It is then reformulated by transforming the previous per-individual per-spell structure of the data into individual-period combinations. That is, each individual contributes k_i observations, one for each interval j he enters. The sample size of individual-period observations is thus $N^* = \sum_i k_i$. A binary variable d_n is then added, where $n \in [0, N^*]$, indicating if a spell was completed in the corresponding individual-interval or if the individual-interval was survived. The previous likelihood function can thus be reformulated as (Kiefer, 1988b):

$$L^*(\gamma,\beta) = \prod_{n=1}^{N^*} \alpha_n^{d_n} (1 - \alpha_n)^{1-d_n}$$

where, referring to the per-individual per-spell structure, $\gamma = ln\int_{t_j}^{t_{j+1}} \lambda_0(u)du$.

The term α_n simply corresponds to a transformation of the interval-specific survivor function that is based on the discrete hazard rate presented above:

$$\alpha_{im}(x_i(t_m),\beta) = 1 - h_i(m|x_i(t_j))$$

where $m \in [0, k_i - 1]$. The concept of interest is the probability of a specific event occurring, conditional on survival to that interval for individual i. That interval itself is, once again, denoted by k_i. As Hujer et al. note, this specification is similar to the standard binary response likelihood, with the only difference being that the usual normal or logistic cumulative distribution functions are replaced by the interval-specific survivor functions depending upon integrated hazards (p. 12, 1996). In fact, they suggest it to be a common occurrence in empirical applications to disregard this difference, particularly in the case of logit – which does not tend to “depart quite far from proportionality” (p.13). In doing so, the authors echo Keifer (1990), who showed that the likelihood function for the discrete Proportional Hazard model in this state corresponds to that of the standard logit model specification. This observation was central to the duration analysis frameworks employed by Finnie and Sweetman (2003) for studying poverty dynamics, by Gunderson and Melino (1990) in modeling strike durations, and by Ham and Rae (1987) in analyzing unemployment durations. It also provides the necessary background for justifying this paper’s transition from logit regression analysis of poverty exits to a hazard modeling approach for studying duration dependence which employs the logit framework for its likelihood function.

The transition begins with accounting for left-censoring of poverty spell lengths resulting from incomplete information on the spell initiations. For each of the five poverty thresholds considered in this study, this can be done in two ways. First, the original sample of individuals can be narrowed to only those who have not fallen below that threshold in the year 2005. Alternatively, spells identified as not having begun after 2005 are simply ignored. The latter approach will be used here, as there is enough data available to take advantage of multiple-spell analysis: poverty experiences with a defined commencement can and sometimes do occur after those without one. It is worth noting, however, that regarding only those poverty spells which are entirely observable within the panel’s (already short) duration will dampen observations of negative duration dependence of low income. Ideally, a study of this kind would employ a data set which follows a panel for long enough to better identify chronic poverty spells.

To track the current length of each period under a poverty threshold, the following sequence of dummy variables is first generated. In brief, these groups of indicators represent spell durations, which range from 1 (when poverty is experienced in one year but not before or after) to 5 (in the case when an individual enters poverty in 2006 and does not exit that spell within the timespan of the panel). The indicator corresponding to the current spell length is then flagged as "true". These variables are appended to the vector X_{it} in equation (1), and the variables previously used to assess occurrence dependence in subsection 5.4 of this study are now withheld.

5.5.2. Estimation results. The duration dependence framework for the poverty exit model is estimated using the default Stata logit command, in order to take advantage of observations made above on the parallels between this specification's likelihood function and the hazard modeling approach which would traditionally be used to undertake this type of analysis.

Consider first the duration analysis portion of the output by finding the corresponding exponentiated coefficients displayed compactly at the bottom of the second part of Table 7. When compared against individuals facing a baseline probability of exiting their one-year long poverty spells, defined by the threshold corresponding to 75% of median income in Canada, those in two-year long spells are about three times as likely to leave it. Although not statistically significant at the 5% level, the coefficient estimates of the other duration indicators in the 1.5LIM regression tend to support the unexpected direction in which this result tends away from an odds ratio of one. This suggests positive duration dependence of poverty exits: spells of mild poverty are more likely to be exited as they persist, in particular after a duration length of two years. On the other hand, regressions using the MBM threshold and the LIM offer a different perspective: in both cases, people finding themselves in the fourth year of a spell are shown to be 83% less likely to exit it. Both of the corresponding estimates are statistically significant at the 5% level, and reflect strong negative duration dependence in the exit model for low-income spells. The values of statistically insignificant estimates of the other duration length dummies' coefficients in the MBM and LIM regressions suggest that this effect persists, to a lesser extent, when focusing on spells of shorter lengths also. Note that the odds ratios in the last row before the observation counts are each equal to one, and have no corresponding standard errors, due to the design of this analysis causing collinearity with the dependent variable. This occurs for the 5-year dummy due to spells of that length necessarily lasting until the end of the panel.[5] Thus, the hazard model's explanatory ability is limited to the remarks made on the three estimates discussed above: there is inconsistent but significant evidence of positive duration dependence in the model for the likelihood of leaving mild poverty and negative duration dependence in the models using the MBM and the LIM.

Significant estimation results regarding other variables, which for the most part tend to agree with previous observations, tend to be very sparse. Estimates which qualify as statistically significant can occasionally be found in the sections of Table 7 on immigration, age, area population, calendar year, and geography – wherein their values are descriptive of patterns previously identified in 5.3.1. Sex and marital status no longer contribute to the model at the 5% significance level.

Meanwhile, household transitions, education, and labour characteristics remain influential characteristics, often with extreme explanatory value. Parent entry into an average Canadian's household increases chances for poverty exit in an average year almost tenfold (using 1.5LIM), and getting a Ph.D or equivalent

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[5] In such cases, the spell cannot be followed by a year of non-poverty, and thus it can never be flagged as "exited" in 2010.

degree or certification improves one's probability of increasing income from beneath the Low Income Measure by a factor of 28. Providing labour input in the reference year is associated with this factor attaining values between 3.8 to 4.6 (depending on the number of work hours), and in a 334% increase in the probability of exiting a spell defined by the MBM threshold. Low-income spells observed in 2006, are more likely to be exited in the following year than those observed in 2005. This result is only statistically significant for spells defined using the MBM and the 0.5LIM thresholds, however. Other calendar year indicators either do not enter the model strongly or are discarded due to collinearity with the spell exit dummy.

However, there are also clear examples of inconsistency among other results, thus reducing optimism about the validity of conclusions made from this model thus far. For example, employment in public administration and the scientific and technical sector is associated with severe reductions in exit probabilities (contrary to what was suggested by findings in section 5.3), and working in the finance or insurance industries is projected to increase exit chances by almost 52 times. The Teen Parent indicator, statistically significant for all thresholds less inclusive than 1.5LIM, also becomes unreliable. While it usually appears to decrease the likelihood of exiting low income, the 0.5LIM regression produces a strong conflicting result: an odds ratio of 5.63, significant at the 5% level. However, the reported values are similar to the statistically insignificant results from the original exit model in subsection 5.3, suggesting anomalous results caused by scarce data on this variable. The often extreme and inconsistent outcomes of this model suggest that duration dependence is best left outside of the scope of analysis if reliable estimates are sought after on the original set of regressors.

6. Conclusion

This paper has taken advantage of empirical applications of Canadian household survey data to help expand awareness of factors which contribute to poverty risk and to the probabilities of entering and exiting spells of low income. Linear and non-linear models were used to produce sets of relative probabilities used to describe how, and to what extent, various individual and household characteristics impact the likelihoods of poverty incidence and transitions. Results are compared across various specifications of each model to uncover further insights on the explanatory value of the regressors when several different types and levels of poverty are used to define the dependent variable. Employing valuable new data from the last complete panel of the Survey of Labour and Income Dynamics (SLID), this study is best recognized as an expansion on other recent work in the field, offering both a renewed and a more comprehensive assessment of the underlying factors of an important aspect of social well-being.

Analysis of poverty incidence offers that education, age, household composition, immigration, and employment characteristics considerably influence poverty occurrence risk, as well as the probabilities of entry into and exit from poverty spells. In particular, being a recent immigrant, having high academic achievement, and some household transitions tend to enter the models for low-income incidence and dynamics in such a way that their magnitudes vary with the threshold being chosen to define the poverty experiences. Some individual qualities become more significant when more severe types of poverty are considered. Other results vary without immediately visible patterns between regressions due to fundamental differences between how poverty is captured using the purely relative Low Income Measure and the expenditure-based definitions underlying the Market Basket Measure threshold and the Low Income Cut-Offs.

Impacts of changes in marital status and household make-up are emphasized in a fixed-effects re-specification of the poverty incidence model, and are therein often shown to influence mild poverty more strongly.

Regressions on poverty transition indicators largely confirm results from the incidence analysis by approaching the issue through analyzing who is more likely to enter or exit a poverty spell. They also provide an opportunity to introduce two new elements to the investigation: occurrence and duration dependence analyses. There is sporadic evidence of weak occurrence dependence of both poverty entry and exits, demonstrated though frequency of past poverty experiences (which is associated with lower spell exit probability) and temporal proximity of the most recent low-income incident (linked to a higher risk of having one's income fall below 75% of the population median over the following year). Findings also suggest a positive relationship between spell duration and exit hazard in the case when the above threshold is used, but negative duration dependence when periods of deeper poverty are considered. These observations motivate focusing on poverty alleviation policies which not only target key determinants of low-income occurrence risks, but which also target chronic poverty by accelerating exit rates from longer poverty spells and reduce re-entry risks for individuals with a history of recent poverty experiences.

7. References

Andriopoulou, E., and P. Tsakloglou (2011). The determinants of poverty transitions in Europe and the role of duration dependence. *IZA Discussion Papers,* Institute for the Study of Labor (IZA), No. 5692. Retrieved from http://EconPapers.repec.org/RePEc:iza:izadps:dp5692.

Blossfeld, H.-P., A. Hamerle, and K. U. Mayer. (1986). *Ereignisanalyse*. Frankfurt and New York.

Breusch, T., and A. Pagan. (1979). A Simple test for heteroscedasticity and random coefficient variation. *Econometrica*, Vol. 47, Issue 5, p. 1287-94. Retrieved from http://EconPapers.repec.org/RePEc:ecm:emetrp:v:47:y:1979:i:5:p:1287-94.

Burgess, S., and C. Propper. (1998). An economic model of household income dynamics, with an application to poverty dynamics among American women. *C.E.P.R. Discussion Papers: 1830*. Retrieved from http://search.proquest.com/docview/56286459.

Cappellari, L., and S. P. Jenkins (2004). Modelling low income transitions. *Journal of Applied Econometrics*, Vol. 19(5), p. 593-610. Retrieved from http://search.proquest.com/docview/56467572.

Chamberlain, G. (1980). Analysis of Covariance with Qualitative Data. *Review of Economic Studies*, Vol. 47, p. 225–38. Retrieved from http://www.jstor.org/stable/2297110.

Cox, D.R. (1972). Regression models and life-tables. *Journal of the Royal Statistical Society*. Series B (Methodological), Vol. 34, Iss. 2, p. 187-220.

Cox, D.R., and D. Oakes. (1984). *Analysis of survival data.* London, New York.

Devicienti, F. (2011). Estimating poverty persistence in Britain. *Empirical Economics*, Vol. 40(3), p. 657-686. doi:http://dx.doi.org/10.1007/s00181-010-0350-2.

Farewell, V. (1982). A note on regression analysis of ordinal data with variability of classification. *Biometrika*, 69, 533–8.

Finnie, R., and A. Sweetman. (2003). Poverty dynamics: Empirical evidence for Canada. *Canadian Journal of Economics*, Vol. 36(2), p. 291-325. Retrieved from http://search.proquest.com/docview/56131681.

Greene, William H., and David A. Hensher. (2010). *Modeling ordered choices: A primer*. New York: Cambridge University Press.

Gritz, M. (1993). The impact of training on the frequency and duration of employment. *Journal of Econometrics*, Vol. 57, p. 21-51.

Gunderson, M., and A. Melino. (1990). The effects of public policy on strike duration. *Journal of Labor Economics*, Vol. 8(3), 295-316. Retrieved from http://search.proquest.com/docview/56486533.

Ham, J.C. and S.A. Rae Jr. (1987). Unemployment insurance and male unemployment duration in Canada. *Journal of Labour Economics*, Vol. 5(3), p. 325-353. Retrieved from http://search.proquest.com/docview/56359892.

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, Vol. 46, p. 1251–1271.

Hausman, J. A., and D. L. McFadden. (1984). Specification tests for the multinomial logit model. *Econometrica,* Vol. 52, p. 1219–1240.

Heckman, J., and B. Singer. (1984). Econometric duration analysis. *Journal of Econometrics*, Vol. 24, p.63-132.

Hojman, D., and F. Kast. (2009). On the measurement of poverty dynamics. *Harvard University, John F. Kennedy School of Government.* Retrieved from http://search.proquest.com/docview/57020883.

Hujer, R., K.-O. Maurer, and M. Wellner. (1996). Models for grouped transition data. *Frankfurter Volkswirtschaftliche Diskussionsbeitrage*, No. 68. Johann Wolfgang Goethe-University, Frankfurt/Main.

Jalan, J., and M. Ravallion. (2000). Is transient poverty different? Evidence for rural China. *Journal of Development Studies*, Vol. 36(6), 82-99. Retrieved from http://www.tandfonline.com/doi/abs/10.1080/00220380008422655.

Kalbfleisch, J. D., and R. L. Prentice. (1980). *The statistical analysis of failure time data*. New York: John Wiley & Sons.

Keifer, N. (1988a). Economic duration data and hazard functions. *Journal of Economic Literature*, Vol. 26, p. 646-679.

Keifer, N. (1988b). Analysis of grouped duration data, in: statistical inference from stochastic processes. *Contemporary Mathematics*, Vol. 80, p. 107-137.

Keifer, N. (1990). Econometric methods for grouped duration data. *Panel Data and Labour Market Studies.* New York: Elsevier.

Lancaster, T. (1990). The econometric analysis of transition data. *Econometric Society Monographs*. New York and Melbourne: Cambridge University Press. Retrieved from http://search.proquest.com/docview/56484092.

Meyer, B.D. (1987). *Hazard and Markov Chain models with applications to labor economics*, M.I.T. Ph.D. Thesis.

Meyer, B. D. (1990). Unemployment insurance and unemployment spells. *Econometrica*, Vol. 58(4), 757-782. Retrieved from http://search.proquest.com/docview/56490233.

Salehi-Isfahani, D., and M. Majbouri. (2013). Mobility and the dynamics of poverty in Iran: Evidence from the 1992-1995 panel survey. *Quarterly Review of Economics and Finance*, Vol. 53(3), p. 257-267. doi:http://dx.doi.org/10.1016/j.qref.2010.04.001.

StataCorp. (2009). *Stata 11 Base Reference Manual*. College Station, TX: Stata Press, U.S.

Sueyoshi, G. T. (1995). A class of binary response models for grouped duration data. *Journal of Applied Econometrics*, Vol. 10(4), p. 411-431. Retrieved from http://search.proquest.com/docview/56689757.

Statistics Canada. (2015). *Survey of Labour and Income Dynamics, 2005-2010, Longitudinal files: [restricted use microdata file].* Ottawa: Statistics Canada, Household Surveys Division.

Statistics Canada. (2012). *Survey of Labour and Income Dynamics (SLID) – 2011 Survey Overview*. Ottawa: Statistics Canada. Retrieved from http://www.statcan.gc.ca/pub/75f0011x/75f0011x2013001-eng.htm.

Valletta, R. G. (2006). The ins and outs of poverty in advanced economies: Government policy and poverty dynamics in Canada, Germany, Great Britain, and the United States. *Review of Income and Wealth*, Vol. 52(2), 261-284. Retrieved from http://search.proquest.com/docview/56862912.

8. Figures and Tables

Figure 1. Annual Poverty Incidence Frequency Trends

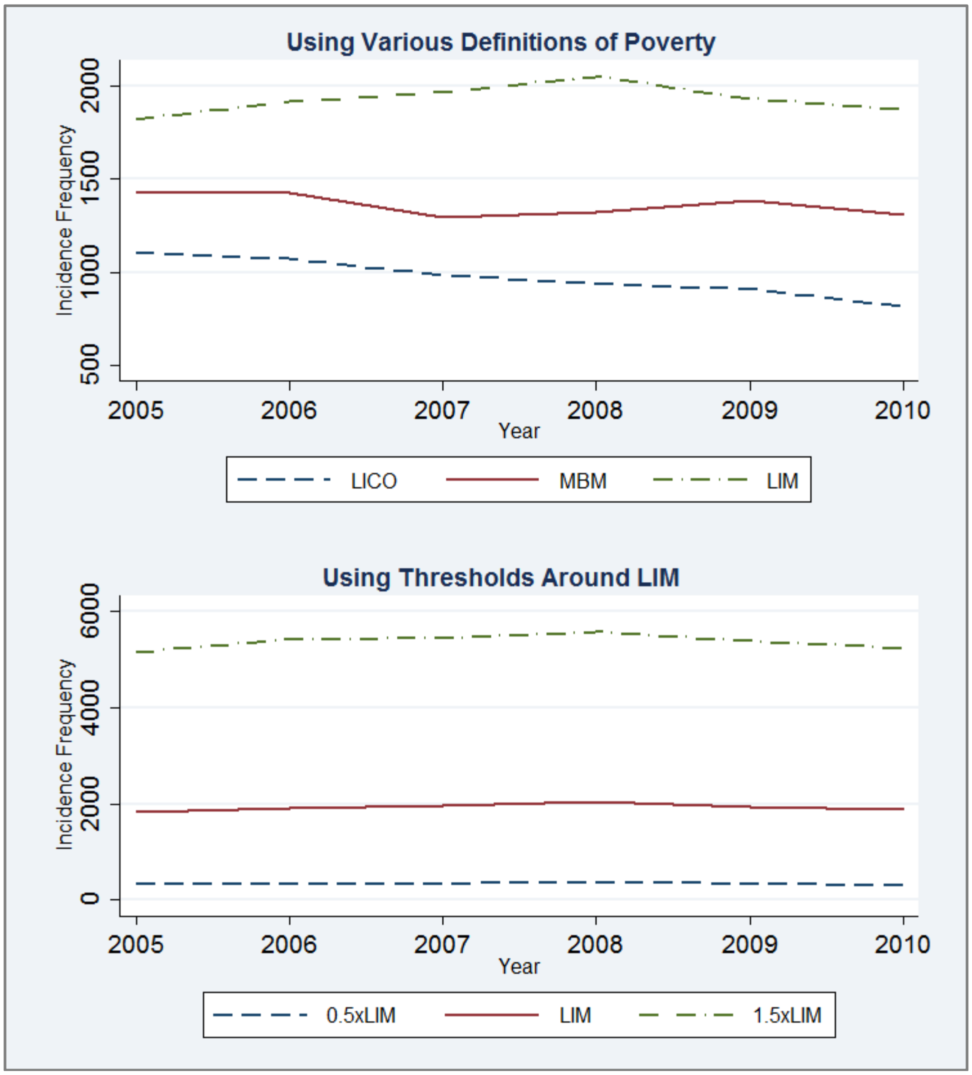

Figure 2. Geographic Comparison of Total Time Spent in Poverty

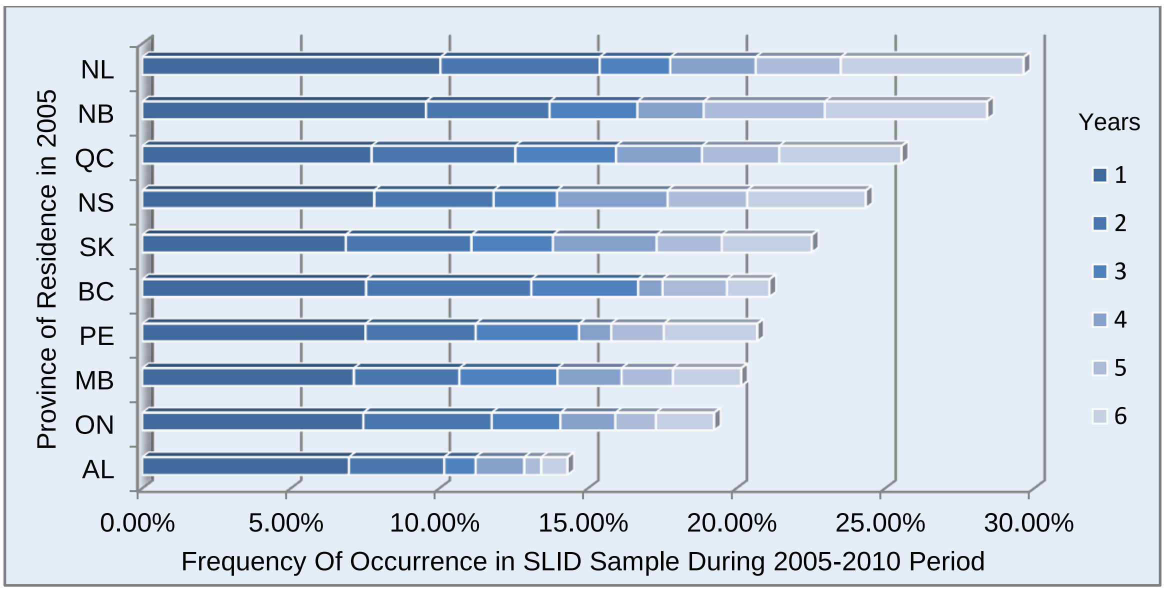

Figure 3. Income Mobility in Relation to the LIM and MBM Poverty Thresholds

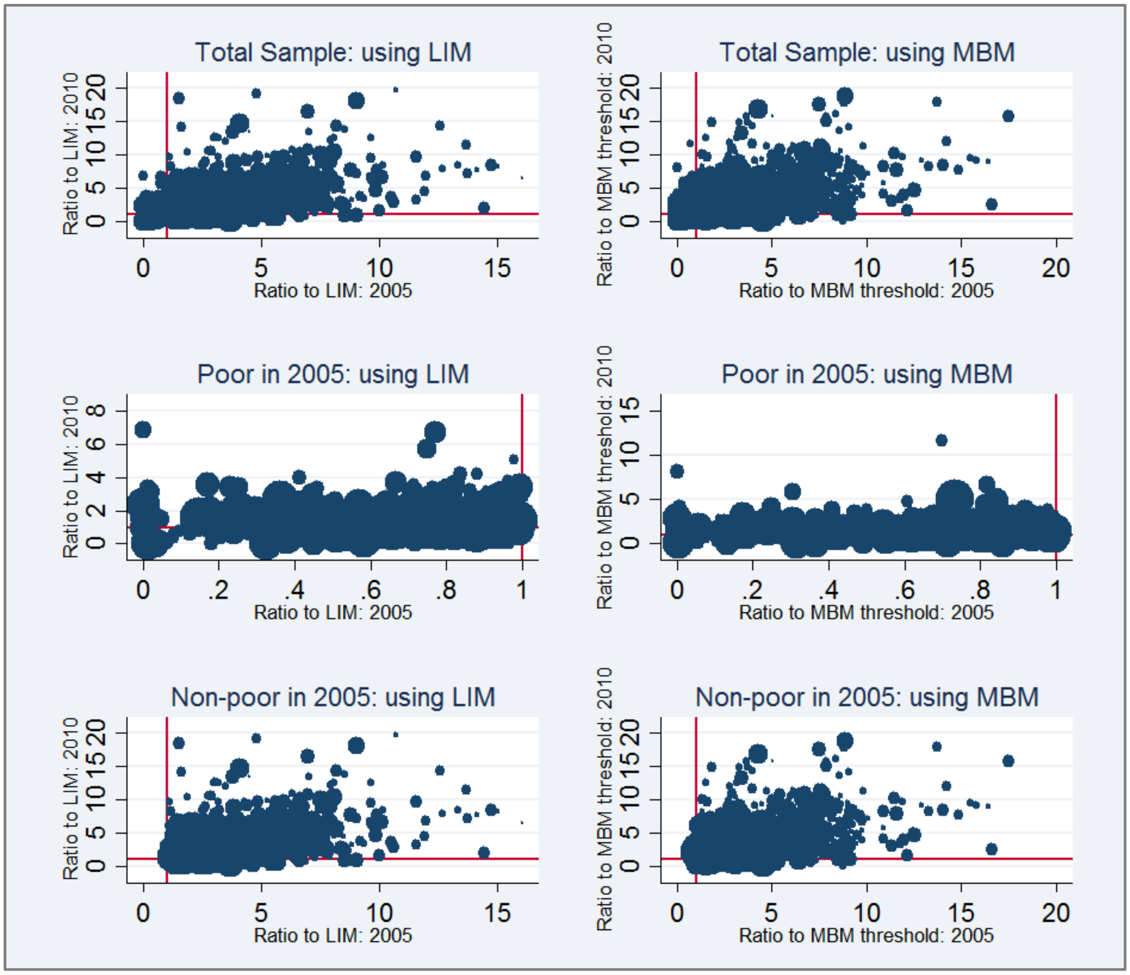

Table 1. Demographic Comparison of Total Time Spent in Poverty

	Years Spent in Poverty During 2005-2010 Period								
	0	1	2	3	4	5	6	*Prevalence*	*Total*
Total Sample	78.75%	7.56%	4.43%	2.65%	2.14%	1.85%	2.62%	*21.25%*	*100%*
Sex									
Male	80.84%	7.06%	4.15%	2.57%	1.81%	1.46%	2.11%	*19.16%*	*100%*
Female	76.75%	8.04%	4.70%	2.73%	2.45%	2.23%	3.11%	*23.25%*	*100%*
Marital Status									
Single, Never Married	70.51%	9.86%	6.51%	2.59%	2.71%	3.19%	4.63%	*29.49%*	*100%*
Married or Common-Law	83.39%	6.63%	3.64%	2.30%	1.56%	1.24%	1.24%	*16.61%*	*100%*
Single, Prev. Married	64.82%	9.77%	6.17%	4.42%	4.26%	3.49%	7.07%	*35.18%*	*100%*
First Child Before Age 20									
Yes	79.42%	7.45%	4.31%	2.57%	2.03%	1.74%	2.49%	*20.58%*	*100%*
No	66.40%	9.66%	6.72%	4.07%	4.16%	3.96%	5.04%	*33.60%*	*100%*
Age Group (Years)									
20-29	75.21%	11.81%	5.11%	3.58%	2.10%	1.22%	0.96%	*24.79%*	*100%*
30-39	80.26%	7.38%	4.57%	2.25%	2.25%	1.62%	1.68%	*19.74%*	*100%*
40-49	80.26%	7.30%	4.01%	2.60%	1.97%	1.91%	1.95%	*19.74%*	*100%*
50-59	79.22%	6.37%	4.42%	2.48%	2.25%	2.04%	3.23%	*20.78%*	*100%*
60-69	75.22%	8.30%	4.88%	3.21%	2.49%	2.06%	3.84%	*24.78%*	*100%*
70 or older	79.30%	6.93%	4.08%	2.38%	1.68%	1.91%	3.72%	*20.70%*	*100%*
Years Since Immigration									
Not an Immigrant	73.01%	9.54%	5.59%	5.67%	2.83%	2.23%	1.12%	*26.99%*	*100%*
Less Than 10	72.96%	8.52%	6.44%	2.97%	4.11%	2.40%	2.61%	*27.04%*	*100%*
10 to 19	74.52%	9.66%	4.63%	3.75%	1.30%	2.62%	3.52%	*25.48%*	*100%*
20 to 29	77.82%	10.76%	4.83%	2.73%	1.06%	1.72%	1.08%	*22.18%*	*100%*
30 to 39	80.82%	6.65%	6.22%	2.44%	1.80%	0.99%	1.09%	*19.18%*	*100%*
40 or more	79.17%	7.29%	4.08%	2.49%	2.14%	1.92%	2.91%	*20.83%*	*100%*
Residence Area Population									
500,000 and Higher	73.72%	8.27%	5.47%	2.97%	3.14%	2.50%	3.92%	*26.28%*	*100%*
100,000 to 499,999	76.90%	5.73%	6.47%	2.49%	3.18%	2.07%	3.17%	*23.10%*	*100%*
30,000 to 99,999	75.18%	8.48%	5.34%	3.12%	1.84%	2.47%	3.58%	*24.82%*	*100%*
15,000 to 29,999	80.68%	4.83%	3.78%	2.63%	2.24%	2.86%	2.98%	*19.32%*	*100%*
0 to 14,999	80.69%	7.79%	3.15%	2.48%	2.10%	1.36%	2.43%	*19.31%*	*100%*
Rural Area	79.97%	7.74%	4.53%	2.56%	1.69%	1.51%	2.00%	*20.03%*	*100%*

Table 2. Distribution of Poverty Spell Duration Frequencies

Spell Length	Below LICO	Below MBM	Below 0.5LIM	Below LIM	Below 1.5LIM
1 year	67.74%	65.33%	73.81%	60.53%	50.67%
2 years	18.50%	20.12%	16.03%	20.70%	21.18%
3 years	7.97%	8.80%	6.00%	9.84%	12.53%
4 years	3.75%	4.00%	2.82%	5.93%	9.26%
5 years	2.04%	1.75%	1.35%	3.00%	6.36%
Total	*100%*	*100%*	*100%*	*100%*	*100%*

Table 3. Development of Incidence Model Specification (Part 1)

	Incremental Specifications for Incidence Model, using LIM									
	#1		#2		#3		#4		#5	
Sex *(Male)*										
Female	1.16**	(0.063)	1.16**	(0.063)	1.16**	(0.065)	0.96	(0.054)	0.88	(0.077)
Years Since Immigration *(Not an Immigrant)*										
Less Than 10	2.55***	(0.402)	2.56***	(0.403)	2.78***	(0.453)	2.34***	(0.380)	2.09***	(0.446)
10 to 19	2.43***	(0.306)	2.43***	(0.307)	2.36***	(0.323)	2.01***	(0.270)	1.67**	(0.304)
20 to 29	1.91***	(0.304)	1.92***	(0.306)	1.77***	(0.299)	1.61**	(0.270)	1.54	(0.354)
30 to 39	1.18	(0.171)	1.18	(0.172)	1.26	(0.192)	1.21	(0.185)	1.01	(0.278)
40 or more	0.95	(0.121)	0.95	(0.121)	0.99	(0.137)	0.92	(0.123)	0.83	(0.195)
Age Group, Years *(20 to 29 years old)*										
30 to 39	1.18	(0.120)	1.17	(0.120)	1.29*	(0.133)	1.37**	(0.144)	1.28*	(0.157)
40 to 49	1.14	(0.121)	1.13	(0.121)	1.16	(0.125)	1.24*	(0.137)	1.16	(0.151)
50 to 59	1.32*	(0.145)	1.30*	(0.146)	1.28*	(0.141)	1.16	(0.129)	1.01	(0.145)
60 or more	1.34**	(0.148)	1.32*	(0.148)	1.19	(0.134)	0.62***	(0.073)	1.01	(0.168)
Area Population *(500,000 and Higher)*										
100,000-499,999	1.06	(0.075)	1.06	(0.075)	1.06	(0.078)	1.02	(0.074)	0.96	(0.100)
30,000-99,999	1.37***	(0.122)	1.37***	(0.122)	1.34**	(0.124)	1.24*	(0.114)	1.11	(0.139)
15,000-29,999	1.62***	(0.187)	1.62***	(0.187)	1.54***	(0.184)	1.41**	(0.172)	1.18	(0.225)
0-14,999	1.47*	(0.259)	1.47*	(0.258)	1.41	(0.247)	1.31	(0.229)	1.16	(0.256)
Rural Area	1.94***	(0.136)	1.94***	(0.136)	1.83***	(0.133)	1.68***	(0.122)	1.68***	(0.180)
Had A Child Before Age 20 *(Had Not)*										
Teen Parent	1.73***	(0.146)	1.74***	(0.146)	1.57***	(0.142)	1.47***	(0.134)	1.70***	(0.218)
Province of Residence *(Ontario)*										
Quebec	1.63***	(0.121)	1.63***	(0.121)	1.54***	(0.118)	1.62***	(0.123)	1.34**	(0.148)
East Coast	1.52***	(0.105)	1.52***	(0.105)	1.52***	(0.109)	1.57***	(0.111)	1.37**	(0.141)
MB and SK	1.18*	(0.095)	1.18*	(0.094)	1.13	(0.093)	1.19*	(0.098)	1.14	(0.138)
Alberta	0.59***	(0.059)	0.59***	(0.059)	0.59***	(0.061)	0.60***	(0.063)	0.66**	(0.090)
BC	1.19	(0.109)	1.19	(0.109)	1.17	(0.111)	1.17	(0.109)	1.15	(0.155)
Calendar Year Indicators *(2005)*										
2006	1.04	(0.033)	1.04	(0.033)	1.05	(0.035)	0.98	(0.035)	0.99	(0.062)
2007	1.02	(0.036)	1.02	(0.037)	1.03	(0.038)	0.93	(0.036)	1.00	(0.067)
2008	1.11**	(0.044)	1.11**	(0.044)	1.13**	(0.047)	1.00	(0.043)	1.06	(0.078)
2009	1.07	(0.045)	1.08	(0.046)	1.08	(0.047)	0.93	(0.042)	0.88	(0.071)
2010	1.05	(0.045)	1.05	(0.045)	1.08	(0.048)	0.93	(0.044)	0.90	(0.074)
Marital Status *(Single, Never Had Spouse)*										
Married	0.32***	(0.027)	0.32***	(0.027)	0.32***	(0.027)	0.32***	(0.027)	0.39***	(0.043)
Single, Had Spouse	1.08	(0.101)	1.08	(0.103)	1.09	(0.105)	1.14	(0.110)	1.18	(0.150)

Table 3. Development of Incidence Model Specification (Part 2)

	Incremental Specifications for Incidence Model, using LIM								
	#1	#2		#3		#4		#5	
Household Transitions In Reference Year *(Various)*									
Spouse Entry		1.24	(0.352)	1.19	(0.343)	1.36	(0.416)	1.07	(0.410)
Spouse Exit		1.10	(0.128)	1.14	(0.136)	1.20	(0.144)	1.36	(0.238)
Child Entry (no births)		0.81	(0.107)	0.78	(0.110)	0.81	(0.114)	0.79	(0.141)
Child Exit		1.07	(0.093)	1.09	(0.094)	1.23*	(0.107)	1.11	(0.130)
Parent Entry		0.21***	(0.069)	0.23***	(0.077)	0.22***	(0.076)	0.20***	(0.092)
Parent Exit		1.12	(0.212)	1.17	(0.225)	1.61*	(0.310)	1.64*	(0.344)
Highest Level of Education *(Less Than High School Diploma)*									
High School				0.63***	(0.045)	0.67***	(0.048)	0.77*	(0.081)
MA (or equiv.)				0.46***	(0.029)	0.54***	(0.034)	0.68***	(0.062)
Ph.D (or equiv.)				0.17***	(0.062)	0.22***	(0.076)	0.23***	(0.075)
Hours Worked, Paid For In Ref. Year *(0)*									
1 to 1,499						0.67***	(0.041)	0.89	(0.170)
1,500 to 2,499						0.16***	(0.012)	0.25***	(0.049)
2,500 or more						0.41***	(0.038)	0.49***	(0.101)
Industry of Main Employer In Ref. Year *(Agriculture)*									
Forestry, Logging								0.28***	(0.079)
Fishing, Hunting And Trapping								0.15***	(0.041)
Mining, Oil, Gas Extraction								0.08***	(0.036)
Utilities								0.04***	(0.033)
Construction								0.33***	(0.058)
Durables								0.17***	(0.035)
Non-durables								0.16***	(0.041)
Wholesale Trade								0.20***	(0.045)
Retail Trade								0.40***	(0.068)
Transportation								0.29***	(0.059)
Finance, Insurance								0.13***	(0.038)
Real Estate, Leasing								0.23***	(0.056)
Scientific, Technical								0.30***	(0.061)
Business								0.55**	(0.102)
Education								0.16***	(0.038)
Healthcare								0.22***	(0.040)
Information and Recreation								0.45***	(0.096)
Accommodation and Food Services								0.61**	(0.110)
Other Services								0.54**	(0.105)
Public Adm-n								0.10***	(0.030)
N	121991	121991		117689		117689		76560	

Exponentiated coefficients; standard errors in parentheses. * p<0.05 ** p<0.01 *** p<0.001

Table 4. Poverty Incidence Model Estimation (Part 1)

	Logit Specification					Linear Specification With FE				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Sex *(Male)*										
Female	0.78*	0.77**	0.75*	0.88	0.93	N/A	N/A	N/A	N/A	N/A
	(0.084)	(0.071)	(0.108)	(0.077)	(0.056)	(.)	(.)	(.)	(.)	(.)
Years Since Immigration *(Not an Immigrant)*										
Less Than 10	2.14**	1.78**	2.46*	2.09***	2.35***	1	1	1	1	1
	(0.517)	(0.363)	(0.970)	(0.446)	(0.348)	(.)	(.)	(.)	(.)	(.)
10 to 19	1.58*	1.62**	2.08**	1.67**	2.59***	1.02	1.01	1.03***	1.02	1.00
	(0.315)	(0.285)	(0.557)	(0.304)	(0.322)	(0.012)	(0.014)	(0.008)	(0.015)	(0.022)
20 to 29	1.48	1.59*	1.51	1.54	1.47**	1.00	0.99	1.01	0.98	1.01
	(0.370)	(0.356)	(0.847)	(0.354)	(0.220)	(0.016)	(0.020)	(0.011)	(0.020)	(0.031)
30 to 39	0.89	0.77	1.14	1.01	1.00	0.99	1.00	1.01	0.99	1.02
	(0.304)	(0.180)	(0.442)	(0.278)	(0.163)	(0.020)	(0.025)	(0.013)	(0.026)	(0.039)
40 or more	0.56	0.72	1.12	0.83	1.20	1.01	1.01	1.03	1.01	1.08
	(0.180)	(0.186)	(0.459)	(0.195)	(0.214)	(0.024)	(0.030)	(0.016)	(0.031)	(0.048)
Age Group, Years *(20 to 29 years old)*										
30 to 39	1.24	1.14	0.91	1.28*	1.14	1.00	1.01	1.00	1.00	1.01
	(0.183)	(0.141)	(0.212)	(0.157)	(0.104)	(0.005)	(0.006)	(0.003)	(0.006)	(0.009)
40 to 49	1.30	1.10	1.31	1.16	0.86	1.00	1.01	1.00	1.00	0.99
	(0.209)	(0.147)	(0.336)	(0.151)	(0.083)	(0.006)	(0.008)	(0.004)	(0.008)	(0.011)
50 to 59	1.09	0.86	1.35	1.01	0.58***	1.01	1.02	1.00	1.00	0.98
	(0.192)	(0.127)	(0.321)	(0.145)	(0.061)	(0.007)	(0.009)	(0.005)	(0.009)	(0.013)
60 or more	1.31	0.77	1.53	1.01	0.66***	1.01	1.03*	1.01	1.01	1.00
	(0.269)	(0.136)	(0.423)	(0.168)	(0.076)	(0.009)	(0.011)	(0.006)	(0.011)	(0.016)
Area Population *(500,000 and Higher)*										
100,000 to	0.64***	0.73**	1.15	0.96	1.26**	0.98**	0.98	0.99	0.99	1.03
499,999	(0.077)	(0.078)	(0.221)	(0.100)	(0.092)	(0.008)	(0.010)	(0.005)	(0.011)	(0.016)
30,000 to	0.69*	0.77	1.13	1.11	1.47***	1.01	0.98	0.99	0.99	1.04*
99,999	(0.100)	(0.103)	(0.264)	(0.139)	(0.124)	(0.009)	(0.012)	(0.006)	(0.012)	(0.019)
15,000 to	0.38***	0.81	1.21	1.18	1.73***	0.97*	0.97	0.99	0.99	0.98
29,999	(0.096)	(0.143)	(0.366)	(0.225)	(0.223)	(0.014)	(0.017)	(0.009)	(0.018)	(0.027)
0 to 14,999	0.46**	0.87	2.06*	1.16	1.37	0.97	0.99	0.98	1.01	0.99
	(0.124)	(0.183)	(0.675)	(0.256)	(0.255)	(0.016)	(0.021)	(0.011)	(0.022)	(0.032)
Rural Area	0.45***	1.16	1.18	1.68***	1.83***	0.98**	1.00	1.00	1.01	1.02
	(0.061)	(0.133)	(0.224)	(0.180)	(0.135)	(0.008)	(0.010)	(0.005)	(0.010)	(0.015)

Table 4. Poverty Incidence Model Estimation (Part 2)

	Logit Specification					Linear Specification With FE				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Had A Child Before Age 20 *(Had Not)*										
Teen Parent	1.64**	1.56**	1.39	1.70***	1.56***	N/A	N/A	N/A	N/A	N/A
	(0.290)	(0.219)	(0.389)	(0.218)	(0.151)	(.)	(.)	(.)	(.)	(.)
Province of Residence *(Ontario)*										
Quebec	1.27	0.81	1.19	1.34**	1.74***	0.99	0.98	0.99	1.01	0.95
	(0.171)	(0.096)	(0.248)	(0.148)	(0.130)	(0.022)	(0.027)	(0.014)	(0.029)	(0.040)
East Coast	1.07	1.37**	1.02	1.37**	1.59***	1.00	1.01	1.03**	1.01	1.08**
Provinces	(0.149)	(0.143)	(0.216)	(0.141)	(0.113)	(0.015)	(0.019)	(0.010)	(0.019)	(0.031)
MB and SK	1.20	0.91	1.37	1.14	1.19*	0.99	0.99	1.02*	1.00	0.99
	(0.185)	(0.115)	(0.349)	(0.138)	(0.090)	(0.018)	(0.023)	(0.012)	(0.024)	(0.034)
Alberta	0.66*	0.65**	0.69	0.66**	0.69***	0.97*	0.95*	1.01	0.93***	0.90***
	(0.106)	(0.087)	(0.161)	(0.090)	(0.063)	(0.016)	(0.019)	(0.011)	(0.019)	(0.028)
BC	0.91	1.08	0.91	1.15	0.97	0.94***	0.94**	0.99	0.94**	0.96
	(0.146)	(0.148)	(0.197)	(0.155)	(0.094)	(0.017)	(0.022)	(0.012)	(0.022)	(0.034)
Calendar Year Indicators *(2005)*										
2006	0.90	0.94	0.80	0.99	1.01	0.99**	1.00*	1.00	1.00	1.00
	(0.072)	(0.063)	(0.143)	(0.062)	(0.036)	(0.002)	(0.002)	(0.001)	(0.002)	(0.003)
2007	0.72***	0.79**	0.74	1.00	0.98	0.99***	0.99***	1.00	1.00	0.99***
	(0.064)	(0.056)	(0.133)	(0.067)	(0.040)	(0.002)	(0.002)	(0.001)	(0.002)	(0.003)
2008	0.73**	0.92	0.89	1.06	1.09*	0.99***	0.99***	1.00	1.00	0.99*
	(0.071)	(0.073)	(0.173)	(0.078)	(0.047)	(0.002)	(0.002)	(0.001)	(0.003)	(0.004)
2009	0.63***	0.83*	0.78	0.88	1.07	0.99***	0.99***	1.00	0.99**	0.98***
	(0.069)	(0.071)	(0.146)	(0.071)	(0.052)	(0.002)	(0.003)	(0.001)	(0.003)	(0.004)
2010	0.58***	0.93	0.73	0.90	1.07	0.99***	0.99***	1.00	0.99***	0.98***
	(0.066)	(0.080)	(0.143)	(0.074)	(0.052)	(0.002)	(0.003)	(0.001)	(0.003)	(0.004)

Table 4. Poverty Incidence Model Estimation (Part 3)

	Logit Specification					Linear Specification With FE				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Marital Status *(Single, Never Had Spouse)*										
Married	0.30***	0.48***	0.32***	0.39***	0.61***	0.97***	0.97***	0.99*	0.97***	0.99
	(0.039)	(0.055)	(0.062)	(0.043)	(0.050)	(0.006)	(0.008)	(0.004)	(0.008)	(0.012)
Single,	1.05	1.41*	0.93	1.18	1.66***	1.00	1.02*	1.01	1.02*	1.11***
Had Spouse	(0.161)	(0.190)	(0.205)	(0.150)	(0.168)	(0.007)	(0.010)	(0.005)	(0.010)	(0.016)
Household Transitions In Reference Year *(Various)*										
Spouse	0.98	0.71	2.95	1.07	0.89	1.00	1.00	1.00	0.99	0.97*
Entry	(0.550)	(0.293)	(2.109)	(0.410)	(0.167)	(0.008)	(0.010)	(0.005)	(0.010)	(0.015)
Spouse	1.32	1.38	1.32	1.36	1.26	1.01	1.03***	0.99	1.04***	1.03*
Exit	(0.301)	(0.257)	(0.497)	(0.238)	(0.161)	(0.007)	(0.009)	(0.004)	(0.009)	(0.013)
Child Entry	0.55*	0.93	0.77	0.79	1.00	0.99	0.99*	0.99*	0.98***	0.98*
(no births)	(0.160)	(0.176)	(0.369)	(0.141)	(0.106)	(0.004)	(0.005)	(0.003)	(0.005)	(0.008)
Child	1.34	1.09	2.63***	1.11	0.84*	1.01***	1.00	1.01***	1.01	1.00
Exit	(0.221)	(0.140)	(0.553)	(0.130)	(0.064)	(0.003)	(0.003)	(0.002)	(0.004)	(0.005)
Parent	1.00	0.07***	1.00	0.20***	0.27**	0.94***	0.90***	0.98**	0.92***	0.88***
Entry	(.)	(0.056)	(.)	(0.092)	(0.113)	(0.009)	(0.011)	(0.006)	(0.011)	(0.016)
Parent	1.26	1.71*	2.31*	1.64*	1.60**	1.03***	1.06***	1.02***	1.07***	1.15***
Exit	(0.318)	(0.369)	(0.860)	(0.344)	(0.245)	(0.008)	(0.010)	(0.005)	(0.010)	(0.016)
Highest Level of Education *(Less Than High School Diploma)*										
High School	0.77	0.74**	0.82	0.77*	0.84*	0.98	0.97	1.00	0.99	0.96
	(0.106)	(0.083)	(0.156)	(0.081)	(0.062)	(0.014)	(0.018)	(0.010)	(0.019)	(0.027)
MA	0.63***	0.68***	0.90	0.68***	0.60***	0.99	0.96*	0.99	0.98	0.95*
(or equiv.)	(0.074)	(0.064)	(0.144)	(0.062)	(0.038)	(0.011)	(0.013)	(0.007)	(0.014)	(0.020)
Ph.D	0.35**	0.31***	0.55	0.23***	0.21***	1.00	0.99	0.99	0.99	0.89
(or equiv.)	(0.138)	(0.108)	(0.252)	(0.075)	(0.057)	(0.059)	(0.074)	(0.039)	(0.076)	(0.101)
Hours Worked, Paid For In Ref. Year *(0)*										
1 to 1,499	0.92	0.92	0.87	0.89	0.85	1.00	1.00	1.00	1.00	1.00
	(0.218)	(0.180)	(0.292)	(0.170)	(0.118)	(0.006)	(0.007)	(0.004)	(0.008)	(0.011)
1,500 to	0.23***	0.26***	0.21***	0.25***	0.32***	0.98***	0.96***	1.00	0.97***	0.95***
2,499	(0.055)	(0.052)	(0.076)	(0.049)	(0.044)	(0.006)	(0.007)	(0.004)	(0.007)	(0.011)
2,500 or	0.45**	0.48***	0.49	0.49***	0.50***	0.98***	0.96***	1.00	0.97***	0.94***
more	(0.115)	(0.102)	(0.179)	(0.101)	(0.073)	(0.006)	(0.007)	(0.004)	(0.008)	(0.011)

Table 4. Poverty Incidence Model Estimation (Part 4)

	Logit Specification					Linear Specification With FE				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Industry of Main Employer In Ref. Year *(Agriculture)*										
Forestry,	0.30***	0.24***	0.44*	0.28***	0.41*	1.03	1.01	1.04***	1.02	0.91**
Logging	(0.096)	(0.071)	(0.175)	(0.079)	(0.157)	(0.017)	(0.021)	(0.011)	(0.022)	(0.029)
Fishing,	0.07***	0.16***	0.04***	0.15***	0.41***	1.02	0.98	1.02*	0.97	0.88***
Hunting	(0.035)	(0.044)	(0.034)	(0.041)	(0.091)	(0.019)	(0.023)	(0.013)	(0.024)	(0.032)
Mining,	0.12***	0.12***	0.14***	0.08***	0.11***	1.00	0.96*	1.01	0.96*	0.84***
Oil, Gas	(0.051)	(0.040)	(0.083)	(0.036)	(0.029)	(0.013)	(0.015)	(0.008)	(0.016)	(0.020)
Utilities	0.05**	0.03***	1.00	0.04***	0.04***	1.00	0.99	1.01	1.00	0.95
	(0.051)	(0.033)	(.)	(0.033)	(0.017)	(0.021)	(0.026)	(0.014)	(0.027)	(0.039)
Construc-	0.24***	0.28***	0.33***	0.33***	0.49***	1.01	1.00	1.02*	1.01	0.95**
tion	(0.056)	(0.051)	(0.095)	(0.058)	(0.068)	(0.010)	(0.013)	(0.007)	(0.013)	(0.018)
Durables	0.13***	0.18***	0.18***	0.17***	0.31***	0.99	0.98	1.00	0.98	0.90***
	(0.034)	(0.039)	(0.066)	(0.035)	(0.045)	(0.010)	(0.013)	(0.007)	(0.013)	(0.018)
Non-	0.17***	0.17***	0.07***	0.16***	0.30***	0.99	0.97	1.00	0.97	0.94**
durables	(0.054)	(0.042)	(0.033)	(0.041)	(0.049)	(0.011)	(0.013)	(0.007)	(0.013)	(0.019)
Wholesale	0.14***	0.17***	0.22***	0.20***	0.28***	0.98	0.98	1.01	0.99	0.92***
Trade	(0.041)	(0.039)	(0.092)	(0.045)	(0.050)	(0.011)	(0.013)	(0.007)	(0.014)	(0.019)
Retail	0.30***	0.34***	0.23***	0.40***	0.53***	0.99	0.98	1.01*	0.99	0.96
Trade	(0.066)	(0.061)	(0.067)	(0.068)	(0.072)	(0.010)	(0.012)	(0.006)	(0.012)	(0.018)
Transpor-	0.29***	0.30***	0.37***	0.29***	0.37***	1.00	0.99	1.01	0.98	0.92***
tation	(0.075)	(0.065)	(0.108)	(0.059)	(0.058)	(0.010)	(0.013)	(0.007)	(0.013)	(0.018)
Finance,	0.11***	0.13***	0.14***	0.13***	0.24***	0.98	0.98	1.01	0.99	0.91***
Insurance	(0.044)	(0.036)	(0.066)	(0.038)	(0.049)	(0.012)	(0.016)	(0.008)	(0.016)	(0.022)
Real Estate,	0.23***	0.25***	0.20***	0.23***	0.34***	1.01	1.01	1.01	1.02	0.99
Leasing	(0.071)	(0.065)	(0.096)	(0.056)	(0.070)	(0.013)	(0.017)	(0.009)	(0.017)	(0.025)
Scientific,	0.26***	0.31***	0.40**	0.30***	0.30***	0.99	0.98	1.00	0.99	0.93***
Technical	(0.064)	(0.064)	(0.138)	(0.061)	(0.049)	(0.010)	(0.013)	(0.007)	(0.013)	(0.019)

Table 4. Poverty Incidence Model Estimation (Part 5)

	Logit Specification					Linear Specification With FE				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Industry of Main Employer In Ref. Year *(Agriculture) (Continued)*										
Business	0.43***	0.54**	0.46**	0.55**	0.70*	0.99	0.99	1.00	1.01	0.96
	(0.096)	(0.107)	(0.130)	(0.102)	(0.109)	(0.010)	(0.013)	(0.007)	(0.014)	(0.019)
Education	0.12***	0.17***	0.19***	0.16***	0.21***	0.99	1.01	1.02**	1.00	0.94**
	(0.035)	(0.040)	(0.076)	(0.038)	(0.033)	(0.011)	(0.014)	(0.007)	(0.014)	(0.020)
Healthcare	0.19***	0.24***	0.13***	0.22***	0.35***	0.99	0.99	1.01	1.00	0.96*
	(0.044)	(0.045)	(0.043)	(0.040)	(0.050)	(0.010)	(0.013)	(0.007)	(0.013)	(0.019)
Inform-n,	0.40***	0.48***	0.41**	0.45***	0.56***	1.01	1.01	1.01	1.01	0.97
Recreation	(0.102)	(0.103)	(0.140)	(0.096)	(0.093)	(0.011)	(0.014)	(0.007)	(0.014)	(0.020)
Accomm-n,	0.55**	0.65*	0.38**	0.61**	0.81	1.00	1.00	1.02*	1.00	0.98
Food Serv.	(0.124)	(0.124)	(0.116)	(0.110)	(0.119)	(0.011)	(0.014)	(0.007)	(0.014)	(0.020)
Other Serv.	0.48**	0.53**	0.54*	0.54**	0.74*	0.99	1.00	1.02**	1.01	1.00
	(0.128)	(0.111)	(0.162)	(0.105)	(0.112)	(0.011)	(0.014)	(0.007)	(0.014)	(0.021)
Public	0.08***	0.11***	0.15**	0.10***	0.13***	0.99	0.99	1.01	0.99	0.93***
Adminis-n	(0.035)	(0.032)	(0.088)	(0.030)	(0.023)	(0.011)	(0.014)	(0.007)	(0.014)	(0.019)
N	76297	76560	75633	76560	76560	63662	63662	63662	63662	63662

Exponentiated coefficients; standard errors in parentheses. * p<0.05 ** p<0.01 *** p<0.001

Table 5. Entry and Exit Model Estimation (Part 1)

	Entry Model, Logit					Exit Model, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Sex *(Male)*										
Female	0.77*	0.80*	0.71*	0.93	1.08	1.04	0.99	0.90	1.06	1.17
	(0.093)	(0.083)	(0.112)	(0.092)	(0.075)	(0.176)	(0.142)	(0.276)	(0.137)	(0.105)
Years Since Immigration *(Not an Immigrant)*										
Less Than 10	1.29	2.32***	1.68	2.22***	1.76**	0.66	1.03	0.29	0.82	0.99
	(0.376)	(0.557)	(0.651)	(0.524)	(0.315)	(0.266)	(0.390)	(0.193)	(0.287)	(0.192)
10 to 19	1.32	1.57*	1.30	1.43	1.68***	1.13	1.37	0.44	1.28	0.61**
	(0.291)	(0.329)	(0.413)	(0.298)	(0.249)	(0.339)	(0.360)	(0.234)	(0.352)	(0.105)
20 to 29	1.11	1.12	0.83	1.55	1.21	1.05	0.85	0.68	0.76	0.71
	(0.381)	(0.316)	(0.360)	(0.393)	(0.261)	(0.391)	(0.322)	(0.547)	(0.241)	(0.213)
30 to 39	0.40*	0.69	0.80	0.66	1.17	1.16	2.43*	2.82	1.18	1.56
	(0.145)	(0.189)	(0.341)	(0.168)	(0.191)	(0.651)	(1.070)	(2.851)	(0.454)	(0.481)
40 or more	1.19	1.16	1.12	1.22	1.20	2.32	2.52*	0.28	2.77**	1.35
	(0.467)	(0.464)	(0.513)	(0.434)	(0.281)	(1.209)	(1.071)	(0.208)	(1.093)	(0.388)
Age Group, Years *(20 to 29 years old)*										
30 to 39	1.21	0.93	1.13	1.04	0.85	0.60	0.63*	0.57	0.63*	0.72*
	(0.213)	(0.139)	(0.322)	(0.153)	(0.101)	(0.175)	(0.142)	(0.313)	(0.135)	(0.098)
40 to 49	1.14	0.90	1.21	0.95	0.72**	0.46**	0.56**	0.31*	0.57**	0.83
	(0.203)	(0.138)	(0.333)	(0.144)	(0.084)	(0.131)	(0.122)	(0.161)	(0.115)	(0.109)
50 to 59	1.08	0.75	1.62	0.95	0.66***	0.39**	0.45***	0.30*	0.48***	0.84
	(0.209)	(0.130)	(0.449)	(0.157)	(0.081)	(0.113)	(0.102)	(0.157)	(0.103)	(0.118)
60 or more	1.00	0.63*	1.28	1.04	0.84	0.48*	0.55*	0.41	0.58*	0.75
	(0.220)	(0.121)	(0.384)	(0.184)	(0.115)	(0.150)	(0.144)	(0.230)	(0.141)	(0.120)
Area Population *(500,000 and Higher)*										
100,000 to	0.72*	0.79*	1.10	1.00	1.11	1.31	1.05	0.68	1.22	0.93
499,999	(0.096)	(0.090)	(0.206)	(0.108)	(0.092)	(0.259)	(0.177)	(0.280)	(0.207)	(0.095)
30,000 to	0.71*	0.82	1.02	1.09	1.21	1.17	0.74	0.55	0.82	0.69**
99,999	(0.124)	(0.122)	(0.242)	(0.146)	(0.118)	(0.274)	(0.153)	(0.284)	(0.161)	(0.083)
15,000 to	0.31***	0.90	1.07	1.15	1.53**	1.93	1.61	1.24	1.03	0.91
29,999	(0.095)	(0.219)	(0.382)	(0.262)	(0.232)	(0.660)	(0.431)	(1.196)	(0.303)	(0.175)
0 to 14,999	0.60	0.77	1.26	1.32	1.00	1.95	1.15	1.86	1.52	1.00
	(0.234)	(0.236)	(0.633)	(0.474)	(0.196)	(1.072)	(0.357)	(1.797)	(0.434)	(0.230)
Rural Area	0.67**	1.27*	1.13	1.54***	1.42***	2.02**	0.93	0.97	1.00	0.61***
	(0.099)	(0.149)	(0.221)	(0.177)	(0.117)	(0.441)	(0.164)	(0.375)	(0.166)	(0.065)

Table 5. Entry and Exit Model Estimation (Part 2)

	Entry Model, Logit					Exit Model, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Had A Child Before Age 20 *(Had Not)*										
Teen Parent	1.81**	1.73***	1.66*	1.59**	1.32*	0.90	0.84	2.66	0.98	0.88
	(0.329)	(0.260)	(0.413)	(0.231)	(0.150)	(0.278)	(0.161)	(1.389)	(0.163)	(0.123)
Province of Residence *(Ontario)*										
Quebec	1.13	0.83	0.88	1.18	1.37***	1.24	1.43	0.87	1.03	0.94
	(0.171)	(0.113)	(0.184)	(0.145)	(0.120)	(0.251)	(0.265)	(0.344)	(0.168)	(0.106)
East Coast	1.03	1.09	0.79	1.07	1.22*	1.28	0.94	0.95	0.78	1.11
Provinces	(0.151)	(0.123)	(0.152)	(0.118)	(0.098)	(0.306)	(0.151)	(0.426)	(0.117)	(0.109)
MB and SK	0.68*	0.59***	0.74	0.76*	0.91	0.72	0.73	0.22**	0.77	1.20
	(0.108)	(0.075)	(0.147)	(0.090)	(0.081)	(0.162)	(0.138)	(0.105)	(0.129)	(0.127)
Alberta	0.79	0.66**	0.71	0.69**	0.71***	2.10*	1.31	1.04	1.31	1.52**
	(0.132)	(0.094)	(0.172)	(0.101)	(0.074)	(0.627)	(0.309)	(0.536)	(0.298)	(0.209)
BC	1.20	1.18	0.96	1.22	1.05	1.07	0.83	3.18	1.01	1.16
	(0.203)	(0.164)	(0.209)	(0.163)	(0.108)	(0.276)	(0.168)	(1.925)	(0.207)	(0.153)
Calendar Year Indicators *(2005)*										
2006	0.73*	0.76*	1.00	0.94	0.90	0.73*	0.76*	1.00	0.94	0.90
	(0.108)	(0.092)	(0.203)	(0.107)	(0.075)	(0.108)	(0.092)	(0.203)	(0.107)	(0.075)
2007	0.90	1.04	1.30	1.13	0.96	0.90	1.04	1.30	1.13	0.96
	(0.128)	(0.117)	(0.262)	(0.126)	(0.080)	(0.128)	(0.117)	(0.262)	(0.126)	(0.080)
2008	0.80	0.89	0.97	0.96	0.90	0.80	0.89	0.97	0.96	0.90
	(0.117)	(0.106)	(0.202)	(0.111)	(0.077)	(0.117)	(0.106)	(0.202)	(0.111)	(0.077)
2009	0.71*	1.00	0.79	1.05	0.88	0.71*	1.00	0.79	1.05	0.88
	(0.115)	(0.126)	(0.171)	(0.127)	(0.078)	(0.115)	(0.126)	(0.171)	(0.127)	(0.078)
2010[6]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)

[6] The binary indicator for Year 2010 is omitted from the set of regressors in the Entry and Exit models, as it cannot be used to describe observations in the first of any two adjacent years characterizing the transition.

Table 5. Entry and Exit Model Estimation (Part 3)

	Entry Model, Logit					Exit Model, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Marital Status *(Single, Never Had Spouse)*										
Married	0.33***	0.48***	0.46***	0.41***	0.68***	1.29	1.18	2.97**	1.14	1.29*
	(0.046)	(0.064)	(0.084)	(0.053)	(0.066)	(0.248)	(0.191)	(1.231)	(0.178)	(0.143)
Single,	0.70*	1.02	0.90	0.77	1.15	1.22	1.30	3.14*	1.24	0.92
Had Spouse	(0.125)	(0.166)	(0.202)	(0.121)	(0.142)	(0.276)	(0.228)	(1.403)	(0.224)	(0.127)
Household Transitions In Reference Year *(Various)*										
Spouse	1.78	1.14	0.38	1.45	1.39	1.05	2.32	0.29	2.54	0.61
Entry	(0.728)	(0.448)	(0.387)	(0.511)	(0.372)	(0.994)	(1.868)	(0.362)	(1.786)	(0.230)
Spouse	1.61	1.33	2.40*	1.38	0.76	0.59	0.91	0.20*	1.24	1.28
Exit	(0.588)	(0.433)	(1.030)	(0.461)	(0.231)	(0.261)	(0.321)	(0.149)	(0.410)	(0.298)
Child Entry	1.05	1.09	0.57	1.26	1.12	1.00	0.62	1.14	0.74	1.15
(no births)	(0.342)	(0.321)	(0.218)	(0.342)	(0.207)	(0.540)	(0.242)	(1.532)	(0.286)	(0.273)
Child	1.56	1.41	1.19	1.15	0.73	1.76	0.87	1.83	0.96	0.93
Exit	(0.422)	(0.307)	(0.315)	(0.269)	(0.138)	(0.526)	(0.200)	(0.959)	(0.200)	(0.165)
Parent	0.58	1.25	0.62	1.38	1.93*	1.00	2.30	1.00	1.19	1.52
Entry	(0.384)	(0.534)	(0.651)	(0.590)	(0.535)	(.)	(4.027)	(.)	(1.037)	(0.753)
Parent	0.65	1.10	1.01	0.45*	0.76	0.88	1.03	1.19	1.26	1.07
Exit	(0.375)	(0.451)	(0.891)	(0.175)	(0.289)	(0.527)	(0.469)	(1.390)	(0.582)	(0.309)
Highest Level of Education *(Less Than High School Diploma)*										
High School	0.92	0.92	0.85	0.97	0.97	1.38	1.28	1.70	1.18	1.26*
	(0.135)	(0.111)	(0.165)	(0.108)	(0.086)	(0.301)	(0.228)	(0.718)	(0.181)	(0.125)
MA	0.88	0.72**	0.88	0.78*	0.74***	1.67**	1.21	1.04	1.27	1.36***
(or equiv.)	(0.106)	(0.076)	(0.137)	(0.076)	(0.054)	(0.295)	(0.173)	(0.335)	(0.169)	(0.124)
Ph.D	0.96	0.65	1.08	0.51	0.40*	6.78*	4.87*	1.00	7.11**	6.26***
(or equiv.)	(0.419)	(0.262)	(0.563)	(0.227)	(0.146)	(5.532)	(3.344)	(.)	(5.362)	(2.826)
Hours Worked, Paid For In Ref. Year *(0)*										
1 to 1,499	0.79	0.53*	0.89	0.72	0.86	1.15	1.59	1.72	1.79	0.99
	(0.237)	(0.144)	(0.366)	(0.165)	(0.229)	(0.471)	(0.594)	(0.897)	(0.679)	(0.260)
1,500 to	0.31***	0.23***	0.32**	0.30***	0.44**	1.61	1.78	2.17	2.25*	1.21
2,499	(0.093)	(0.062)	(0.133)	(0.067)	(0.116)	(0.667)	(0.671)	(1.125)	(0.873)	(0.316)
2,500 or	0.60	0.40***	0.49	0.57*	0.72	1.87	2.11	2.03	2.38*	1.34
more	(0.188)	(0.110)	(0.220)	(0.137)	(0.194)	(0.814)	(0.824)	(1.064)	(0.936)	(0.378)

Table 5. Entry and Exit Model Estimation (Part 4)

	Entry Model, Logit					Exit Model, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Industry of Main Employer In Ref. Year *(Agriculture)*										
Forestry,	0.35*	0.53	0.39	0.68	0.66	3.99*	3.17*	2.58	3.92**	1.23
Logging	(0.164)	(0.195)	(0.209)	(0.290)	(0.226)	(2.800)	(1.581)	(2.114)	(1.776)	(0.608)
Fishing,	0.18**	0.38**	0.16*	0.45*	1.05	1.00	3.81**	1.00	6.75***	1.19
Hunting	(0.103)	(0.131)	(0.122)	(0.145)	(0.287)	(.)	(1.830)	(.)	(3.269)	(0.388)
Mining,	0.38*	0.63	0.24**	0.32**	0.40***	3.01	2.19	1.00	0.82	1.62
Oil, Gas	(0.157)	(0.201)	(0.127)	(0.113)	(0.105)	(3.892)	(1.442)	(.)	(0.638)	(0.567)
Utilities	0.03**	0.16**	1.00	0.09**	0.10***	1.00	1.00	1.00	1.00	2.73
	(0.035)	(0.101)	(.)	(0.069)	(0.046)	(.)	(.)	(.)	(.)	(2.305)
Construc-	0.36***	0.63*	0.33***	0.67	1.18	1.79	1.63	1.64	2.32***	1.71**
tion	(0.093)	(0.139)	(0.106)	(0.141)	(0.205)	(0.638)	(0.452)	(1.080)	(0.590)	(0.296)
Durables	0.27***	0.47**	0.27***	0.51**	0.90	3.03**	1.68	0.54	2.71***	1.73**
	(0.077)	(0.114)	(0.094)	(0.114)	(0.151)	(1.242)	(0.527)	(0.391)	(0.771)	(0.326)
Non-	0.29***	0.47**	0.14***	0.37***	0.74	2.00	2.22	2.44	1.51	1.38
durables	(0.103)	(0.134)	(0.068)	(0.103)	(0.143)	(1.059)	(1.037)	(2.343)	(0.733)	(0.305)
Wholesale	0.21***	0.35***	0.25**	0.37**	0.82	1.56	2.08	1.35	1.00	2.08***
Trade	(0.076)	(0.108)	(0.114)	(0.115)	(0.176)	(0.814)	(0.830)	(1.074)	(0.363)	(0.438)
Retail	0.55*	0.73	0.26***	0.68	1.00	1.40	1.27	2.04	1.32	1.22
Trade	(0.137)	(0.154)	(0.081)	(0.136)	(0.160)	(0.439)	(0.331)	(1.246)	(0.311)	(0.206)
Transpor-	0.34***	0.54**	0.37**	0.59*	0.71	0.74	0.78	3.76*	1.32	1.31
tation	(0.095)	(0.123)	(0.124)	(0.132)	(0.133)	(0.276)	(0.243)	(2.200)	(0.373)	(0.284)
Finance,	0.23***	0.43**	0.25**	0.37***	0.62*	1.47	2.10	33.45**	2.35*	1.26
Insurance	(0.081)	(0.130)	(0.111)	(0.104)	(0.130)	(0.666)	(0.911)	(40.424)	(0.900)	(0.384)
Real Estate,	0.31**	0.64	0.39*	0.42*	0.75	1.71	2.48*	3.38	2.21	2.18*
Leasing	(0.127)	(0.232)	(0.185)	(0.143)	(0.196)	(0.903)	(1.140)	(3.387)	(0.929)	(0.657)
Scientific,	0.39**	0.65	0.55	0.51**	0.76	1.73	1.18	0.87	1.66	1.39
Technical	(0.114)	(0.159)	(0.183)	(0.123)	(0.142)	(0.635)	(0.356)	(0.559)	(0.482)	(0.310)

Table 5. Entry and Exit Model Estimation (Part 5)

	Entry Model, Logit					Exit Model, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Industry of Main Employer In Ref. Year *(Agriculture) (Continued)*										
Business	0.66	1.00	0.57	0.86	1.09	2.08*	1.40	4.78**	1.58	1.06
	(0.183)	(0.235)	(0.202)	(0.200)	(0.217)	(0.678)	(0.407)	(2.746)	(0.418)	(0.208)
Education	0.15***	0.24***	0.10***	0.23***	0.35***	1.43	1.71	6.04	1.61	1.70*
	(0.055)	(0.071)	(0.052)	(0.064)	(0.072)	(0.598)	(0.615)	(7.416)	(0.470)	(0.373)
Healthcare	0.25***	0.50**	0.19***	0.37***	0.59**	2.88**	2.28**	1.27	2.12**	1.18
	(0.068)	(0.113)	(0.061)	(0.080)	(0.099)	(1.032)	(0.587)	(0.835)	(0.542)	(0.214)
Inform-n,	0.70	0.89	0.49*	0.86	0.89	1.27	1.46	1.53	2.09*	1.24
Recreation	(0.196)	(0.239)	(0.174)	(0.213)	(0.199)	(0.431)	(0.422)	(1.084)	(0.617)	(0.276)
Accomm-n,	0.79	1.09	0.49*	0.94	1.29	1.67	1.35	1.93	1.74*	0.91
Food Serv.	(0.209)	(0.250)	(0.169)	(0.206)	(0.241)	(0.523)	(0.330)	(1.142)	(0.420)	(0.170)
Other Serv.	0.47**	0.76	0.43*	0.78	1.13	0.74	0.97	0.85	1.36	1.23
	(0.130)	(0.178)	(0.144)	(0.173)	(0.210)	(0.267)	(0.282)	(0.546)	(0.364)	(0.237)
Public	0.13***	0.20***	0.12***	0.13***	0.29***	0.36	1.32	0.33	0.74	1.48
Adminis-n	(0.058)	(0.072)	(0.064)	(0.044)	(0.062)	(0.320)	(0.591)	(0.370)	(0.341)	(0.373)
N	61390	60267	61927	59758	52741	11590	12718	10491	13226	20244

Exponentiated coefficients; standard errors in parentheses. * p<0.05 ** p<0.01 *** p<0.001

Table 6. Occurrence Dependence (OD) Model Estimation (Part 1)

	OD Model For Entry, Logit					OD Model For Exit, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Sex *(Male)*										
Female	1.00	0.99	1.00	0.99	1.00	0.97	0.93	0.93	0.95	1.04
	(0.005)	(0.006)	(0.003)	(0.007)	(0.009)	(0.071)	(0.051)	(0.081)	(0.052)	(0.032)
Years Since Immigration *(Not an Immigrant)*										
Less Than 10	0.99	1.02	1.00	1.02	1.00	2.13***	1.32	1.18	1.27	1.13
	(0.006)	(0.025)	(0.003)	(0.024)	(0.024)	(0.385)	(0.335)	(0.443)	(0.324)	(0.185)
10 to 19	1.01	1.00	0.99**	1.01	1.01	1.03	1.17	0.99	1.10	0.94
	(0.012)	(0.016)	(0.002)	(0.015)	(0.023)	(0.145)	(0.126)	(0.259)	(0.145)	(0.049)
20 to 29	1.01	1.00	1.00	1.03	1.05	1.04	0.91	0.54	1.38	1.21
	(0.011)	(0.013)	(0.003)	(0.021)	(0.030)	(0.226)	(0.161)	(0.185)	(0.243)	(0.144)
30 to 39	0.99***	0.99	0.99**	0.98**	1.00	0.62	1.29	0.59*	1.48*	1.07
	(0.004)	(0.010)	(0.002)	(0.006)	(0.015)	(0.193)	(0.211)	(0.146)	(0.244)	(0.095)
40 or more	1.02	1.01	0.99*	1.01	1.06	1.29	1.37*	1.19	1.38*	0.96
	(0.035)	(0.029)	(0.003)	(0.030)	(0.042)	(0.219)	(0.185)	(0.398)	(0.191)	(0.074)
Age Group, Years *(20 to 29 years old)*										
30 to 39	1.01	1.00	1.00	1.00	0.99	1.11	1.19	0.57*	0.95	0.92
	(0.011)	(0.016)	(0.006)	(0.016)	(0.023)	(0.164)	(0.131)	(0.151)	(0.107)	(0.057)
40 to 49	1.01	0.99	1.00	1.00	0.98	1.27	1.26*	0.65	0.98	0.95
	(0.011)	(0.016)	(0.007)	(0.016)	(0.023)	(0.207)	(0.134)	(0.156)	(0.106)	(0.060)
50 to 59	1.01	0.99	1.00	1.00	0.98	1.28	1.21	0.59*	0.95	0.97
	(0.011)	(0.017)	(0.007)	(0.017)	(0.024)	(0.209)	(0.129)	(0.149)	(0.103)	(0.061)
60 or more	1.00	0.97	1.00	0.99	1.00	1.19	1.04	0.54*	0.91	0.92
	(0.010)	(0.016)	(0.006)	(0.017)	(0.026)	(0.196)	(0.116)	(0.148)	(0.104)	(0.059)
Area Population *(500,000 and Higher)*										
100,000 to	1.00	0.99	1.01	1.00	1.02*	1.03	0.82**	0.91	0.87	1.03
499,999	(0.005)	(0.006)	(0.003)	(0.006)	(0.010)	(0.092)	(0.060)	(0.191)	(0.066)	(0.042)
30,000 to	1.01	1.01	1.01	1.01	1.03*	1.08	0.78*	0.94	0.93	0.96
99,999	(0.008)	(0.010)	(0.005)	(0.008)	(0.014)	(0.134)	(0.075)	(0.222)	(0.083)	(0.040)
15,000 to	0.99	1.01	1.00	1.01	0.99	1.01	0.92	0.36*	0.98	1.00
29,999	(0.006)	(0.013)	(0.006)	(0.013)	(0.021)	(0.331)	(0.140)	(0.180)	(0.124)	(0.062)
0 to 14,999	0.98***	0.98	1.00	0.99	0.99	0.96	1.01	1.16	1.69***	1.11
	(0.005)	(0.014)	(0.004)	(0.011)	(0.020)	(0.414)	(0.233)	(0.379)	(0.248)	(0.141)
Rural Area	0.99	1.00	1.00	1.01	1.02	1.30**	0.90	1.36	0.97	0.96
	(0.004)	(0.007)	(0.003)	(0.008)	(0.011)	(0.124)	(0.066)	(0.293)	(0.072)	(0.036)

Table 6. Occurrence Dependence (OD) Model Estimation (Part 2)

	OD Model For Entry, Logit					OD Model For Exit, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Had A Child Before Age 20 *(Had Not)*										
Teen Parent	1.00	1.00	1.01	1.00	0.99	0.77*	0.96	1.06	1.00	1.00
	(0.008)	(0.015)	(0.007)	(0.014)	(0.019)	(0.099)	(0.086)	(0.177)	(0.090)	(0.051)
Province of Residence *(Ontario)*										
Quebec	1.01	0.99	1.00	1.01	1.04**	0.91	0.95	0.97	0.90	1.02
	(0.008)	(0.008)	(0.004)	(0.008)	(0.012)	(0.095)	(0.069)	(0.254)	(0.066)	(0.035)
East Coast	1.00	1.00	1.00	1.00	1.01	0.95	1.07	0.98	0.97	1.09*
Provinces	(0.005)	(0.007)	(0.003)	(0.007)	(0.011)	(0.108)	(0.084)	(0.226)	(0.079)	(0.044)
MB and SK	1.00	0.99	1.00	0.99	1.01	1.01	0.91	0.86	0.90	1.08
	(0.005)	(0.006)	(0.003)	(0.006)	(0.011)	(0.103)	(0.075)	(0.192)	(0.072)	(0.045)
Alberta	1.00	0.99	1.00	0.99	1.00	1.37*	1.00	1.22	0.90	1.03
	(0.006)	(0.008)	(0.004)	(0.008)	(0.010)	(0.203)	(0.097)	(0.285)	(0.091)	(0.049)
BC	1.00	1.01	1.00	1.01	1.02	0.93	0.93	0.97	0.92	1.02
	(0.007)	(0.012)	(0.003)	(0.009)	(0.014)	(0.116)	(0.080)	(0.303)	(0.088)	(0.052)
Marital Status *(Single, Never Had Spouse)*										
Married	0.95***	0.97*	0.99	0.96**	0.98	0.97	0.97	0.73	0.97	1.01
	(0.013)	(0.012)	(0.006)	(0.012)	(0.015)	(0.089)	(0.072)	(0.124)	(0.065)	(0.040)
Single,	0.97	1.00	1.00	0.98	1.00	1.11	1.18*	1.31	1.07	0.97
Had Spouse	(0.015)	(0.016)	(0.007)	(0.014)	(0.019)	(0.115)	(0.094)	(0.253)	(0.080)	(0.047)
Household Transitions In Reference Year *(Various)*										
Spouse	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Entry	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Spouse	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Exit	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Child Entry	1.01	1.04	0.99***	1.04	1.00	1.30	1.04	1.27	1.16	1.07
(no births)	(0.016)	(0.029)	(0.002)	(0.029)	(0.028)	(0.306)	(0.267)	(0.376)	(0.220)	(0.100)
Child	1.02	1.03	1.00	1.02	1.00	0.82	0.76**	1.07	0.89	0.97
Exit	(0.018)	(0.018)	(0.004)	(0.017)	(0.019)	(0.108)	(0.067)	(0.169)	(0.085)	(0.055)
Parent	0.96**	1.02	0.99**	1.04	1.13	1.00	0.59***	1.00	1.25	1.02
Entry	(0.012)	(0.063)	(0.004)	(0.066)	(0.087)	(.)	(0.089)	(.)	(0.410)	(0.255)
Parent	1.00	1.06	1.02	0.96**	0.94***	0.51***	0.64**	0.21***	0.72*	0.93
Exit	(0.035)	(0.064)	(0.034)	(0.013)	(0.015)	(0.097)	(0.105)	(0.074)	(0.112)	(0.086)

Table 6. Occurrence Dependence (OD) Model Estimation (Part 3)

	OD Model For Entry, Logit					OD Model For Exit, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Highest Level of Education *(Less Than High School Diploma)*										
High School	0.99*	0.99	1.00	0.99	0.96**	0.92	0.93	0.87	1.04	0.96
	(0.005)	(0.009)	(0.003)	(0.009)	(0.013)	(0.103)	(0.069)	(0.140)	(0.074)	(0.034)
MA	1.00	0.98*	1.00	0.99	0.97*	0.90	0.87*	0.72**	0.91	0.99
(or equiv.)	(0.005)	(0.008)	(0.003)	(0.007)	(0.012)	(0.066)	(0.050)	(0.073)	(0.049)	(0.031)
Ph.D	1.00	0.99	0.99	0.99	0.97	1.07	0.95	1.39	1.28	1.19
(or equiv.)	(0.010)	(0.016)	(0.003)	(0.013)	(0.020)	(0.423)	(0.316)	(0.264)	(0.286)	(0.362)
Hours Worked, Paid For In Ref. Year *(0)*										
1 to 1,499	1.04***	0.96	1.01**	1.02	1.04	1.03	1.11	0.65*	1.34**	1.04
	(0.009)	(0.046)	(0.006)	(0.027)	(0.038)	(0.167)	(0.131)	(0.140)	(0.138)	(0.063)
1,500 to	1.01	0.94	1.00	0.98	0.99	1.24	1.22	0.69	1.37**	1.10
2,499	(0.008)	(0.044)	(0.004)	(0.025)	(0.036)	(0.210)	(0.143)	(0.162)	(0.145)	(0.070)
2,500 or	1.01	0.93	1.00	0.99	0.99	1.08	1.25	0.57*	1.24	1.06
more	(0.009)	(0.044)	(0.005)	(0.026)	(0.037)	(0.192)	(0.171)	(0.138)	(0.145)	(0.072)
Industry of Main Employer In Ref. Year *(Agriculture)*										
Forestry,	0.97	0.96*	0.97*	0.95*	0.97	1.18	0.72	0.50	0.87	0.98
Logging	(0.015)	(0.018)	(0.015)	(0.022)	(0.047)	(0.420)	(0.190)	(0.227)	(0.159)	(0.082)
Fishing,	0.97	0.97	0.97*	0.98	0.97	1.82*	0.60*	0.90	1.03	0.89
Hunting	(0.015)	(0.033)	(0.014)	(0.037)	(0.049)	(0.428)	(0.130)	(0.313)	(0.257)	(0.070)
Mining,	0.99	0.98	0.98	0.97	0.97	1.12	1.07	1.00	0.88	0.85
Oil, Gas	(0.018)	(0.020)	(0.019)	(0.020)	(0.027)	(0.207)	(0.209)	(.)	(0.208)	(0.090)
Utilities	0.98	0.98	0.97	0.98	0.97	1.00	1.00	1.00	1.00	0.76***
	(0.015)	(0.017)	(0.016)	(0.020)	(0.024)	(.)	(.)	(.)	(.)	(0.052)
Construc-	1.00	1.00	0.97	0.99	1.00	1.43*	0.94	0.99	1.09	0.96
tion	(0.018)	(0.020)	(0.016)	(0.022)	(0.029)	(0.222)	(0.121)	(0.342)	(0.135)	(0.058)
Durables	0.98	0.98	0.97	0.98	1.01	1.22	0.69**	1.05	0.85	1.05
	(0.015)	(0.018)	(0.016)	(0.021)	(0.028)	(0.249)	(0.091)	(0.293)	(0.134)	(0.070)
Non-	0.98	0.97	0.97	0.97	0.98	0.83	0.71*	0.31***	0.86	1.18
durables	(0.015)	(0.016)	(0.016)	(0.020)	(0.029)	(0.229)	(0.119)	(0.106)	(0.136)	(0.098)

Table 6. Occurrence Dependence (OD) Model Estimation (Part 4)

	OD Model For Entry, Logit					OD Model For Exit, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Industry of Main Employer In Ref. Year *(Agriculture) (Continued)*										
Wholesale	0.98	0.98	0.97	0.98	0.98	1.73**	1.19	1.53	1.08	1.23
Trade	(0.016)	(0.019)	(0.017)	(0.022)	(0.028)	(0.334)	(0.172)	(0.595)	(0.188)	(0.129)
Retail	0.99	0.98	0.97	0.98	0.99	1.08	0.89	0.92	0.96	1.05
Trade	(0.016)	(0.017)	(0.016)	(0.020)	(0.027)	(0.160)	(0.110)	(0.272)	(0.103)	(0.059)
Transpor-	0.99	1.00	0.97	1.00	0.99	1.06	0.74*	1.66	0.90	1.06
tation	(0.017)	(0.019)	(0.016)	(0.023)	(0.029)	(0.162)	(0.090)	(0.509)	(0.124)	(0.064)
Finance,	0.98	0.99	0.98	0.99	1.02	1.12	0.83	0.52	1.54	0.95
Insurance	(0.017)	(0.020)	(0.018)	(0.023)	(0.033)	(0.371)	(0.193)	(0.186)	(0.345)	(0.093)
Real Estate,	0.97	0.96*	0.98	0.97	1.00	1.17	1.09	1.34	1.20	1.19
Leasing	(0.015)	(0.017)	(0.018)	(0.020)	(0.031)	(0.313)	(0.181)	(0.390)	(0.228)	(0.143)
Scientific,	1.00	1.02	0.99	1.00	1.01	0.91	0.80	1.11	0.98	0.97
Technical	(0.018)	(0.022)	(0.018)	(0.022)	(0.029)	(0.141)	(0.114)	(0.294)	(0.140)	(0.071)
Business	1.00	0.99	0.97	1.01	1.00	1.29	0.85	1.33	1.00	0.98
	(0.021)	(0.024)	(0.017)	(0.030)	(0.033)	(0.223)	(0.109)	(0.476)	(0.122)	(0.058)
Education	0.98	0.98	0.97	0.99	0.97	1.01	1.12	0.65	1.00	0.97
	(0.017)	(0.017)	(0.017)	(0.021)	(0.026)	(0.227)	(0.188)	(0.192)	(0.194)	(0.077)
Healthcare	0.98	0.99	0.97	0.98	0.96	1.09	1.00	0.86	0.99	0.99
	(0.016)	(0.017)	(0.016)	(0.020)	(0.025)	(0.173)	(0.130)	(0.200)	(0.125)	(0.055)
Inform-n,	1.00	1.00	0.97	1.01	0.99	1.23	1.07	0.82	1.11	1.00
Recreation	(0.028)	(0.027)	(0.016)	(0.030)	(0.034)	(0.256)	(0.159)	(0.271)	(0.166)	(0.072)
Accomm-n,	0.98	0.99	0.98	1.00	1.00	1.25	1.00	0.60	1.18	0.96
Food Serv.	(0.017)	(0.021)	(0.017)	(0.025)	(0.036)	(0.191)	(0.122)	(0.190)	(0.124)	(0.052)
Other Serv.	0.98	1.00	0.97	1.02	1.01	1.05	0.76*	0.86	1.05	0.93
	(0.016)	(0.021)	(0.016)	(0.028)	(0.034)	(0.153)	(0.097)	(0.207)	(0.125)	(0.049)
Public	0.98	0.98	0.97	0.97	0.98	1.06	1.02	0.43*	0.83	1.07
Adminis-n	(0.017)	(0.018)	(0.016)	(0.019)	(0.025)	(0.222)	(0.174)	(0.156)	(0.126)	(0.111)

Table 6. Occurrence Dependence (OD) Model Estimation (Part 5)

	OD Model For Entry, Logit					OD Model For Exit, Logit				
Threshold	LICO	MBM	0.5LIM	LIM	1.5LIM	LICO	MBM	0.5LIM	LIM	1.5LIM
Frequency of Past Poverty Experiences *(Using Corresponding Poverty Thresholds)*										
LICO	1.03					0.89**				
	(0.023)					(0.036)				
MBM		1.02					0.92**			
		(0.032)					(0.028)			
1.5 LIM			1.02					0.96		
			(0.020)					(0.077)		
LIM				1.03					0.91***	
				(0.026)					(0.026)	
0.5 LIM					1.03					0.94***
					(0.020)					(0.013)
Proximity of Most Recent Poverty Experience *(Using Corresponding Poverty Thresholds)*										
LICO	1.00					1.02				
	(0.015)					(0.037)				
MBM		1.04					0.99			
		(0.023)					(0.027)			
1.5 LIM			1.00					0.97		
			(0.010)					(0.051)		
LIM				1.02					1.02	
				(0.018)					(0.027)	
0.5 LIM					1.03*					0.97
					(0.015)					(0.016)
N	11707	11476	11859	11410	10193	2660	2891	2508	2957	4174

Exponentiated coefficients; standard errors in parentheses. * p<0.05 ** p<0.01 *** p<0.001

Table 7. Duration Dependence (Hazard) Model Estimation (Part 1)

Threshold	LICO		MBM		0.5LIM		LIM		1.5LIM	
Sex *(Male)*										
Female	1.18	(0.294)	1.23	(0.257)	0.68	(0.322)	1.26	(0.234)	1.10	(0.137)
Years Since Immigration *(Not an Immigrant)*										
Less Than 10	2.05	(1.404)	2.55	(1.388)	1.00	(.)	1.38	(0.795)	1.03	(0.338)
10 to 19	1.14	(0.499)	1.96	(0.723)	0.13*	(0.106)	1.35	(0.516)	0.45**	(0.124)
20 to 29	2.87	(2.539)	1.15	(0.859)	1.00	(.)	1.06	(0.668)	1.54	(0.663)
30 to 39	0.82	(0.593)	1.44	(0.698)	0.83	(0.902)	0.56	(0.235)	1.09	(0.348)
40 or more	3.03	(2.042)	2.75	(1.642)	0.30	(0.257)	2.67	(1.470)	1.51	(0.555)
Age Group, Years *(20 to 29 years old)*										
30 to 39	0.63	(0.286)	0.84	(0.298)	0.54	(0.508)	0.68	(0.228)	0.71	(0.142)
40 to 49	0.58	(0.252)	0.74	(0.249)	0.36	(0.301)	0.66	(0.203)	0.77	(0.154)
50 to 59	0.68	(0.331)	0.67	(0.245)	0.38	(0.371)	0.59	(0.194)	0.75	(0.156)
60 or more	1.04	(0.518)	0.66	(0.271)	0.28	(0.276)	0.79	(0.287)	0.54**	(0.128)
Area Population *(500,000 and Higher)*										
100,000-499,999	1.22	(0.376)	0.81	(0.219)	0.53	(0.324)	0.98	(0.244)	0.87	(0.130)
30,000-99,999	1.12	(0.433)	0.65	(0.214)	0.55	(0.482)	0.74	(0.212)	0.60**	(0.103)
15,000-29,999	1.66	(1.538)	1.28	(0.706)	3.33	(3.932)	1.14	(0.541)	1.23	(0.352)
0 to 14,999	3.13	(3.040)	1.15	(0.559)	13.23	(21.435)	1.50	(0.552)	1.16	(0.378)
Rural Area	3.20**	(1.168)	1.09	(0.280)	1.39	(0.728)	0.91	(0.222)	0.64**	(0.097)
Had A Child Before Age 20 *(Had Not)*										
Teen Parent	0.35**	(0.138)	0.53*	(0.149)	5.63*	(4.412)	0.57*	(0.143)	0.77	(0.154)
Province of Residence *(Ontario)*										
Quebec	1.62	(0.544)	1.69*	(0.451)	0.46	(0.264)	1.50	(0.342)	1.25	(0.196)
East Coast Provs.	1.45	(0.541)	1.06	(0.250)	1.20	(0.880)	1.29	(0.268)	1.46*	(0.221)
MB and SK	0.61	(0.235)	1.06	(0.299)	0.25*	(0.170)	1.10	(0.264)	1.62**	(0.264)
Alberta	2.24	(0.925)	1.51	(0.510)	0.61	(0.395)	1.49	(0.461)	1.86**	(0.376)
BC	0.86	(0.329)	0.92	(0.273)	3.45	(2.774)	1.07	(0.298)	1.02	(0.206)
Calendar Year Indicators *(2005)*										
2006	1.86	(0.629)	2.15**	(0.550)	5.40*	(4.202)	1.18	(0.282)	1.18	(0.208)
2007	1.15	(0.379)	1.09	(0.279)	2.20	(1.246)	1.08	(0.241)	0.88	(0.147)
2008	0.88	(0.300)	0.83	(0.192)	1.90	(1.074)	1.03	(0.229)	1.00	(0.151)
2009	1.00	(.)	1.00	(.)	1.00	(.)	1.00	(.)	1.00	(.)
2010	1.00	(.)	1.00	(.)	1.00	(.)	1.00	(.)	1.00	(.)
Marital Status *(Single, Never Had Spouse)*										
Married	0.82	(0.259)	1.33	(0.365)	2.20	(1.732)	1.13	(0.272)	1.22	(0.206)
Single, Had Spouse	0.74	(0.287)	1.62	(0.513)	1.42	(1.051)	1.17	(0.326)	0.84	(0.189)
Household Transitions In Reference Year *(Various)*										
Spouse Entry	0.55	(0.541)	2.24	(1.977)	0.54	(0.680)	2.67	(2.339)	0.48	(0.325)
Spouse Exit	0.46	(0.267)	0.56	(0.259)	0.13*	(0.119)	0.90	(0.360)	0.99	(0.334)
Child Entry (no births)	1.36	(1.031)	0.73	(0.396)	1.00	(.)	1.17	(0.653)	1.06	(0.376)
Child Exit	1.18	(0.441)	0.58	(0.167)	3.06	(1.944)	0.70	(0.196)	0.82	(0.206)
Parent Entry	1.00	(.)	1.00	(.)	1.00	(.)	0.48	(0.546)	9.65*	(8.752)
Parent Exit	0.45	(0.278)	0.46	(0.231)	1.01	(1.245)	0.94	(0.470)	0.47*	(0.167)

Table 7. Duration Dependence (Hazard) Model Estimation (Part 2)

Threshold	LICO		MBM		0.5LIM		LIM		1.5LIM	
Highest Level of Education *(Less Than High School Diploma)*										
High School	1.14	(0.394)	0.95	(0.243)	1.39	(0.917)	0.81	(0.183)	0.90	(0.137)
MA (or equiv.)	1.91*	(0.512)	0.99	(0.205)	0.71	(0.379)	0.97	(0.173)	0.93	(0.120)
Ph.D (or equiv.)	4.78	(5.141)	5.69	(5.348)	1.00	(.)	27.79*	(37.597)	3.69*	(2.155)
Hours Worked, Paid For In Ref. Year *(0)*										
1 to 1,499	1.63	(0.990)	2.70	(1.589)	1.56	(1.382)	4.12**	(1.924)	0.76	(0.301)
1,500 to 2,499	1.98	(1.192)	3.34*	(1.980)	2.13	(1.863)	4.64**	(2.242)	0.88	(0.345)
2,500 or more	2.13	(1.336)	3.15	(1.935)	1.70	(1.530)	3.79**	(1.887)	1.02	(0.425)
Industry of Main Employer In Ref. Year *(Agriculture)*										
Forestry, Logging	8.33	(15.166)	1.98	(1.753)	1.32	(1.130)	2.32	(1.862)	2.27	(1.379)
Fishing, Hunting	1.00	(.)	1.00	(0.565)	1.00	(.)	2.62	(1.376)	0.61	(0.369)
Mining,Oil, Gas	6.78	(11.012)	3.64	(2.815)	1.00	(.)	2.95	(3.048)	0.94	(0.580)
Utilities	1.00	(.)	1.00	(.)	1.00	(.)	1.00	(.)	0.63	(0.674)
Construction	1.40	(0.734)	0.97	(0.406)	1.29	(1.102)	0.99	(0.371)	1.17	(0.361)
Durables	2.87	(1.891)	1.23	(0.574)	0.82	(0.797)	1.39	(0.610)	1.17	(0.367)
Non-durables	1.57	(1.381)	2.07	(1.481)	2.97	(3.263)	2.44	(2.293)	1.38	(0.488)
Wholesale Trade	2.76	(2.153)	1.42	(0.846)	1.00	(.)	1.03	(0.534)	1.62	(0.560)
Retail Trade	1.26	(0.577)	1.05	(0.374)	2.79	(2.487)	0.71	(0.230)	1.17	(0.348)
Transportation	0.93	(0.537)	0.61	(0.272)	9.15*	(9.520)	0.79	(0.313)	1.61	(0.559)
Fin., Insurance	0.76	(0.573)	0.56	(0.332)	51.51*	(80.508)	0.50	(0.290)	1.42	(0.592)
RE, Leasing	1.15	(1.058)	3.25	(2.716)	17.61	(26.526)	2.10	(1.574)	1.73	(0.784)
Scientific, Tech.	1.34	(0.712)	0.34**	(0.140)	0.46	(0.406)	0.46	(0.192)	0.99	(0.358)
Business	4.03**	(1.977)	1.11	(0.485)	8.91*	(8.107)	1.03	(0.375)	0.68	(0.237)
Education	1.40	(1.164)	1.87	(1.127)	1.49	(1.538)	0.65	(0.280)	1.35	(0.506)
Healthcare	6.70***	(3.844)	1.18	(0.409)	4.75	(4.080)	1.39	(0.536)	1.06	(0.327)
Inf-n, Recreation	1.61	(0.797)	1.62	(0.742)	0.70	(0.725)	1.27	(0.548)	1.07	(0.384)
Acc-n, Food Serv.	2.85*	(1.404)	1.17	(0.433)	11.03*	(12.220)	1.55	(0.579)	1.08	(0.342)
Other Services	1.22	(0.746)	1.30	(0.601)	1.52	(1.496)	0.96	(0.392)	1.62	(0.525)
Public Adm-n	2.50	(2.867)	2.71	(2.550)	0.04*	(0.059)	0.53	(0.447)	1.27	(0.567)
Duration of Poverty Spell *(One Year; Using Corresponding Poverty Thresholds)*										
2 years	0.23	(0.234)	0.55	(0.369)	1.06	(0.917)	0.42	(0.289)	2.96***	(0.935)
3 years	0.20	(0.214)	0.41	(0.278)	2.18	(2.490)	0.41	(0.293)	1.48	(0.484)
4 years	0.20	(0.223)	0.17*	(0.135)	1.00	(.)	0.17*	(0.126)	1.30	(0.482)
5 years	1.00	(.)	1.00	(.)	1.00	(.)	1.00	(.)	1.00	(.)
N	10632		11087		10235		11258		12992	

Exponentiated coefficients; standard errors in parentheses. * p<0.05 ** p<0.01 *** p<0.001