

The Housing Situation and Needs of Immigrants in the Canadian Metropolitan
Areas of Toronto, Vancouver and Montreal

by Sibeï Li

(8613057)

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Supervisor: Professor Gilles Grenier

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Abstract

Access to adequate, suitable and affordable housing is an essential step in immigrant's integration. With data from the Public Use Individual Microdata File of the 2011 National Household Survey, I examine the relationship between six selected housing condition indicators and the socio-economic characteristics of households, comparing the immigrants to the Canadian-born in Toronto, Montreal and Vancouver. The housing condition indicators that are selected include whether the household owns or rents, whether the household pays more than 30% of its monthly income on rent, whether the household uses debt or mortgage to finance a house, whether the household pays more than 30% of its monthly income on mortgage, whether the household lives in a house that needs to be repaired, and whether the household lives in suitable housing given its size. The related characteristics of households include the places of birth of the immigrants, the census metropolitan area where people live, the education level, age, gender, household size, employment status, years since immigration, and the presence of kids in a census family. In general, immigrants from Hong Kong and China are the most likely to have adequate and suitable housing conditions and immigrants from Latin America and Africa are the least likely to be in such situation.

Introduction

Immigration has long been a key driver of Canadian population and economic growth. Access to adequate, suitable and affordable housing is an essential step in immigrant's integration (Canada Mortgage and Housing Corporation (CMHC), 2014). Housing condition is not only an important indicator of the quality of life, but it also affects health, social interactions, community participation, economic activities, and general well-being (Engeland and Lewis, 2005). According to the recently released 2016 census data, immigrants account for 22% of the total population in Canada (Statistics Canada, 2017). The major regions of origin of immigrants have also changed over time. The top source countries of immigrants who landed in Canada before 1971 were European countries and the United States, while the major source countries for newcomers now are Asian countries. The arrival of these immigrants can have significant effects on the social and economic diversity of Canadian cities as well as on the housing market of those cities (Carter, 2005). Although under the current immigration policy, many of those arriving in Canada have considerable wealth or the potential to earn high salaries, it is still important to recognize that not all immigrants arrive with wealth and many of them tend to live in bad housing conditions. The increasing number of immigrants, both rich and poor, is creating diversity and challenges for the housing market and urban planners (Carter, 2005).

Studying the housing conditions of immigrant helps us to understand how immigrants' housing behavior influence the Canadian housing market and socio-economic structures. As a culturally diverse country, Canada accepts immigrants from all around the world. Immigrants tend to settle in the large cities of Canada, the three largest metropolitan centres of Toronto, Vancouver and Montreal being the most popular destinations. In 2011, 33% of the newcomers lived in Toronto, 16% of them lived in Montreal, and 13% of them lived in Vancouver (CMHC,

2014). However, each of these three large Census metropolitan areas (CMAs) has a particular historical background of immigration and a distinct geographical patterns of immigrant settlement. In each metropolitan center, immigrants confront a locally-specific set of housing opportunities and challenges (Hieber et al., 2006).

Based on data from the 2011 National Household Survey, this paper aims to examine the relationship between some socio-economic and ethnic characteristics of immigrants and some housing condition indicators, also comparing immigrants to Canadian-born people among the three major CMAs. In the next section, I summarize the previous literature on this topic. Then, I present the methodology and the data selection process used in this paper. After setting up the models, there is an interpretation of the results and the conclusion ends the paper.

Literature Review

The settlement condition of immigrants has been studied not only by economists but also by other disciplines. Therefore, there are studies from various fields which focus on different aspects of the housing conditions of immigrants. As times have changed, the composition of immigrants' countries of origin has varied significantly, which also has led to changes in the outcomes of immigrant groups in terms of housing characteristics. I organize the literature mainly in chronological order and summarize the relevant background, useful research methods and their contribution to this field.

Since access to homeownership is perceived as a path to improve social status and economic security by new arrivals, the study of tenure provides a fundamentally important perspective on immigrants' life in the Canadian society. In addition, home ownership can be seen as a symbolic affirmation of social membership. Ray and Moore (1991) argued that immigrants

are a heterogeneous group and that they participate in housing markets in ways that reflect cultural values, time of immigration, socio-demographic characteristics, housing market conditions and perceptions of the dominant society about immigrants and their status in society. They estimated a model of the home ownership patterns of immigrants and examined the multidimensional relationship between immigration and homeownership in Canada with data from the 1986 census. Canada experienced increasing rates of homeownership in the 1980s as many industrial countries did. It was a time during which middle class values that define the benefits of homeowners were commonly adopted in the North American society. However, immigrants came with different cultural backgrounds and varying levels of resources. Ray and Moore divided immigrants into separate national, ethnic and racial categories and they modeled the impact of different variables and their interactions on the odds ratio of owning as opposed to renting. They pointed out that most immigrant groups showed a strong propensity to live in owner-occupied housing, among which the southern Europeans in particular were ten percentage points more likely to own than the Canadian born. There was a low propensity among the Caribbean to live in owned housing. Besides, the propensity to live in owned housing was influenced by year of immigration. The highest rates of ownership were for the pre-1968 and 1968-1975 years of arrival groups since those groups were considered to have sufficient capital (Mata, 1975) and to have adjusted to their new society. Immigrants with higher levels of education were also more likely to live in owner-occupied housing. However, the situation was reversed among Southern European immigrants since there were larger percentages of Southern European immigrants who had lower education and lived in owner occupied housing than there were for those who had tertiary education. Ray and Moore (1991) found that Southern Europeans had high odds ratio to own a house in all regions except British Columbia, where Asians had a

much higher odds ratio. They found that the primary effects on owning a house usually relate to age rather than to years since immigration. Although there were limitations in the data that they used, Ray and Moore (1991) set up a basic analytical direction for the subsequent research on this topic.

Balakrishnan and Wu (1992) did a similar study on home ownership patterns and ethnicity in some Canadian cities based on the 1986 Public Use census data. They examined homeownership by ethnicity, which is different from the demographic and social-economic influences that Ray and Moore (1991) studied. They also examined inter-metropolitan difference in home ownership by ethnicity. They used a logit model to assess the effects of independent variables. They first classified the factors that might be related to homeownership into three broad categories: demographic, socio-economic, and cultural/social psychological. The demographic variables include age, marital status, and household composition. The socio-economic factors include income and other correlated variables such as education and occupation. The cultural or social psychological factors include relative social status, perceived and actual discrimination, family ties and kinship networks. For the demographic and socio-economic factors, they obtained similar findings to those of other studies such as Ray and Moore's. Particularly, they found that foreign-born people are more likely to own a home (65%) than the native born (55%). However, the gap may partly be due to differences in demographic and social economic factors. As for ethnicity, they noticed considerable differences. The highest home ownership rate was among Italians at 82.9%. The Chinese were ranked second with a rate of 74.1%. The Jewish home ownership rate was 63.4% which was slightly higher than the average of 58%. The aboriginal people had the lowest home ownership rate at only 16.8%, and the blacks also had a low rate at 34%. However, they were not able to demonstrate that discrimination in

housing markets had negative effects on home ownership rates. Though Balakrishnan and Wu provided the idea and methodology of examining the effects of cultural and social psychological factors on home ownership, they did not have enough data on ethnicity. Also, they ignored the housing condition of immigrants who rented.

More recently, Wayland (2007) studied the housing needs of immigrants and refugees in Canada based on census data from 2001 to 2006 and on the 2001 Longitudinal Study of Immigrants to Canada (LSIC). According to 2001 census data, 36% of recent immigrant households were living in unacceptable housing conditions or in core housing need. As explained by CMHC, core housing need is defined as living in crowded housing, living in poor condition and spending over 30% of a household gross income on housing (CMHC, 2016). Wayland hypothesized that three ranges of barriers affected newcomers' housing experiences in Canada. The primary barriers consist of the unchangeable characteristics of a person, including race, ethnicity and culture, gender, age, and disability. The secondary barriers consist of those that can change over time and include income, household size and type, experience and knowledge of the Canadian housing system. The third barriers are macro-level barriers which consist of broader contextual factors that are generally not within a person's ability to change. Factors such as housing market structures, housing policies and socio-cultural structures are macro-level barriers. Wayland found that affordability is the biggest housing-related barrier faced by newcomers, and that there is wide variation in housing outcomes when broken down by immigration categories. It became more challenging to find a suitable house for immigrants than it was for the native-born population in the 1990s (Wayland, 2007 p15-17). However, the core housing needs decreased with length of time in Canada, and homeownership rates increased. Among the new immigrants, those in the family class found houses more easily and were more likely to live in multiple-

family dwellings than skilled workers and refugees, perhaps to save money. Since the 1980s, more than half of the arrivals have been in the economic class (Carter, 2005). After the first six months, nearly 20% of the newcomers were living in owner occupied homes, and 4% of their housing were mortgage free. Seventy four percent of the newcomers rented and among the renters, 50% reported that they could afford their rent payments or that they had enough savings to support them. Visible minorities generally were less likely to be home owners (Mendez, Hiebert and Wyly 2006). In Toronto, compared with immigrants who arrived in the 1990s, data from 2001 indicate that recent immigrants enjoy more progressive housing strategies, which means that they are much more likely to spend more than half of their income on rent than Canadian-born or earlier immigrants. However, the new immigrant homeowners and renters had lower income levels in general.

The case of Vancouver, which is characterized by its strong connections to Asia, and a high ratio of business immigrants (Wayland, 2007), is interesting since it the most popular immigration destination for Asians. The six most important countries of birth of immigrants in Vancouver are China, Taiwan, India, Hong Kong, the Philippines and South Korea (Justice, 2004). Immigrants have to pay high rent or high mortgage but generally have lower income levels. LSIC data indicated that 88% of newcomers were tenants, among which 74.2% spent more than 30% of their income on rent. Four percent of new immigrants owned a home with mortgage and 1% owned without a mortgage (Rose, Germain and Ferreira 2006). Since some newcomers spend an extremely high portion of income on housing, Wayland (2007) made a reasonable guess that they might supplement their incomes with savings.

Moos and Skaburskis (2010) observed the housing condition of immigrants in Vancouver and found that a lot of them arrived with established wealth and continued earning income

outside of Canada to support a higher level of housing consumption than their locally earned income would suggest. Some immigrants even have no income in Canada but live in very expensive houses. The wealthy migrants seem to disrupt the positive relationship between income and housing consumption (Moos and Skaburskis, 2010) The authors used multivariate regression models of housing consumption in Vancouver to examine the relationship between household income and housing demand based on the public-use micro data files on households from the 1981 to the 2001 censuses. First, they estimated the user cost of housing by adding all the opportunity costs of capital, property taxes, maintenance cost, and risk premium of owning versus renting, minus expected capital gains and applicable tax deductions (Creen and Hendershott, 1993; Himmelberg, Mayber and Sinai, 2005). They chose household's long-run income potential, temporary income, proportion of income derived from investments, household size, age, gender and presence of children of primary maintainer as explanatory variables. The results showed that recent immigrants exhibited higher housing consumption than the rest of the population with a higher user cost of housing for both 2001 and 1981. For 2001, the recent immigrants had lower income elasticity of housing demand which means that they were not sensitive to income change in response to housing consumption. A possible explanation is that they came with established wealth or unreported income from outside of Canada. Hiebert et al. (2008) documented that immigrants draw on wealth and /or income transferred to Canada or save high proportions of their income in Canada as renters in order to purchase housing quickly and with low mortgage payments. Moos and Skaburskis (2010) also showed that the housing consumption of recent immigrants has become less tied to their local labour market participation. When removing Asian immigrants, income was still very important in explaining housing consumption. As summarized by Wayland (2007), there are more Asian immigrants in

Vancouver than in other CMAs, which means that income is still an important factor predicting housing consumption in other CMA cities.

Though there are a lot of immigrants who arrive with considerable levels of wealth due to Canadian immigration policy which favors business immigrants, it is still important to recognize that not all immigrants are in such a situation (Carter, 2005). Most new comers without a home are illegal immigrants or refugees and many have no family or friends in Canada. There are also a lot of immigrants who are unable to work in the occupation in which they were trained because their education or prior experience is not recognized in Canada (Ballay and Bulthuis, 2004). Those groups of immigrants might find themselves living in inadequate housing circumstances. Those immigrants with core housing needs are more numerous in the central Toronto and highest among renters (CMHC, 2003). It is also found that the immigrants from Africa, the Caribbean and parts of Latin America had the highest core housing needs (Carter, 2005)

Carter (2005) considers the housing demand generated by immigrants. First, immigrant households tend to be larger than non-immigrant households. Especially in Toronto, immigrants are more likely to live in multiple family households than non-immigrants, with a ratio of 6% compared to 1% (CMHC, 2003; Murdie & Teixeira, 2003). This phenomenon tends to result in greater bedroom requirements for immigrant households than for non-immigrant households (Carter, 2005). Second, new immigrants usually live in low-cost housing when they first arrive. Over time, they tend to move to better housing when they find better paying jobs. Furthermore, immigrants usually prefer to live in clusters or concentrations of their own ethnic or racial groups. This changes the social mix in the areas as immigrants are likely to increase residential segregation in the housing market (Ray & Moore, 1991; Ley, 2003; Carter, 2005).

Since immigrants are potential buyers and renters of housing, their choices of location and type of housing can have considerable impact on local housing markets (Carter, 2005). According to Burnley and Murphy (1994) and Ley et al. (2001), there has been a high correlation between immigration levels and housing prices in Toronto over a long period of time. Ley (2003) pointed out that low-income immigrants are more likely to live in crowded housing conditions than the native Canadians in the same way that they will take jobs that are avoided by native people. In addition, new arrivals are attracted to live in their ethnic clusters. This trend is likely to increase housing prices in the local markets, which can crowd out people who do not belong to their ethnic clusters. Besides influencing the market prices, the expansion of affluent immigrants can create social and racial animosity in the housing market. For example, many immigrants entered some neighbourhoods by purchasing small and old houses and then demolished them which has negative effects on some neighbourhoods (Carter, 2005).

To summarize, after reviewing the previous studies, we can identify three patterns of housing condition for immigrants compared to that of native Canadian people that have evolved over time. The first period includes the 1980s and before during which most immigrants had lower homeownership ratios than native Canadian people, with the exception for those from Southern Europe. The second period is the 1990s, during which the overall labour market performance and economic well-being of immigrants deteriorated so that it was more difficult for most immigrants to find suitable housing. The third period is since the 2000s. There are many wealthy immigrants whose housing conditions do not match with their local incomes, but there are also many others who live in poor housing condition when they first arrive in Canada. This raises the question as to what is the current settlement condition of immigrants from different sources countries in the major Canadian CMAs. This paper is devoted to examining the current

relationship between housing conditions of immigrants and their social and ethnic characteristics in the three major Canadian CMAs of Toronto, Vancouver and Montreal.

Data and Model

Data Description

The data used in this paper was retrieved from the Public Use individual microdata File of the 2011 National Household Survey. This file contains a sample size representing 2.7% of the target population, for a total of 887,012 observations. The sample data was modified and recoded in order to better serve the research objectives. The description of the data, with sample sizes and mean values of the variables, is shown in table 1. First, I selected only individuals who are primary household maintainers, who are Canadian citizens or permanent residents, and who live in Toronto, Vancouver, or Montreal. Also, the dwelling information of the National Household Survey only focuses on their primary residences of the households. After the selection, only 121,636 observations are left in the sample. The reason for using primary household maintainers is to identify the demographic and socioeconomic characteristics, such as age, gender, and place of birth of the individuals who are in charge of a household. Then I created a dummy variable IMMI which equals 1 for immigrants and equals to 0 for non-immigrants; I also created dummy variables for each individual places of birth including Canada, the U.S. and Europe, Latin American countries, China, Hong Kong, the Philippines, India, and Oceania and all other countries (Table1). Since most immigrants settle in large CMAs and that the housing markets in large CMAs are different from those in other regions, the study is restricted to the population in the three largest CMAs of Toronto, Vancouver, and Montreal. Dummy variables are created to represent the population that lives in each of the CMAs. For

education levels, I made dummy variables which include no high school degree or above degree, no high school degree but has other trades, apprenticeship or college degree, with high school degree and other trades, apprenticeship or college degree, with above high school degree but below bachelor degree, with bachelor degree, equivalence or above, with master degree, and with doctoral degree. Other dummy variables indicating employment status, presence of kids in a census family, and gender are used. The continuous variables include age and age squared of the household maintainer, years since immigration, and household size.

The variables indicating housing conditions include whether the household owns or rents, whether the percentage of monthly income paid for rent or mortgage is greater than 30%, the presence of mortgage, whether there is a need to be repaired or not, and the housing suitability which means whether the dwelling has enough bedrooms for the size and composition of the household. In addition, missing data where information for a variable was not available were dropped in some regressions. After imposing all the exclusions, there are 121,636 observations left in the data set. To be convenient, I made age, income, and years of immigration to be continuous variables using the mid-point of the categories in the original data set. There are some missing values for the variables of age, household size, years since immigration, and the presence of kids in a census family. For the presence of kids, I include all of these missing values into the household that has no kids since it is relative a large number of missing value. The sample size of each variable is not exactly the same due to a small number of missing values, but this should not have big impacts on the regression results due to the large sample size used in this study. Among all the primary household maintainer in the three large cities, 43.5% of them are immigrants which is higher than the overall percentage of immigrant population in Canada which is 22%. This fact coincides with previous studies that immigrants tend to live in large

cities. There is higher probability that people pay more than 30% of their income on rent (41%) than they pay more than 30% of their income on mortgage if they purchase a house (24%).

Model Selection

A simple linear probability model is used to examine the relationship between housing conditions and household characteristics since the variables that indicate housing conditions are dummy variables. The basic form of linear probability model is

$$P(y = 1|x) = \beta_0 + \beta_1x_1 + \dots + \beta_kx_k$$

We have $y=1$ to denote if the event that the dependent variable represent happens, and 0 if the event does not happen. The coefficients are interpreted as the change in the probability of dependent variable to take the value one after changing the independent variable by one unit if the independent variable is a continuous variable, or by changing the independent variable from 0 to 1 if it is a dummy variable. There are some previous studies that have used a probit model or a logit model as an alternative to the linear probability model. Compared to the probit or logit model, the linear probability model is simpler to interpret, so I present the result of a linear probability model in this paper, but I also estimated a probit model and found that the results were similar.

Dependent Variables

Housing is tied to the concepts of affordability, adequacy, and suitability (Gasic, 2013). There are three major types of indicators which are used in this study to define the housing conditions, for a total of six different dependent variables. The first type is whether people live in an owner-occupied house or a rented house. The dummy variable, $OWN=1$ is defined as living in owned house and 0 for people who rent. The second type of indicators examines how people finance their housing. Three variables are used. For people who live in owner-occupied houses,

the variable PRESMORTG indicates whether there is a mortgage or not. According to CMHC (2016), affordable housing costs should be less than 30% of a household's total income before tax. Therefore, people who pay high cost on rent are defined as those who rent and spend more than 30% of their monthly before tax income on rent and other monthly payments to secure the shelter. Similarly, people who pay high cost on owned dwelling are those who own and spend more than 30% of their monthly before tax income on mortgage payments and other monthly payments made by owner households to secure the shelter. The third type of dependent variable indicate whether the physical housing conditions are good or not. Two variables are used. The variable CONDITION takes the value one if a household's dwelling needs to be repaired and the value 0 if not. Suitability is the other indicator which directly measures whether a household lives in a suitable condition accommodations if its dwelling has enough bedrooms for the size and composition of the household.

Independent Variables

Many factors can affect housing conditions. From the literature review section, it can be concluded that at least four types of factors can affect immigrants' housing decisions and home patterns. First, it is broadly agreed that immigrants from different places of birth or ethnic groups with their unique cultures and economic conditions usually have different behaviours regarding housing conditions in Canada. Most of the previous studies included the places of birth if the immigrants and it is also an important indicator in this paper. Second, socioeconomic characteristics such as age, sex, employment status, years since immigration and education level usually have significant influence and are added to the basic model. Third, the housing markets in the three large metropolitan areas are different, so the dummy variables of Toronto, Vancouver and Montreal are included. Fourth, household size and the presence of kids in a

household may also have influence on the housing condition and are also being added to the basic models.

Since we want to compare the housing conditions between immigrants and Canadian-born people, people who are born at Canada are set as the reference group. Therefore, I first estimate a basic model that is set to examine the relationship between housing condition indicators and only the place of birth, which can be written as $\hat{y} = \beta_0 + \beta_1 POB$, in which \hat{y} is one of the dependent variables that were described above, and POB is a vector showing the places of birth.

An extended model adds the other independent variables. Among the three CMAs dummy variables, Montreal is treated as reference group. For education, people who have less than high school degrees are set as the reference. Therefore, the reference group is defined as people who are natives for the basic group, and who are Canadian female, have lower than high school degree, not employed and have no kids for the extended models. The extended model is

$$\hat{y} = \beta_0 + \beta_1 POB + \beta_2 TOR + \beta_3 VAN + \beta_4 SCH + \beta_5 AGE + \beta_6 AGE2 + \beta_7 SEX_M + \beta_8 EMPLOY + \beta_9 PKIDS + \beta_{10} HHSIZE + \beta_{11} YSM.$$

The place of birth (POB) and education level (SCH) are vectors of variable representing multiple groups. Finally, all regressions are estimated with robust standard errors.

Results

Table 2 present the percentage mean value of each of the housing condition indicators, for immigrants and non-immigrants respectively, and for Toronto, Vancouver, and Montréal. In general, immigrants have higher homeownership rates than non-immigrants, with the exception of those in Montreal who have lower homeownership rates. Also, the differences in

homeownership between immigrants and non-immigrants are relatively large in Vancouver and Montreal, but they are in the opposite directions. For Vancouver, the homeownership rate of immigrants is about 6.4 percentage points higher than that of non-immigrants, while for Montreal, the homeownership rate of immigrants is about 7.8 percentage points lower than that of non-immigrants. The home ownership rate of immigrants and non-immigrants are very similar in Toronto (69.9% and 69.3%). In general, immigrants (42.7%) are more likely to pay high rents than non-immigrants (39.8%) in all three cities. The difference between immigrants and non-immigrants is relatively larger in Montreal than that in the other two cities (42.8% for immigrants, 38.1% for non-immigrants in Montreal; 42.3% for immigrants and 41.2% for non-immigrants in Toronto; 43.8% for immigrants and 42.3% for non-immigrants in Vancouver). The immigrants and non-immigrants who own are about equally likely to use mortgage (61.1% for immigrants and 61.8% for non-immigrants). In addition, for all three cities, immigrants who own showed higher probability of paying more than 30% of their monthly income on mortgage. Compared to people who live in Montreal, both immigrants and non-immigrants, people who live in Toronto and Vancouver are more likely to pay high mortgage. Immigrants are less likely to live in dwellings that need to be repaired than non-immigrants, except for those who live in Montreal. Regarding housing suitability, immigrants in general live in less suitable houses. It might be because immigrant households tend to be larger than those of Canadian-born household maintainers (Hieber et al., 2006), so the immigrant's households are more likely to live in a crowded situation.

There are six sets of regressions, one for each dependent variable, and each set contains the basic model and the extended model. There are small differences on the number of observations of the basic model and the extended model due to missing values of some of the

variables. The results are presented in tables 3 to 8. The first regression in table 3 examines the relationship between home ownership and household's characteristics. In the basic model, compared to natives, immigrants from the U.S. and Europe, China, Hong Kong, India, and Oceania and all other countries are more likely to own a house than natives, while those from Latin America, Africa, the Middle East, and the Philippines are less likely to own a house. Among those who are more likely to own, people born in Hong Kong are 23.5 percentage point (PP) and people born in China are 12.7 PP more like to own than the natives, those two countries ranking the highest and second highest. At the opposite, immigrants from Africa rank the lowest with being 19.3 PP less likely to own than Canadian-born people. However, after controlling for the other explanatory variables in the extended model, immigrant from all places of birth become less likely to own than in the basic model. A possible explanation might be that immigrants tend to have relatively higher education levels than Canadian-born people and that more educated people are more likely to own. Therefore, after controlling for the education level, immigrants are less likely to own than Canadian-born people. Compared to people who live in Montreal, people in Toronto are 7.8 PP more likely to own and immigrants in Vancouver are 5.7PP more likely to own. As already noted, people with higher education levels are more likely to own than those without degrees. For example, people with bachelor degree or equivalence degree are 17.1 PP more likely to own than those without degrees, which is the highest coefficient among different levels of degrees. The probability of owning dwelling increases by 1.9 PP as the household maintainer's age increased by one year but the influence becomes smaller as age increases since there is a negative effect of age square on homeownership rate. In addition, the probability of owning increases by 8.2 PP as the household size increases by one member. Also, the longer the immigrants have been in Canada, the more likely for them to own a house. The

probability of owning increases by 0.6 PP with each additional year living in Canada. Male household maintainers are 5.9 PP more likely to own than female ones. People who are currently employed have an increased probability of owning by of 10.7 PP compared to those who are currently not employed. Finally, the presence of kids in a census family increased the probability of owning by 4 PP.

The second regression in table 4, estimated only with the sample of those who rent, examines the relationship between the probability of paying more than 30% of monthly income on rent and the characteristics of the households. In the basic model, immigrants from most places are more likely to pay more than 30% of their income on rent than non-immigrants, except those from the Philippines and India, which is consistent with the result from table 2. People from the Middle East countries are the group with the highest coefficient, being 15.6 PP more likely to pay high rent than Canadian-born people. People born in the Philippines are 11 PP less likely to pay high rent, which is the group with the lowest coefficient. After controlling the other characteristics of households, immigrants from all places of birth become more likely to pay high rent than Canadian-born people. For the people from those places of birth that are more likely to pay high rent in the basic model become far more likely to pay high rent after controlling the explanatory variables. As we can see, people with higher education are less likely to pay high rent than those without degrees and immigrants usually have higher education than Canadian-born people. After controlling for education level, immigrants are more likely to pay higher rent than Canadian-born people. For the influence of the different CMAs, people who live in Toronto are 4.4 PP more likely to pay high rent than those who live in Montreal, and people live in Vancouver are 7.3 PP more likely to be in the same situation. Regarding schooling, the bachelor degree has the largest impact. People with bachelor degree are 5.7 PP less likely to pay

high rent than those without a degree. The probability of paying high rent decreases by 1.1 PP as the household maintainer's age increases by one year and the effects of age is stronger as the age increases. The larger the household size, the less likely for a household to pay high rent. In addition, as years since immigration increase by one year, there is 0.3 PP decrease in the probability of paying high rent. Compared with Canadian-born people and immigrants who arrived Canada for long time, recent immigrants are more likely to pay high rent. Male household maintainers are 3.1 PP less likely to pay high rent than female ones. The currently employed people are 26.2 PP less likely to pay high rent. Finally, Households with kids are 6.1 PP more likely to pay high rent than those without kids.

The third regression, shown in table 5, is estimated only with the sample of those who own their house. It examines the relationship between the probability of using debt or mortgage and the characteristics of households. In the basic model, people born in the U.S. and Europe are the least likely to use mortgage, with a probability of 15.4 PP less than Canadian-born people. People born in Hong Kong and China are also less likely to use mortgage. At the opposite, people born in the Philippines are 18.1 PP more likely to use mortgage than Canadian-born people. Immigrants born in Latin America countries, India and Middle East are also more likely to use mortgage than Canadian-born people. After controlling for the other characteristics of households, the likelihood of using mortgage for people born outside of Canada increases. Only immigrants from Hong Kong are still 6.0 PP less likely to use mortgage than Canadian-born people. As noted in the literature review (Moos and Skaburskis, 2010), people from Hong Kong might have arrived with a large amount of wealth to support their living in Canada. In general, people with higher education level are less likely to use mortgage than those with lower educations level. Since immigrants have higher education than Canadian-born people, that may

explain the increasing likelihood of using mortgage for people born outside Canada after controlling for education. Compared to people who live in Montreal, people who live in Toronto are 1.7 PP less likely to use mortgage, and people who live in Vancouver are 1.2 PP less likely to use mortgage. The coefficient of age and age square indicates that the probability of using mortgage decreases as age increases. In addition, the probability of using mortgage increased by 1.6 PP for each additional person in a household. It might be because that larger household size would require a larger dwelling which may increase the cost of the dwelling as well as the necessity of using mortgage. As years since immigration increase, immigrants are less likely to use mortgage. It might be because their cumulated capital in Canada has increased. Male household maintainers are 2.8 PP less likely to use mortgage than female ones. The currently employed people are 13.2 PP more likely to use mortgage than those who are not currently employed. A possible reason might be that people who have no job also have difficulty getting access to a mortgage. Lastly, a household with kids are 3.1 PP more likely to use mortgage than those with no kids.

Continuing the study of the situation regarding mortgage, the fourth regression in table 6 looks at the relationship between the probability of paying more than 30% of monthly income on mortgage and the characteristics of households. The results of the basic model show that immigrants from all countries are more likely to pay high mortgage than Canadian-born people. The households that pay more than 30% of their income on mortgage are defined as being “at risk” by CMHC since they are likely to lose their investment or home if there is any significant interruption in their income (Hieber et al., 2006). People who were born in the Middle East and China are among the most likely to pay high mortgage. People born in the Middle East countries are 23.2 PP more likely to pay high mortgage than Canadian-born people, and those from China

are 22.2 PP more likely to be in the same situation. Middle East countries and China are fast developing countries and this might have an impact on people's behaviour, which makes them more likely to take risks in their housing transactions. In contrast, the immigrants who have the lowest likelihood of paying high mortgage are those who were born in the U.S. and Europe which are relatively more developed countries. A possible explanation might be that those people behave more like Canadian-born people since they all have similar western culture. After controlling for other characteristics, immigrants from all places become even more likely to pay high mortgage than Canadian people. As noticed before, immigrants have higher average level of education than Canadian-born people and people with higher education level are less likely to pay high mortgage than those with lower education level. Therefore, immigrants become more likely to pay high mortgage than Canadian people after controlling for education level.

Compared to people who live in Montreal, people who live in Toronto are 6.3 PP more likely to pay high mortgage, and people who live in Vancouver are 6.9 PP more likely to pay high mortgage. This is mainly because that the housing prices in Toronto and Vancouver are higher than that in Montreal. The probability of paying high mortgage declines by 0.7 PP for each one year increase of the household maintainer's age and the influence tend to increase as household get older. Larger households are less likely to pay high mortgage. For the immigrants, the probability of paying high mortgage decreases by 0.4 PP for each year spent in Canada. Male household maintainers are 4.5 PP less likely to pay high mortgage than that of female ones. People who are currently employed are 8.6 PP less likely to pay high mortgage than people who are currently not employed. Finally, the census family with kids are 3.6 PP more likely to pay high mortgage than those family without kids.

The fifth regression in table 7 examines the relationship between the probability that a household's dwelling needs to be repaired and the characteristics of the household. In the basic model that regressed on place of birth, only people born in Latin America and Africa are more likely to live in the house that needs to be repaired than Canadian-born people. People born in all the other places are less likely to live in the house that needs to be repaired. After controlling for other characteristics of the household in the extended model, all people born outside of Canada become less likely to live in the house that needs to be repaired than Canadian-born people. A possible explanation could be that immigrants tend to live in relatively newer dwelling than Canadian people do, since they came to Canada recently. The probability of living in a house that needs to be repaired increases by 0.1 PP for each year after immigration. The longer the time the immigrants spent in Canada, the more likely they are to live in an older house. Compared with people who live in Montreal, people who live in Toronto are 4.1 PP less likely to live in a house that needs to be repaired, and people who live in Vancouver are 3.9 PP less likely to be in such situation. Education does not have a major economic impact on a household's housing condition. The probability for a household to live in a dwelling that needs to be repaired increases by 0.2 PP as the household maintainer's age increases by one year and the impact of age is decreasing. That probability increases by 0.6 PP as the household size increases by one member. Male household maintainers are 2.8 PP less likely to live in a house that needs to be repaired since it may be easier for a male to get the house repaired than for a female. In addition, people who are currently employed are 0.8 less likely to live in a house that needs to be repaired. Finally, the household with kids are 2.5 PP more likely to live in a house that needs to be repaired.

The last regression in table 8 considers the connection between housing suitability and the characteristics of the household. Housing suitability refers to whether there are enough

bedrooms for the size and composition of the household. The results of the basic model show that all people born outside of Canada are less likely to live in a suitable house than Canadian-born people, which is consistent with the result of table 2 that in general immigrants live in less suitable houses than non-immigrants. People born in the Philippines are 25.2 PP more likely to live in unsuitable houses than Canadian-born people. After controlling for the other explanatory variables, people born in the U.S. and Europe, Latin America and Hong Kong become less likely to live in a suitable house than Canadian-born people. The coefficients of the rest of the places of birth remain almost the same as those of the basic model. Compared to people who live in Montreal, people who live in Toronto are 0.7 PP less likely to live in suitable houses, and people who live in Vancouver are 0.1 PP more likely to live in suitable houses. As expected, people with higher education level are more likely to live in suitable houses than those with no degree. The probability to live in suitable houses increases by 0.4 PP as the age of household maintainer increases by one year and the influence of age is decreasing. A household becomes 7.9 PP less likely to live in suitable house with each additional person living in it. The longer the immigrants have lived in Canada, the more likely they are to live in a suitable house. A household with a male household maintainer is 4.7 PP more likely to live in a suitable house than one with a female household maintainer. People who are currently employed are 4.4 PP more likely to live in a suitable house than those who are currently not employed. The household with kids are 5.3 PP more likely to live in a suitable house than those without kids.

To summarize the results, education level is a key driver that influences home ownership rates, probability of paying high rents, presence of mortgage and the probability of paying high mortgage. When holding education level constant in the regressions, the magnitudes and sometimes the sign of the coefficients for different places of birth change. Comparing people

from different places of birth, we notice that people who were born in the U.S. and Europe have very similar or sometimes better housing conditions than Canadian-born people, mainly because they have similar western economic and cultural background. Immigrants from China and Hong Kong also have better housing conditions in general, especially in terms of home ownership, probability of paying high rents and presence of mortgage. As mentioned, immigrants from Hong Kong and China may come with established wealth to support their living in Canada. People born in the Middle East and India sometimes have better conditions and sometimes they have worse conditions than Canadian-born. People born in the Middle East are better in terms of living in the house that does not need to be repaired, but they are worse than Canadian-born people in terms of homeownership, probability of paying high rents and high mortgage, and the presence of mortgage. People born in India are better in terms of home ownership rates, and the probability of paying high rents, probability of living in a house that needs to be repaired, and they are worse than Canadian-born people in terms of the presence of mortgage, the probability of paying high mortgage, and housing suitability. People born in Latin America, Africa, and the Philippines usually live in worse conditions than Canadian-born People. The results for the influence of the age, gender, and years since immigration on housing conditions are as expected. A household's housing conditions usually get better as the household maintainer's age increases since there is more cumulated capital for the household as they have work for a longer time. Male household maintainers in general have better living conditions than female household maintainers. Immigrants who have been in Canada for a long time behave more similarly with Canadian-born people. Furthermore, immigrant households are usually larger and are more likely have kids, which might influence the suitability of the house. For Example, in Asian cultures, sharing bedrooms among kids or family members is normal. Also, Asian households often have

more than one family, which is rare in among Canadian households. In summary, the socio-economic characteristics of a household plays an important role in influencing the housing conditions.

Conclusion

This paper summarized the previous studies on the housing conditions of immigrants in Canada and examined the relationship between some selected housing condition indicators and the socio-economic characteristics of the households using a linear probability model. The data are selected from the PUMF of 2011 National Household Survey which covers the immigrants and non-immigrants (total of 121,636 observations) who are primary household maintainers and live in Toronto, Vancouver or Montreal. There are six different housing condition indicators. I compared the housing behaviours of immigrants born in different places. Some results are very similar to those of the previous studies and some results are different. Also, there are some limitations of this study.

First, similarly with Balakrishnan and Wu (1992), Carter (2005) and Mendez, Hiebert and Wyly (2006), I found that age, gender, household size, years since immigration and employment status have significant influences on the housing conditions. I also found that immigrants from Latin America and Africa usually live in worse housing conditions than Canadian-born people, which is similar to the results of Carter's (2005). Along with the results in Wayland (2007), I found that Montreal receives a higher portion of refugees and lower rates of business immigration which results that people who live in Montreal are more less likely to own and to live in suitable housing than those who live in Toronto and Vancouver. Also, people who live in Montreal are less likely to pay high rents and high mortgage than those who live in

Toronto and Vancouver. It might be because that the housing prices and costs in Montreal are lower than they are in Toronto and Vancouver.

Second, some results are different from those of previous studies. Ray and Moore (1991) found that immigrants from Southern Europe were the wealthiest group and that they usually lived in better owner-occupied houses than Canadian-born people, even those who were less educated. Balakrishnan and Wu (1992) likewise found that Italians, Chinese and Jewish immigrants had the highest homeownership rates in Canada. However, the results of my study demonstrate that people from Hong Kong and China are now the most likely to live in good housing conditions and that people from the U.S. and Europe are similar to Canadian-born people. This difference reflects that the source regions for immigrants to Canada have shifted away from Europe to Asia (CMHC, 2014); especially, immigrants from China and Hong Kong have seen large improvements in their housing conditions in Canada.

Finally, there are some limitations in the data that are available for the study. First, the data used in this study is not the most up-to-date since the 2016 census has recently been completed and that the results will be available soon. Also, we don't have recent updated data similar to Longitudinal Study of Immigrants to Canada (LSIC). The LSIC data was done in 2001, which is too old for the study. Another important limitation is that we don't have the information on the savings that immigrants brought from their home countries as well as on their foreign income. The Canadian income is sometimes a poor indicator of the financial situation of the immigrants. For example, there are some households in the data set whose rent or mortgage to monthly income ratio is greater than 1, which is clearly unreasonable. Moreover, it is difficult to explain why people born in China, the Philippines, India and Oceania and all other countries become more likely to live in suitable housing after controlling for all characteristics of

households, while people born in other countries become even less likely to live in suitable housing compared to the basic model. Therefore, this study could be improved by using more up-to-date data and more information about immigrants' situation in their places of birth.

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Table1: Definitions and mean values of dependent and explanatory variables

Variable	Definition	Observations	Mean
PRIHM	Primary Household Maintainer	320,433	0.386
IMMI	Immigrant	121,636	0.435
Dependent Variable			
OWN	Own a dwelling	121,243	0.646
HIGH_RENT	People who spend more than 30% of income on rent	42,963	0.410
PRESMORTG	Whether regular monthly mortgage or debt payment are made for the dwelling	78,191	0.615
HIGH_MTG	People who spend more than 30% of income on mortgage	78,280	0.240
CONDITION	Need Repair	121,636	0.303
NOS	Housing suitability	120,555	0.911
Explanatory Variables			
POB_CA	Born in Canada (Reference Group)	121,636	0.563
POB_WST	Born in the U.S. and Europe	121,636	0.139
POB_LTA	Born in Latin America Countries	121,636	0.061
POB_AFR	Born in Africa	121,636	0.035
POB_ME	Born in middle east countries	121,636	0.028
POB_CH	Born in China	121,636	0.040
POB_HK	Born in Hong Kong	121,636	0.017
POB_PHI	Born in Philippines	121,636	0.024
POB_IN	Born in India	121,636	0.032
POB_OTHER	Born in Oceania and all other countries	121,636	0.057
TOR	Live in Toronto	121,636	0.439
VAN	Live in Vancouver	121,636	0.197
MON	Live in Montreal (Reference Group)	121,636	0.365
SCH_NO	No high school or above degree (Reference Group)	121,636	0.139
SCH_OD	No high school degree but has other trades, apprenticeship or college degree	121,636	0.266
SCH_HIGH	With high school degree and other trades, apprenticeship or college degree	121,636	0.061
SCH_NOB	With above high school degree but below bachelor	121,636	0.156
SCH_B	Bachelor degree, equivalence or above	121,636	0.283
SCH_M	Master degree	121,636	0.009
SCH_D	Doctoral degree	121,636	0.072
AGE	Age	121,480	50.889
AGE2	Age ²	121,480	2842.881
HHSIZE	Number of people in a household	121,570	2.584
YSM	Years since immigration	120,972	10.599
SEX_M	Male	121,636	0.606
EMPLOY	Currently employed	121,636	0.671
PKIDS	Presence of kids in the census family	121,630	0.451

Notes: Variables with * are dummy variables, reflect the information of primary household maintainers, which code 1 for yes and 0 for no.

Table2: Percentage mean values of the dependent variables for immigrants and non-immigrants, Toronto, Vancouver, and Montreal

Variable	Total		Toronto		Vancouver		Montreal	
	Immigrant	Non-immigrant	Immigrant	Non-immigrant	Immigrant	Non-immigrant	Immigrant	Non-immigrant
Ownership Rate	65.98	63.48	69.92	69.34	71.06	64.67	51.1	58.85
Paying High Rent	42.72	39.75	42.29	41.22	43.76	42.3	42.84	38.11
With Mortgage	61.07	61.83	62.78	61.19	57.99	60.29	58.96	63.04
Paying High Mortgage	30.52	18.78	30.61	21.01	33.3	22.33	26.67	15.35
Need Repair	29.08	31.18	27.71	30.22	26.8	30.28	34.69	32.23
Housing Suitability	85.15	95.66	84.29	94.76	86.75	95.35	85.97	96.42

Table3: Regression of home ownership (OWN), basic regression on place of birth, and extended regression on other characteristics of household

VARIABLES	(1) Basic OWN	(2) Extended OWN
Place of birth		
Born in Canada (Reference Group)	Ref.	Ref.
Born in the U.S. and Europe	0.0954*** (0.00388)	-0.189*** (0.00615)
Born in Latin America Countries	-0.118*** (0.00611)	-0.333*** (0.00637)
Born in Africa	-0.193*** (0.00789)	-0.380*** (0.00738)
Born in Middle East countries	-0.0804*** (0.00869)	-0.284*** (0.00847)
Born in China	0.127*** (0.00637)	-0.0893*** (0.00676)
Born in Hong Kong	0.235*** (0.00756)	-0.0684*** (0.00853)
Born in Philippines	-0.0536*** (0.00942)	-0.350*** (0.00926)
Born in India	0.117*** (0.00714)	-0.210*** (0.00744)
Born in Oceania and all other countries	0.0334*** (0.00598)	-0.240*** (0.00652)
CMA		
Montreal (Reference Group)		Ref.
Toronto		0.0777*** (0.00294)
Vancouver		0.0569*** (0.00368)
No degree (Reference Group)		Ref.
Schooling		
No high school degree but has other trades, apprenticeship or college degree		0.0638*** (0.00417)
With high school degree and other trades, apprenticeship or college degree		0.0940*** (0.00605)
With above high school degree but below bachelor		0.128*** (0.00468)
Bachelor degree, equivalence or above		0.171*** (0.00417)
Master degree		0.154*** (0.0123)
Doctoral degree		0.161*** (0.00568)
Age		0.0186*** (0.000506)
Age^2*		-0.0108*** (0.000489)
Household size		0.0824*** (0.00130)

Years since immigration		0.00643*** (0.000142)
Male		0.0578*** (0.00271)
Currently employed		0.107*** (0.00334)
Presence of kids in the census family		0.0401*** (0.00371)
Constant	0.635*** (0.00183)	-0.445*** (0.0124)
Observations	121,243	120,444
R-squared	0.025	0.198

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

The coefficient and standard error of Age² are multiplied by 100 for convenience since they were very small number

Table4: Regression of the probability of paying more than 30% of their monthly income on rent (HIGH_RENT), basic regression on place of birth, and extended regression on other characteristics of household, sample of those who rent

VARIABLES	(1) Basic HIGH_RENT	(2) Extended HIGH_RENT
Place of birth		
Born in Canada (Reference Group)	Ref.	Ref.
Born in the U.S. and Europe	0.0339*** (0.00797)	0.126*** (0.0107)
Born in Latin America Countries	0.0225** (0.00884)	0.119*** (0.0105)
Born in Africa	0.0190* (0.0107)	0.129*** (0.0113)
Born in Middle East countries	0.156*** (0.0131)	0.251*** (0.0135)
Born in China	0.0563*** (0.0150)	0.110*** (0.0149)
Born in Hong Kong	0.0929*** (0.0304)	0.198*** (0.0296)
Born in Philippines	-0.110*** (0.0135)	0.0668*** (0.0140)
Born in India	-0.0835*** (0.0152)	0.0756*** (0.0156)
Born in Oceania and all other countries	0.0520*** (0.0109)	0.183*** (0.0120)
CMA		
Montreal (Reference Group)		Ref.
Toronto		0.0443*** (0.00521)
Vancouver		0.0729*** (0.00653)
Schooling		
No degree (Reference Group)		Ref.
No high school degree but has other trades, apprenticeship or college degree		-0.0134* (0.00687)
With high school degree and other trades, apprenticeship or college degree		-0.0291*** (0.0110)
With above high school degree but below bachelor		-0.0407*** (0.00817)
Bachelor degree, equivalence or above		-0.0571*** (0.00741)
Master degree		-0.0492* (0.0283)
Doctoral degree		-0.0444*** (0.0108)
Age		-0.0107*** (0.000800)
Age^2*		0.00732*** (0.000793)
Household size		-0.0877*** (0.00256)
Years since immigration		-0.00318*** (0.000275)
Male		-0.0308***

Currently Employed		(0.00467)
		-0.262***
		(0.00551)
Presence of kids in the census family		0.0611***
		(0.00720)
Constant	0.398***	1.041***
	(0.00309)	(0.0193)
Observations	42,963	42,590
R-squared	0.007	0.114

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The coefficient and standard error of Age² are multiplied by 100 for convenience since they were very small number

Table5: Regression of the probability of using debt or mortgage (PRESMORT), basic regression on place of birth, and extended regression on other characteristics of household, sample of those who own

VARIABLES	(1) Basic PRESMORTG	(2) Extended PRESMORTG
Place of birth		
Born in Canada (Reference Group)	Ref.	Ref.
Born in the U.S. and Europe	-0.154*** (0.00506)	0.0954*** (0.00763)
Born in Latin America Countries	0.151*** (0.00721)	0.233*** (0.00825)
Born in Africa	0.0772*** (0.0110)	0.140*** (0.0107)
Born in Middle East countries	0.123*** (0.0103)	0.158*** (0.0104)
Born in China	-0.0257*** (0.00840)	0.0379*** (0.00838)
Born in Hong Kong	-0.146*** (0.0119)	-0.0604*** (0.0120)
Born in Philippines	0.181*** (0.0101)	0.206*** (0.0108)
Born in India	0.124*** (0.00839)	0.153*** (0.00895)
Born in Oceania and all other countries	0.0841*** (0.00715)	0.113*** (0.00789)
CMA		
Montreal (Reference Group)		Ref.
Toronto		-0.0173*** (0.00366)
Vancouver		-0.0119*** (0.00448)
Schooling		
No degree (Reference Group)		Ref.
No high school degree but has other trades, apprenticeship or college degree		0.00119 (0.00534)
With high school degree and other trades, apprenticeship or college degree		-0.00230 (0.00755)
With above high school degree but below bachelor		-0.00269 (0.00589)
Bachelor degree, equivalence or above		-0.0220*** (0.00534)
Master degree		-0.128*** (0.0169)
Doctoral degree		-0.0344*** (0.00713)
Age		-0.00890*** (0.000649)
Age^2*		-0.00201*** (0.000613)
Household size		0.0161*** (0.00162)
Years since immigration		-0.00299*** (0.000176)
Male		-0.0277*** (0.00332)

Currently Employed		0.132***
		(0.00470)
Presence of kids in the census family		0.0305***
		(0.00465)
Constant	0.618***	1.016***
	(0.00233)	(0.0170)
Observations	78,191	77,767
R-squared	0.032	0.243

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

The coefficient and standard error of Age² are multiplied by 100 for convenience since they were very small number

Table6: Regression of the probability of paying more than 30% of monthly income on mortgage (HIGH_MTG), basic regression on place of birth and extended regression on other characteristics of household, sample of those who own

VARIABLES	(1) Basic HIGH_MTG	(2) Extended HIGH_MTG
Place of birth		
Born in Canada (Reference Group)	Ref.	Ref.
Born in the U.S. and Europe	0.0446*** (0.00425)	0.186*** (0.00797)
Born in Latin America Countries	0.134*** (0.00780)	0.254*** (0.00915)
Born in Africa	0.0865*** (0.0106)	0.234*** (0.0112)
Born in Middle East countries	0.232*** (0.0115)	0.344*** (0.0119)
Born in China	0.222*** (0.00829)	0.295*** (0.00877)
Born in Hong Kong	0.0950*** (0.0107)	0.197*** (0.0114)
Born in Philippines	0.0554*** (0.0107)	0.184*** (0.0112)
Born in India	0.123*** (0.00873)	0.264*** (0.00959)
Born in Oceania and all other countries	0.200*** (0.00745)	0.312*** (0.00843)
CMA		
Montreal (Reference Group)		Ref.
Toronto		0.0632*** (0.00341)
Vancouver		0.0694*** (0.00426)
Schooling		
No degree (Reference Group)		Ref.
No high school degree but has other trades, apprenticeship or college degree		-0.0215*** (0.00529)
With high school degree and other trades, apprenticeship or college degree		-0.0290*** (0.00736)
With above high school degree but below bachelor		-0.0552*** (0.00581)
Bachelor degree, equivalence or above		-0.107*** (0.00520)
Master degree		-0.125*** (0.0128)
Doctoral degree		-0.139*** (0.00666)
Age		-0.00652*** (0.000672)
Age^2*		0.00124** (0.000628)
Household size		-0.0595*** (0.00152)
Years since immigration		-0.00367*** (0.000179)
Male		-0.0454***

Currently Employed		(0.00322)
		-0.0858***
		(0.00435)
Presence of kids in the census family		0.0366***
		(0.00419)
Constant	0.188***	0.741***
	(0.00187)	(0.0180)
Observations	78,280	77,854
R-squared	0.030	0.097

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

The coefficient and standard error of Age² are multiplied by 100 for convenience since they were very small number

Table7: Regression of the probability that a household's dwelling need to be repaired (CONDITION), basic regression on place of birth and extended regression on other characteristics of household

VARIABLES	(1) Basic CONDITION	(2) Extended CONDITION
Place of birth		
Born in Canada (Reference Group)	Ref.	Ref.
Born in the U.S. and Europe	-0.0305*** (0.00388)	-0.0461*** (0.00644)
Born in Latin America Countries	0.0116** (0.00572)	-0.0203*** (0.00681)
Born in Africa	0.0150** (0.00744)	-0.0228*** (0.00804)
Born in Middle East countries	-0.0263*** (0.00789)	-0.0537*** (0.00846)
Born in China	-0.0179*** (0.00676)	-0.0333*** (0.00740)
Born in Hong Kong	-0.00451 (0.0102)	-0.0220** (0.0109)
Born in Philippines	-0.0411*** (0.00848)	-0.0682*** (0.00913)
Born in India	-0.0781*** (0.00698)	-0.102*** (0.00785)
Born in Oceania and all other countries	-0.0193*** (0.00576)	-0.0457*** (0.00670)
CMA		
Montreal (Reference Group)		Ref.
Toronto		-0.0405*** (0.00315)
Vancouver		-0.0385*** (0.00383)
Schooling		
No degree (Reference Group)		Ref.
No high school degree but has other trades, apprenticeship or college degree		-0.0112*** (0.00424)
With high school degree and other trades, apprenticeship or college degree		0.0227*** (0.00644)
With above high school degree but below bachelor		0.00969** (0.00490)
Bachelor degree, equivalence or above		0.0120*** (0.00438)
Master degree		0.0169 (0.0145)
Doctoral degree		0.0197*** (0.00615)
Age		0.00219*** (0.000511)
Age^2*		-0.00398*** (0.000488)
Household size		0.00577*** (0.00144)
Years since immigration		0.00127*** (0.000148)
Male		-0.0283*** (0.00282)

Currently Employed		-0.00771**
		(0.00353)
Presence of kids in the census family		0.0252***
		(0.00407)
Constant	0.312***	0.327***
	(0.00176)	(0.0130)
Observations	121,636	120,769
R-squared	0.002	0.011

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1

The coefficient and standard error of Age^2 are multiplied by 100 for convenience since they were very small number

Table8: Regression of the housing suitability (NOS), basic regression on place of birth, and extended regression on other characteristics of household

VARIABLES	(1) Basic NOS	(2) Extended NOS
Place of birth		
Born in Canada (Reference Group)	Ref.	Ref.
Born in the U.S. and Europe	-0.0112*** (0.00193)	-0.105*** (0.00408)
Born in Latin America Countries	-0.113*** (0.00433)	-0.142*** (0.00470)
Born in Africa	-0.141*** (0.00609)	-0.154*** (0.00588)
Born in Middle East countries	-0.163*** (0.00702)	-0.164*** (0.00672)
Born in China	-0.116*** (0.00533)	-0.114*** (0.00540)
Born in Hong Kong	-0.0485*** (0.00637)	-0.0902*** (0.00658)
Born in Philippines	-0.252*** (0.00864)	-0.232*** (0.00819)
Born in India	-0.175*** (0.00668)	-0.135*** (0.00664)
Born in Oceania and all other countries	-0.184*** (0.00516)	-0.170*** (0.00530)
CMA		
Montreal (Reference Group)		Ref.
Toronto		-0.00740*** (0.00168)
Vancouver		0.00102 (0.00201)
Schooling		
No degree (Reference Group)		Ref.
No high school degree but has other trades, apprenticeship or college degree		0.0136*** (0.00252)
With high school degree and other trades, apprenticeship or college degree		0.0218*** (0.00351)
With above high school degree but below bachelor		0.0326*** (0.00278)
Bachelor degree, equivalence or above		0.0461*** (0.00257)
Master degree		0.0585*** (0.00803)
Doctoral degree		0.0501*** (0.00349)
Age		0.00369*** (0.000276)
Age^2*		-0.00249*** (0.000254)
Household size		-0.0786*** (0.00120)
Years since immigration		0.00285*** (9.35e-05)
Male		0.0468*** (0.00158)
Currently Employed		0.0441*** (0.00216)

Presence of kids in the census family		0.0533*** (0.00285)
Constant	0.956*** (0.000780)	0.920*** (0.00760)
Observations	120,555	119,797
R-squared	0.063	0.181

Robust standard errors in parentheses*** p<0.01, ** p<0.05, * p<0.1
The coefficient and standard error of Age^2 are multiplied by 100 for convenience since they were very small number