The Rate of Labour Market Assimilation of Canadian Immigrants and the Incidence of Transfer Payment Receipt: A Cross-Sectional Analysis

by

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Critics of Canada's immigration policy have argued that current immigration policy in conjunction with relatively generous social safety and insurance schemes attract immigrants who become a drain on Canada's public coffers, particularly among the more recent immigrant cohorts. In other words, a certain proportion of immigrants are not assimilating into the Canadian labour market and consequently become participants in social programs,

> In 1994.....listed welfare costs for Family Class [sponsored] immigrants whose sponsors had failed to live up to their commitments, at $700-million annually. This amount perhaps has now increased to a billion-dollar annual bill...[1]

Similarly, the perceived crisis in the United States led to the enactment of welfare reform laws that restricted means-tested social assistance programs to American citizens.[2] Then Commissioner of the Immigration and Naturalization Service, Leonard Chapman stated that, "[the US] spends millions every month supporting people who are not suppose to be here."[3] Accordingly, the disproportionate share of immigrant participation in the social welfare rolls had a significant fiscal drain on some immigrant-receiving states.[4]

The effects of Canada's tax-transfer schemes are two-fold. First, redistribution to low income families attract less-skilled, lower quality immigrants. Income levels at or above Canada's official poverty line are comparably better than social economic conditions in several developing countries. Thus, Canada's social programs have a 'magnetic' effect that lowers the average quality of the immigrant stock, with obvious implications on Canada's fiscal purse.[5] Second, Canada's redistributive policies detract entry by those highly skilled potential immigrants since relatively high average tax rates in Canada result in lower human capital returns relative to the source country.[6] Using cross-sectional survey data, this paper seeks to examine whether immigrants do in fact have higher participation rates in Canada's Social Assistance and Employment Insurance programs than do

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[1] Diane Francis, "Federal policy alarms reader: annual immigration target makes matters worse," National Post, Je 12/01, p.C3.
[2] George Borjas, Heaven's Door, (Princeton: Princeton University Press, 1999), p.105.
[3] Leonard Chapman quoted in Julian Simon, The Economic Consequences of Immigration 2nd Edition, (Ann Arbor: The University of Michigan Press, 1999), p.105.
[4] Ibid.
[5] See Borjas, 1999.
[6] Ibid.

observationally equivalent native-born Canadians. Further, this paper will examine how these participation rates vary across immigrant cohorts.

Empirical Findings:

Empirical studies have attempted to shed light on this contentious issue by analysing quasi-panel data based on the annual labour force and consumer finance surveys. A recent study conducted by Crossley, McDonald and Worswick found that observationally equivalent immigrant and native-born men generally do not exhibit a higher probability of benefit receipt.[7] Furthermore, their study indicated that more recent male immigrant cohorts do not have a higher probability of benefit receipt than do preceding cohorts. However, these results are not robust. In an earlier study, Baker and Benjamin found that observationally equivalent immigrants were less likely to participate in social assistance and employment insurance programs initially; however, that participation rises in years since arrival. Moreover, they found that more recent cohorts have higher participation rates than do preceding cohorts, *ceteris paribus*.[8] This result is consistent with Borjas' findings that successive immigrant cohorts are more likely to receive social assistance and that incidence increases with years since migration to the United States.[9] Conversely, Marr conducted a recent study regarding the incidence of EI claims by both males and females and found that EI claims by immigrants exhibit an 'inverted-U' pattern.[10] Marr suggested that upon arrival, immigrants have a lower probability of EI receipt since they are initially ineligible for EI benefits without Canadian labour market experience and have little knowledge about benefit entitlement. However, during the labour market adjustment period, immigrants have a higher probability of receipt than comparable native born individuals; however, incidence subsequently declines as immigrants obtain steady employment. A 1995 study by Lui-Gurr using micro-data files examined welfare receipt among immigrant classes in British

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[7] See Crossley et al, "Immigrant Benefit Receipt Revisited: Sensitivity to the Choice of Survey Years and Model Specification," Journal of Human Resources 36(20) 2000.

[8] See Baker & Benjamin, "The Receipt of Transfer Payments by Immigrants to Canada," The Journal of Human Resources, 30(4) 1995.

[9] George J. Borjas & Lynette Hilton, "Immigration & the Welfare State: Immigrant Participation in Means-Tested Entitlement Programs," Quarterly Journal of Economics 111 (May) 1996: 575-604.

[10] See Bill Mar & Pierre Siklos, "Immigrant Class and the Use of Unemployment Insurance by Recent Immigrants in Canada: Evidence from a New Data Base, 1980 to 1995." International Migration Review 33(3) 1999: 561-593.

Columbia between 1989 and 1991. The study concluded that foreign-born and native-born alike share the same probability of receipt, that more recent cohorts were not more likely to receive EI and SA than preceding cohorts, and lastly, refugees had the highest incidence of benefit receipt among all other subsets.[11] Empirical studies regarding immigrant participation in EI and SA thus far have not reached robust results.

The Data:

This paper attempts to reconcile the immigration debate by analysing more recent stock data using a fixed effects, cross-sectional approach. The data sets are collected from the *Survey of Consumer Finances (SCF), Census Families 1996 Income Year.* 37,396 census families are included in the sample.[12] Slightly over eighteen percent of the census families are immigrant families.[13] Approximately 12.44% of the sample families received SA benefits in 1996. Since Social Assistance eligibility is a function of family size and composition and income sources from all members within that unit, most appropriate measure in estimating the probability of receipt is the census family.[14] Data regarding the probability of EI receipt is collected from the *Survey of Consumer Finances, Individuals With & Without Income, 1997 Income Year.* The sample includes 57,882 working age individuals. The survey is comprised of 6872 foreign born and 51,010 native born individuals. Approximately 9.57% of individuals surveyed received EI benefits in 1997.

Trends in SA Receipt

Cross-year comparisons can be made for a given cohort using Baker and Benjamin's summary data based on the 1986 and 1991 SCF and combing those results with data from the 1996 SCF. Figure 1 provides a cursory glimpse of cross cohort SA participation rates in 1996.[15] On average, immigrants have a 16.1% higher incidence of SA

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[11] Susanna Lui-Gurr, "The British Columbia Experience with Immigrants and Welfare Dependency, 1989," Diminishing Returns, Ed. Don Devoretz (Toronto: C.D. Howe Institute, 1995).

[12] Note: Initially, 112 observations were coded missing in the survey. These missing observations are families with unusually high levels of income, or significant financial losses, or had other unusual characteristics. Since these observations were non-randomly distributed across the native-born subset and immigrant cohort subsets, these observations were included in the estimation

[13] Frequency weights are used to calculate sample proportions. The actual number of immigrant family observations is 4877. For definition of an immigrant family, refer to Variable Descriptions Model 1.

[14] Baker and Benjamin, 1995, p.654. Also, see Variable Descriptions Model 1 for census family definition.

[15] See Appendix, p.1

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receipt than the Canadian control group. With the exception of the earliest cohort, a distinct upward trend in SA receipt occurs for more recent cohorts. Immigrants arriving between 1981 and 1985 exhibit the highest incidence of SA receipt, 79% higher than that of the native born population. Immigrants belonging to the most recent cohort do marginally better than the IMM81_85 cohort, however, this subset has a participation rate 32.8% higher than the overall immigrant average. Immigrants arriving after 1970 exhibit a higher participation rate than the Canadian subgroup. These results correspond with Borjas' findings that more recent immigrant cohorts have a higher likelihood of benefit receipt in the United States.[16] That said, two questions of interest arise. First, to what extent do variations in immigrant quality explain these observed discrepancies in participation rates across cohort (cohort effects)? Second, how does SA participation change over time within a given cohort (assimilation effect)?

The answer to the latter question is clarified by a cross survey comparison of participation rates within a given cohort, as illustrated in Figure 2.[17] It is quite evident that immigrant and non-immigrant incidence of SA receipt increases over time.[18] Generally, between 1985 and 1996, SA receipt increases within a given cohort. One exception, however, is the subset of immigrants that arrive prior to 1956 whose incidence remains constant over this period. Conversely, between 1985 and 1990, the Canadian control group experiences a 9.6 percentage point decline in incidence.[19] A significant increase in SA receipt occurs between 1990 and 1996, across all cohorts. The 1981-1985 immigrant cohort experiences the most dramatic increase in participation, in which the percentage of those receiving Social Assistance increases by 213% from the preceding cohort. Whereas, Canadians exhibit a 28.5% increase in participation rate during this period. Interestingly, the 1981 and 1990 stock data suggest that across subsets, the Canadian control group exhibit a higher proportionality of SA receipt than do their foreign born counterparts. However, this trend is not robust. By 1995, immigrants arriving after 1970 have a higher incidence of receipt, and this differential declines as years since migration increases. This pattern in SA

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[16] George J. Borjas, Heaven's Door (Princeton: Princeton University Press, 1999), p.113.
[17] See Appendix, p.1
[18] See Baker and Benjamin's results, 1995, p. 672. Note that these proportions are taken using weighted sample data. Also note that these are unadjusted proportions, that is, relevant human capital, personal, demographic and geographical characteristics, in addition to economic conditions are not controlled for.
[19] Incidence among the Canadian subgroup declines from 10.4% to 9.4%. For details, refer to Appendix, p.14.

receipt over survey years suggests an assimilation into Social Assistance for every cohort. These results are consistent with Borjas' figures for American immigrants.[20] Borjas suggests that immigrant households may assimilate into public assistance as these households learn about the availability and eligibility of social programs. However, the assimilation hypothesis does not suffice to explain the pronounced increase in SA receipt by the most recent immigrant cohorts. According to the assimilation conjecture, one would expect that earlier cohorts would have a higher incidence of SA receipt, however, the Canadian data suggests the opposite. The rate of assimilation is highest for those immigrants arriving after 1970. It is also interesting to note that immigrants who arrived between 1956 and 1970 consistently experience the lowest incidence of Social Assistance receipt in all three survey years.

Average annual SA receipt is approximately $160 higher per immigrant family than the native born population.[21] Financial support is greatest for the most recent immigrant cohorts. Immigrants arriving after 1985 on average receive $851.90 more than the Canadian control group. Likewise, those immigrants belonging to the Imm81_85 cohort have an average receipt of $632.34 greater than the native born subset. Like participation rates, average receipt increases with more recent cohorts. Those immigrants arriving prior to 1976 have lower average annual SA receipt than do the native born.

Incidence and magnitude of SA receipt corresponds with figures on the proportion of families under the low income measure.[22] Immigrant families have a 12.7% higher incidence of poverty than do native born families.[23] The most recent cohort exhibits the highest rate of poverty, which is double that of the native born. There is also a significant jump in incidence relative to previous cohorts. Those arriving after 1985 have a 63.5% higher poverty rate than those immigrants belonging to the IMM81_85 cohort. Those immigrants who arrived prior to 1976 have a lower incidence of poverty than native born families.

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[20] Borjas, 1999, p.106.
[21] Refer to Appendix, p.2.
[22] For a description of the low income measure, see Variable Descriptions. For details on proportions, refer to Appendix, p. 12.
[23] For the purposes of this paper, poverty is defined as falling below the LIM

Immigration Policy, Changes in Immigrant Characteristics over Time, and Trends in SA receipt across Cohort[24]:

Incidence and magnitude of SA receipt are important in determining the well-being of immigrant families over different stages of the assimilation process. Incidence of SA receipt captures those immigrant family heads that are suffering from either prolonged absence from the labour force or failure to achieve complete earnings assimilation relative to the native born. Immigrant quality explains a significant part of these variations in participation rates between the native and foreign born as well as across immigrant cohorts. Immigrant quality refers to those human capital characteristics, including age, education, and language proficiency that enable immigrants to assimilate into Canadian labour markets. The higher the average level of educational attainment within a given cohort, the lower the incidence of SA receipt. Similarly, the greater the language proficiency in English or French, as proxied by mother tongue, a lower incidence of SA receipt is expected. Lastly, it is expected that the higher the average age at arrival, the higher the incidence of SA receipt since older immigrants tend not to assimilate as well into Canadian labour markets than do younger immigrants, *ceteris paribus*.

Variations in immigrant quality reflect changes in immigration policy over time and may largely explain the trend toward higher participation in Social Assistance among more recent immigrant cohorts. The inception of the Point System in 1967 introduced an assessed immigrant component that regulated entry of immigrants on the basis of human capital characteristics. It is expected that immigrant quality will be higher for those immigrants arriving between 1967 and 1974 relative to immigrants of earlier vintages.[25] Among all the cohorts, immigrants who arrived between 1966 and 1975 have the highest proportion of family head's whose mother tongue is one of Canada's official languages. Over 40 percent of immigrants arriving between IMM71_74 have an English mother tongue.[26] Likewise, the proportion of university graduates increase by 59.4 % for IMM66_70 relative to the preceding cohort.[27] Similarly, a decline in the proportion of immigrants with little or no schooling is also evident over these same cohorts. A slight increase in average age at arrival

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[24] Frequency weights are used to calculate sample proportions. Analytic weights are used to calculate average values of continuous variables. Note that all estimates are weighted estimates.

[25] Changes to the original point structure were introduced in 1974.

[26] Refer to Appendix, p.8-9

occurs.[28] Given these changes in immigration policy and the consequential increase in immigrant quality, not surprisingly, immigrant families who arrived between 1966 and 1970 have an 8.8% lower incidence of SA receipt than the preceding immigrant cohort.

With the economic decline associated with the OPEC oil shock, a 67% decline in the number of assessed immigrants occurred between 1974 and 1978.[29] As a result, immigrant quality declined over this period. Not surprisingly, the proportion of those with a university education falls by 27% between 1975 and 1980.[30] Furthermore, the proportion of those whose native tongue is English declines by 35.1%, while the average age at arrival increases by 13.4%. Given the precipitous decline in immigrant quality over this period, the incidence of SA receipt exhibits an upward trend across cohort. Immigrants that arrived between 1971 and 1975 have an 80% higher participation rate than the previous cohort(Imm66_70). The participation rate increases slightly by 21.6% for immigrants who arrived between 1976 and 1980. The participation rate for immigrants peaks at 21.6% for immigrants who arrived between 1981 and 1985.

It's not until 1993, when the Independent class has greater processing priority, and later in 1996 when the family class is reduced, that the proportion of those with a university degree increases. Immigrants belonging to Imm86_97 have a 38.1% higher proportion of degree holders than the preceding cohort. Conversely, the proportion of those whose mother tongue is either French or English declines, while the average age of arrival increases for the most recent cohort.[31] Interestingly, the incidence of SA receipt is lower for this cohort relative to the preceding one, despite an increase in the proportion of immigrants with a foreign mother tongue and a higher average age at arrival. This may be reflective of the relative importance of education in labour market assimilation. It is interesting to note that the direction of trends in the percentage of immigrant degree holders are exactly opposite trends of immigrant participation in SA.

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[27] Figures for educational attainment across cohort are found in Appendix, p.5-7.

[28] Average Age at Arrival= Avg Age for cohort$_i$- YSM,
    whereby YSM=reference year(1997)-midpoint of cohort

[29] Figure taken from unpublished paper presented by Melissa Panter, "Analysis of the Canadian Point System from 1967 to 2002," in April/02.

[30] The difference is taken between the proportion of immigrants with a university degree for cohort Imm76_80 and Imm71_75.

[31] For figures on average age at arrival, see Appendix, p.9b.

However, it is also interesting to note that despite the lower incidence of SA receipt among the Imm86_97 cohort relative to the preceding one, immigrants belonging to this cohort have the highest average level of SA receipt, over four times the average receipt among immigrants who arrived between 1966 and 1970, suggesting that new immigrant families are considerably poorer than older immigrant vintages.[32] The significant proportion of new immigrant families below the low income measure also supports this conclusion.

Overall, there is a noticeable upward trend in SA participation from 1970 onward, as well as a significant increase in average receipt. Collectively, these figures describing immigrant quality and the incidence and magnitude of SA receipt over time reveal an inverse trend. As immigrant quality increases, a decline in participation occurs, suggesting that changes in immigrant quality over time may be a principal explanation regarding the trends in SA participation among immigrant cohorts.

Trends in Employment Insurance Receipt:

Participation rates in EI over time and across cohorts reveal a very different account. Across survey years, both native and immigrants who arrived before 1965 display a declining trend in participation over all survey years.[33] It's interesting to note that Canadians generally have the highest participation rate in 1985 and 1990 relative to all immigrant cohorts. Participation rates among immigrants who arrived after 1965 exhibit an inverted-U pattern. In 1985 incidence is quite low among the immigrant subsets relative to their native born counterparts. Participation subsequently increases and surpasses Canadian males. Within ten years, incidence falls below that of native born males. To the extent that employment success among immigrants is more sensitive to business cycle downturns than the native born, one can expect that the recession of the early nineties may have likely caused the significant increase in participation among cohorts arriving after 1965. By 1997, participation among all cohorts declines to a rate below that of the Canadian control group. Unlike participation in SA, the largest decline occurs for the most recent immigrant cohorts. Thus, a cursory glance indicates that there is no evidence of assimilation into Employment

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[32] New immigrants is defined as those immigrants belonging to the most recent cohort. Also, note that average receipt among immigrant cohorts is calculated using analytic weights.

[33] Refer to Appendix, p.3-4. Note that 1985 and 1990 figures are provided by Baker and Benjamin, 1995., based on the SCF, Working Age Males 1985, 1990.

Insurance but rather a decline in EI receipt over the twelve year period. In the 1997 cross section, aside from the 1981 to 1985 cohort, participation rates are roughly similar among immigrant cohorts. For each cross-section it is evident that Canadians exhibit higher participation rates than their foreign-born counterparts.

Modeling Incidence of Income Transfer Receipt
Labour Market Outcomes and Income Transfers:

Upon arrival in Canada, immigrants are on average at an earnings disadvantage relative to the comparable native-born due to the absence of Canadian work experience, formal and informal networks, lack of information regarding job opportunities, and in more recent years, the presence of language barriers.[34] During this period of adjustment, immigrants may need assistance in the form of government transfers to adjust to local labour market conditions. Furthermore, to the extent that immigrants are self-selected to achieve desirable labour market outcomes by exerting greater effort than their native-born counterparts, immigrant earnings over time, approach and even exceed those of the native born population.[35] This implies that recipiency rates among immigrants should correspondingly decline with years since migration.[36] This suggests that more recent cohorts may likely exhibit a higher incidence of Social Assistance (SA) receipt, all else equal.

Furthermore, language barriers will have a negative effect on the rate of assimilation in Canadian labour markets. This suggests that all else equal, the absence of fluency in Canada's official languages increase the probability of SA and EI receipt by immigrants.[37] That being the case, this also suggests that as immigrant flows from non-traditional sources increase over time, the probability of receipt by more recent immigrant cohorts will likely increase, all else equal. Conversely, it may be the case that language barriers inhibit access to Canadian social programs due to the lack of information about government assistance.[38] Thus, all else equal, language barriers will reduce the probability of immigrant receipt. The net effect of English or French proficiency is therefore uncertain. Furthermore, the

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[34] Francine Blau, "The Use of Transfer Payments by Immigrants," Industrial and Labor Relations Review 37(2) 1984, p.227.
[35] Ibid.
[36] Ibid.
[37] Francine Blau, 1984, p.228.
[38] Francine Blau, 1984, p.228.

probability of SA receipt is quadratic in age to allow for diminishing or increasing returns to age. Age, as a proxy for experience, is likely to have a negative effect on the probability of SA receipt. Years of formal education will increase assimilation into Canadian labour markets. It is therefore expected that more years of formal schooling will indirectly decrease the probability of SA and EI receipt due to its positive effect on wages.[39]

Eligibility[40]:

Economic need or means-based measures determine SA receipt. The means test compares household expenses, adjusted for family size, to household income and assets. These cash benefits are meant to bring the family up to a minimum standard of living, enough to purchase basic necessities including food, clothing, shelter, utilities, and other household items. Recipients include the disabled, unemployables, widows, single parents and low income individuals that have no alternative means of support. Since family size and composition are an important determinant of needs-based benefits, it is expected that as the size of the household increases, at a fixed earnings level, the need for supplementary income rises. Thus, it is expected that the magnitude of receipt increases in the number of dependents. Furthermore, it is expected that single parent households will have a higher rate of social assistance receipt than two-parent families. Immigrants that enter under the independent class are eligible; however, in some provinces sponsored and nominated relatives are ineligible for income maintenance since it is the responsibility of the sponsor to give shelter and support to immigrant relatives as necessary for a period of up to ten years. Nonetheless, a sponsored immigrant is considered eligible if he or she can show that the sponsor has discontinued income support.

Employment Insurance benefits are meant to provide income relief for those in the labour market that experience a spell of unemployment. Eligibility is based on the number of hours of insurable employment in the 52 week qualifying period prior to the application for benefit entitlement. The minimum required number of hours worked varies by the unemployment rate in the region of residence. Those who are ineligible are the self-employed, those outside the labour force, and those who have already exhausted their

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[39] Francine Blau, 1984, p.228.
[40] Note that Eligibility refers to eligibility criteria set out by the Federal and Provincial Government's in
1996, the reference year for which sample data is drawn.

benefit entitlement. Coverage is also extended to individuals on maternity leave, enrolled in a national training program, work sharing or job training, and individuals in certain self-employed sectors. Immigrants are subject to the same eligibility rules and are entitled to the same coverage as are native-born citizens.

Immigrants are also eligible for other income security benefits, such as the Canada Child Tax Benefit, the Canada/Quebec Pension, Old Age Security and Guaranteed Income Supplement, and Worker's Compensation. However, this study focuses only on Social Assistance and Employment Insurance since these income maintenance programs provide an insight regarding relative labour market outcomes between the native and the foreign born.

Model Specification:

Social Assistance Receipt:

The probability of SA receipt by any member within the census family is a function of the aforementioned personal, family, demographic, regional, and human capital characteristics:

$$\Pr(SA_i>0 \mid \bullet) = \gamma_1 age_i + \gamma_2\, age_i^{\,2} + \beta X_i + \theta S_i + \Phi E_i + \lambda I_i + \psi L_i + \alpha F_i + \delta M_i + \phi Y_i + \varphi S_i + \varepsilon_i$$
(Model 1)

Included is a subset of regional indicator variables, X, that capture differences in eligibility criteria across regions. It also controls for varying economic conditions within certain parts of Canada. Further, within this vector is a subset of indicator variables that capture the differences in population size of the area in which the household resides. S is a set of indicator variables that control for differences in local labour market conditions between large cities and small urban and rural areas. E is a set of indicator variables controlling for the differences in the probability of receipt by labour force status in the reference week. This set of indicators control for differences in the rate of Social Assistance receipt among those who are self-employed, unpaid family workers, and those currently unemployed or outside the labour force. Inclusion of these labour force indicator variables are relevant in that labour force outcomes determine the need for income maintenance transfers. It is expected that the probability of receipt will be lower among those with steady paid than the

Table 1: Variable Descriptions for Model 1

Income Characteristics:	
SAPIS	The total amount received by all individuals of the census family in the income year of 1996 in the form of social assistance from the provincial or municipal governments. Payments from provincial income supplement programs are included. Social assistance includes cash benefits to low income mothers with dependent children, to the blind and disabled and to any persons in need.
SA	Denotes presence or absence of receipt of social assistance and provincial income supplements. =1 if census family receives social assistance and/or provincial income supplements =0 otherwise
Demographic Characteristics :	
REGION(X):	This variable captures the region in which the census family resides. Base Group: census families residing in Newfoundland, PEI, Nova Scotia, or New Brunswick
prairie	=1 if census family lives in Manitoba, Saskatchewan, or Alberta; =0 otherwise
bc	=1 if census family lives in British Columbia; =0 otherwise
on	=1 if census family lives in Ontario; =0 otherwise
queb	=1 if census family lives in Quebec; =0 otherwise
SIZE OF AREA OF RESIDENCE(S):	This set of variables classify the population size of the area in which the census family resides. Base Group: Census families residing in Rural or Urban Population under 30,000
siz500	=1 if census family lives in an urban population of 500,000 or more; =0 otherwise
siz100	=1 if census family lives in an urban population of 100,000 to 499,999; =0 otherwise
siz30	=1 if census family lives in an urban population of 30,000 to 99,999; =0 otherwise
IMMIGRATION STATUS(I):	This set of variables indicate whether the household head is foreign-born or native born. It also indicates the period of arrival for immigrants. Base Group: Native Born Households
imm56p	=1 if census family head arrived before 1956; =0 otherewise
imm56_65	=1 if census family head arrived between 1956 and 1965; =0 otherwise

imm66_70	=1 if census family head arrived between 1966 and 1970; =0 otherwise
imm71_75	=1 if census family head arrived between 1971 and 1975; =0 otherwise
imm76_80	=1 if census family head arrived between 1976 and 1980; =0 otherwise
imm81_85	=1 if census family head arrived between 1981 and 1985; =0 otherwise
imm86_97	=1 if census family head arrived between 1986 and survey year; =0 otherwise
Family Charactericstics (F):	These variables account for the size, composition and age of the family head and of the children. Base Group: census families comprised of persons not in family, under 46yrs of age
fam_ind45	=1 if person not in family, 45 years and over; =0 otherwise
fam_lt45	=1 if husband-wife family, head under 45, no children under age 16 =0 otherwise
fam_lt45k	=1 if husband-wife family, head under 45, with children under age 16 =0 otherwise
fam_45	=1 if husband-wise family, head 45 years and over, no children under age 16 =0 otherwise
fam_45k	=1 if husband-wife family, head 45 years and over, with children under age 16 =0 otherwise
fam_spar	=1 if single parent family =0 otherwise
numdep	=children under 17 years of age plus children 18 to 22 years of age, attending school full or part-time
Economic Family Unit Low Income Measure(M):	The low income measure is 50% of the median economic family income adjusted for family size to account for family needs.
lim	=1 if economic family unit falls below the low income measure =0 otherwise.
Personal Characteristics of Household Head: EDUCATION (E)	Education captures the highest level of formal education attained, Base Group: census family head who has no schooling, or grade 8 or lower, no other education
educ9	=1 if highest level of education completed by household head is grade 9-10, no other education =0 otherwsie
educ11	=1 if highest level of education completed by household head is grade 11–13, did not graduate from high school

	=0 otherwise
educhsg	=1 if highest level of education completed by household head is grade 11-13, graduated from high school, no other education =0 otherwise
educsps	=1 if completed some post secondary, no degree, certificate or diploma =0 otherwise
educpsd	=1 if have a post-secondary certificate or diploma (includes trades certificates) =0 otherwise
educud	=1 if have a university degree; =0 otherwise
LABOUR FORCE STATUS(E):	This set of variables indicates the labour force status of the household head during the reference week. Base Group: Individuals outside the labour force & unpaid family workers
emp	=1 if paid worker; =0 otherwise
self	=1 if self-employed; =0 otherwise
nowork	=1 if unemployed; 0 otherwise
MOTHER TONGUE (L):	This set of variables indicates the language the household head first attained and still understands. Base Group: Individuals whose mother tongue is something other than English or French.
english	=1 if English; =0 otherwise
french	=1 if French; =0 otherwise
AGE:	
age	= 15 to 79yrs (actual age) =80 if 80 yrs and older
age2	=age*age
Spousal Characteristics(S): AGE:	
spage	=15 to 79 yrs (actual age) =80 if 80 yrs and older
spage2	=spage*spage
MOTHER TONGUE: spenglish	=1 if English; =0 otherwise
spfrench	=1 if French; =0 otherwise
EDUCATION: spedns	=1 if no schooling or grade 8 or lower, no other education; =0 otherwise
sped9_10	=1 if highest level of education completed by household head is grade 9-10, no other education =0 otherwsie

sped11_13	=1 if highest level of education completed by household head is grade 11–13, did not graduate from high school =0 otherwise
spcd11_13g	=1 if highest level of education completed by household head is grade 11-13, graduated from high school, no other education =0 otherwise
spedps	=1 if completed some or post secondary (may or may not have a diploma, certificate), no degree , =0 otherwise
spedud	=1 if have a university degree; =0 otherwise

Other Variables:	
weight	A variable computed to provide weights to inflate the sample to census family totals.
provmis	=1 if observation is missing for prov =0 otherwise Denote missing observations. These are special family units with unusually high incomes, large income losses or other unusual characteristics such as large family size. These observations are masked to ensure confidentiality. These observations are non-randomly distributed among immigrant cohorts and Canadian categories.
spagemis	=1 if observation is missing for spage =0 otherwise Denotes missing observation for spage. These observations are those household heads that do not have a spouse. These observations are missing for all variables controlling for spousal characteristics.

Definitions:

Census Family The census family is composed of either a husband or wife (with or without children who are not married) or a single parent with one or more children, who share accommodation. A family member who falls outside this family is considered a separate economic unit. This may include grandparents, uncles, aunts, cousins, or a married child.

Census Family Head: The census family head is the husband or parent who is 15yrs or older. The head of a census family comprised of one person is that individual herself. The head is not necessarily the highest income earner.

Immigrant Family An immigrant family is defined as a family in the family head is foreign born.

unemployed, unpaid family workers and those outside the labour force. I is a vector of immigrant dummies that capture the fixed effect cohort differences in probability of SA receipt across successive cohorts. This also captures the difference in the estimated probability of Social Assistance receipt between a given immigrant cohort and comparable native born citizens. L is a vector of language characteristics. In addition, a set of indicator variables, denoting the household head's first language, control for the differences in the rates of receipt among those whose native languages are either English, French or other. All else equal, it is expected that those whose mother tongue is English will have the lowest probability of SA receipt. F is a vector of family characteristics that denote family size and composition. A subset of indicator variables captures the difference in the probability of receipt among individuals, couples, two-parent families and single-parent families. Family size is measured by the number of dependents which include children less than 18 years of age and those children between the ages of 18 and 22 years of age attending school on a full or part-time basis.

M represents a variable that indicates whether the economic family unit falls below or above the low income measure. The low income measure is half the median family income, adjusted for family size to account for family needs.[41] This captures the differences in the probability of receipt among families deemed eligible or ineligible for Social Assistance receipt on the basis of economic need. Y is a vector of educational characteristics of the household head. These characteristics include a set of dummy variables that indicate the range of years of formal schooling and acquired educational credentials. This controls for differences in the probability of receipt among individuals with different levels of educational attainment. The sample is partitioned among those with little or no education, a high school education, some post secondary schooling and those with a university degree. The last component of personal characteristics is the household head's age.

Lastly, a vector of spousal characteristics, S is included in the model. Spousal characteristics are a relevant determinant of social assistance receipt in that the presence or absence of a spouse may affect the level of total family income as well as the level of family

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[41] Note that the economic family unit includes individuals who fall outside the census family. This measure will account for relatives and persons who share accommodation with the census family.

need. Since the definition of the household head is the husband who may not necessarily be the highest income earner, it may be the case that the spouse's personal characteristics are relevant in determining the probability of SA receipt.[42] Thus a vector of spousal characteristics that encompass the spouse's age, education and mother tongue are included.

Estimation Results:[43]

The probability of SA receipt is modeled by maximum likelihood probit estimation, using sampling probability weights. The estimation results reveal that the probability of SA receipt slightly increases in age, at a diminishing rate. Furthermore, there do exist regional variations in the propensity to receive SA by observationally equivalent families.[44] Among all the provinces, Ontario and the Atlantic Provinces exhibit the highest estimated probability of Social Assistance Receipt, all else equal. Furthermore, specification tests indicate that the size of the census metropolitan area does have a statistically significant impact on the probability of SA receipt by census families. Large urban areas appear to have a slightly lower probability of SA receipt than do small cities and rural areas. A joint significance test of the family characteristics suggest that family size and age composition do have a statistically significant effect on the probability of Social Assistance receipt. Single parent families have the highest estimated probability of Social Assistance receipt, while the base group, unattached individuals under 45 years of age, have the lowest probability of receipt. The probability of SA receipt decreases in the number of dependents. This is not too surprising since the model also controls for family type and composition. Likewise, sample evidence suggests that labour force status will affect the probability of SA receipt. Not surprisingly, individuals who are unemployed or outside the labour force have the highest probability of SA receipt, while paid employees have the lowest probability of SA receipt, all else constant. Furthermore, educational characteristics do have a statistically significant effect on the probability of SA receipt. As expected, census family heads with little or no formal schooling have the highest probability of SA receipt, while household heads with a university degree have the lowest probability of participation. Oddly, the

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[42] The head of the household may not even earn an income.

[43] Refer to estimation output, p.23-33. Also refer to specification tests, p.21-22.

[44] *Note that the marginal probability effects are evaluated at sample means and sample proportions of the control variables.

mother tongue of the household head does not have a statistically significant effect on the probability of SA receipt. This may be due to the fact that mother tongue is not an accurate indicator of the individual's proficiency in English or French.[45] As discussed earlier, it may be the case that the positive effect of a foreign mother tongue on the probability of SA receipt, associated with barriers to labour market assimilation is exactly offset by the negative effect associated with language barriers to program access. In which case, it is not surprising that the coefficient differences for mother tongue are insignificant. Families below the economic family low income measure have a much greater probability of receipt, all else constant. Lastly, spousal characteristics also have a statistically significant effect on the probability of SA receipt by the census family.[46]

The immigrant cohort effects are jointly significant at 1% significance level. It can thereby be inferred that immigrant families have a statistically significant difference in the probability of Social Assistance receipt than do comparable native born families. The estimated probability of SA receipt for native born families, conditioned on personal, family, demographic, human capital and spousal characteristics, is 5.93%.[47] Sample evidence suggests that observationally equivalent immigrant households that arrived prior to 1956 have a higher estimated probability of SA receipt than do comparable native born families. The estimated probability of SA receipt by the earliest cohort is 7.34%, approximately 23.7% higher than comparable native born families[48]. However, this difference does not appear to be statistically significant at the 10% significance level. Sample evidence suggests that immigrants that arrived in the subsequent cohort, between 1956 and 1965(Imm56_65) have a 4.16% estimated probability of receipt, a 30% lower probability of receipt than comparable native born families.[49] Furthermore, immigrants of the 1966 to 1970 cohort (Imm66_70) do not appear to exhibit a statistically significant

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[45] This is because mother tongue is defined as the first language learned. Absence of English or French mother tongue does not actually suggest whether the individual is proficient in either of these languages, since mother tongue merely captures differences among those individuals whose first language is either English, French, or neither.

[47] Refer to Appendix, p.24. Note that the Immigrant cohort dummies are set equal to zero. Subsequent tables calculate the predicted probability of each cohort, holding all else constant at sample means and proportions.
[48] Note that differences in probabilities are not measured by percentage points, but as a percentage of the estimated probability of the control group.
[49] Note, however, that there does not appear to be a statistically significant difference in the rate of receipt between immigrants who arrived between 1946 and 1955 and comparable native born families.

THE ESTIMATED PROBABILITY OF SA RECEIPT BY IMMIGRANT COHORT

Est Pr(SA=1)

*note that estimated probabilities for Imm56p & Imm66_70 are are set equal to the base case estimate
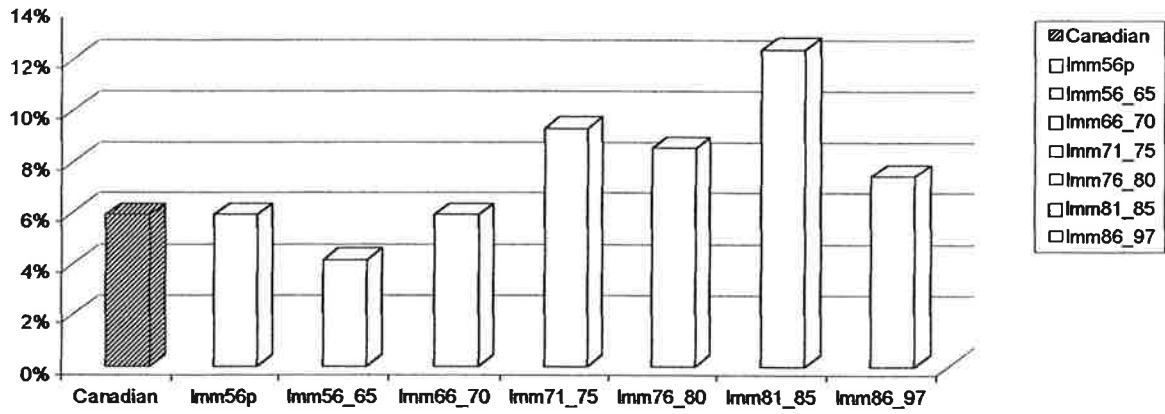
different probability of SA receipt relative to comparable native born households. However, subsequent cohorts appear to exhibit a higher estimated probability of SA receipt. Immigrants arriving after 1971 have a consistently higher probability of SA receipt than do observationally equivalent native born families. Immigrants belonging to the 1971 to 1975 cohort (Imm71_75) have a 9.3% probability of SA receipt, 57% higher than the native born control group. Furthermore, immigrants of the 1976 to 1980 cohort (Imm76_80) experience an 8.55% probability of SA receipt, 44% higher than comparable native born families. Likewise, immigrants who arrived between 1981 to 1985 (Imm81_85) have the highest estimated probability of receipt at 12.4%, more than doubled that of comparable native born families. Lastly, the most recent immigrant cohort (Imm86_97) has an estimated probability of receipt of 7.46%, exceeding comparable native born families by 26%. The estimated probability of SA receipt across cohorts exhibits an upward trend, when adjusting for relevant personal, demographic, family and spousal characteristics.

Interpretation:

The pattern in the probability of SA receipt across cohorts correspond with Abbott and Beach's findings that upon arrival, immigrants are at an earnings disadvantage relative to the comparable native born. As stated previously, this is the result of a number of labour market barriers immigrants face at arrival. Due to differences in education and work experience across countries, often Canadian employers value domestically obtained human capital more so than comparable amounts of human capital characteristics obtained elsewhere. Thus, years of work experience and years of formal schooling attained prior to arrival yield lower returns than equivalent levels acquired by the native born.[50] At arrival, often it is the case that immigrants must upgrade skills to meet Canadian standards and/or acquire recognized academic or employment credentials, and gain human capital specific to the Canadian labour market. Often, immigrants enroll in educational, skill training, or vocational programs to acquire accredited credentials. In several professional occupations, immigrants must pass *equivalency* exams since professional practices vary internationally. Thus, earnings assimilation into the labour market is initially very slow, and may even be

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[50] Abbott and Beach, p.510.

zero for many immigrants during this upgrade period.[51] Moreover, the lack of Canadian work experience and tenure also contribute to the earnings disadvantage of immigrants since wages increase in years with current employer. To the extent that comparable Canadian workers have more years of job tenure with Canadian employers, they are likely to have higher earnings. Furthermore, immigrants may not respond as quickly to potential job opportunities due to information barriers. Upon arrival, many immigrants lack occupational contacts, and as a result, may take some time to plug into local labour market networks.

Therefore, as the results suggest, upon arrival, with lower earnings than comparable native born, immigrant families turn to assistance in the form of government transfers. These reasons explain the upward trend in probability of SA receipt for the most recent immigrant cohorts, since these immigrants are still adjusting to local labour market conditions. This form of assistance, however, is not permanent. Immigrants tend to be self-selected to be hard-working and thereby have strong incentives to invest in human capital skills to achieve better labour market outcomes. Thus, immigrant earnings are expected to increase, and the earnings differential between the comparable native born and immigrants correspondingly declines.[52] This is evident in lower estimated probabilities of social assistance receipt by earlier cohorts, all else equal. This trend suggests an assimilation out of Social Assistance as years since migration increases.

However, the cross survey year comparison of SA receipt by cohort using Baker and Benjamin's data based on earlier survey years, combined with 1996 survey revealed an upward trend in SA receipt within a given cohort. This contradiction is likely due to the fact that the cross survey comparisons do not adequately control for immigrant quality and eligibility characteristics within a given cohort, since these are quasi-panel comparisons. Furthermore, this model does not control for years since migration due to perfect multicollinearity between years since migration and the set of immigrant cohort dummies for a single cross-section. Thus, any conclusions made regarding assimilation into or out of Social Assistance are made in light of this specification constraint, where the effects of years since migration are inferred by cross cohort comparisons, rather than within a given cohort over time.

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[51] Abbott and Beach, p.509.
[52] Ibid.

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That said, lower predicted probabilities of SA receipt for earlier cohorts suggest an assimilation out of SA receipt, corresponding with Abbott & Beach's findings that immigrants are initially at an earnings disadvantage upon arrival, however, immigrants are self-selected to be highly motivated to achieve labour market success, and catch up and surpass earnings of comparable native born Canadians.[53] This is evident for immigrants who arrived between prior to 1971 who exhibit lower or equal predicted probabilities of participation than the comparable native born. However, the shift in the ethnic composition of more recent immigrant cohorts away from traditional source countries of Western Europe and the United States toward non-traditional sources from lesser developed countries of Asia, Africa, or Latin America has resulted in an even larger earnings differential at arrival. As a result, a reduction in the returns to pre-migration work experience flattened the earnings-experience profile for more recent cohorts. This, in conjunction with a steepening of the earnings-experience profiles of the native born in the 1970s has increased the earnings disadvantage for the more recent immigrant cohorts.[54] This has effectively increased the number of years it has taken immigrant earnings to catch up to Native born earnings. The estimation results suggest that the earnings of immigrants who arrived as early as 1971 still have not caught up to native born earnings, as the probability of SA receipt is 3.4 percentage points higher than the comparable native born. Furthermore, labour market discrimination against immigrants may be more prevalent among more recent immigrant cohorts due to the recent shift in source country composition of recent immigrant flows toward more ethnic minorities. Discrimination by Canadian employers may also explain a decline in the rate of earnings assimilation and a consequential over-representation in Social Assistance relative to comparable native born individuals. In order to accurately assess the impact of changing source country composition of immigrant inflows on Social Assistance, the model should include a set of indicator variables controlling for country of origin and ethnicity. However, data constraints do not allow for this analysis.

Given a larger earnings disadvantage at arrival and slower earnings assimilation, Bloom et al suggest that recent immigrant cohorts may not fully catch up to comparable native-born workers.[55] This is particularly problematic in terms of financing Social

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[53] Abbott and Beach, p.509.
[54] Abbott & Beach, p.518.
[55] See Bloom, David et al. "The Changing Labour Market Position of Canadian Immigrants." The Canadian

Assistance benefits. Slower earnings assimilation suggests a longer period of dependence on income supplements. This was particularly problematic in the face of declines in the average quality of immigrants in periods when the proportion of screened immigrants fell, as in the 1970's when family class and humanitarian class immigrants gained processing priority. As stated previously, it was this cohort that experienced the largest increase in probability of receipt relative to preceding cohorts. The impact on the public coffers was two-fold as earnings assimilation was slowing for new immigrants and the quality of immigrants experienced a decline. Despite recent changes in the early 1990's to increase the processing priority of the Independent class, the impact of immigration on the public purse is likely to be negative in the long term despite the increase in the average quality of immigrants associated with these changes due to slower earnings assimilation.

The high predicted probability (12.4%) of SA receipt for the Imm81_85 cohort is worth mentioning. These immigrants entered during or immediately following the 1981 to 1982 recession. Between 1981 and 1985, the unemployment rate peaked at its highest since the early 1940's. The unemployment rate during this period was consistently high, with a low of 7.6% in 1981 and peaking at 11.9% in 1983.[56] To the extent that labour market outcomes for immigrants are more sensitive to business cycle conditions than the comparable native born, it may be the case that the high unemployment rates during this period inhibited earnings assimilation, more so than other immigrant cohorts.[57] Bloom et al estimated that immigrants who arrived during this period initially earned 34 percent less than comparable native born[58]. At an assimilation rate equal to earlier cohorts, they estimated that more recent immigrants will never catch up to the earnings of the comparable native born. This entry effect is evident in the higher predicted probability of SA receipt for immigrants arriving between 1981 and 1985. This corresponds with Nakumura & Nakumura's results that the entry unemployment rate has a negative and significant effect on immigrant earnings.[59]

Journal of Economics 28(4b) 1995: 987-1005

[56] CANSIM, Selected Economic Indicators, Unemployment Rate (Percent)

[57] Bloom et al, p. 994

[58] Bloom et al, p.993-5. Note that their study compares native born and immigrant men.

[59] See Bloom et al, p.993-5. Also, see Nakamura & Nakamura, "Wage Rates of Immigrant and Native Men in Canada and the United States." Immigration, language, and ethnicity : Canada and the United States. Ed. Barry R. Chiswick (Washington, D.C. : AEI Press, 1992).

Although unemployment rates again reached high levels during the early nineties, the entry effect does not appear as significant for the Imm86_97 cohort because immigrants who arrived in the late 1980's when unemployment rates declined are also included in this cohort, neutralizing the unemployment rate at entry effect for the cohort as a whole.

Employment Insurance Receipt:

The probability of EI receipt is modeled in the same fashion as the probability of SA receipt. The model controls for personal, demographic, regional, and human capital characteristics in order to compare observationally equivalent working age native and foreign born individuals by cohort of arrival,

$$\Pr(EIi>0 \mid \bullet) = \gamma_1 age_i + \gamma_2\, age_i{}^2 + \beta Xi + \theta S_i + \lambda Ii + \phi Yi + \psi L_i + \alpha M_I + \Phi E_i + \delta Indi + \varphi Fi + \theta Eligibi + \varepsilon i$$

(Model 2)

Where **X** is a vector of demographic characteristics controlling for region. *S* controls for variations in incidence of EI receipt among large urban centers, small cities, and rural areas. *I* is a vector of immigrant cohort indicator variables that capture the differences in the rate of receipt across native and foreign born individuals as well across immigrant cohorts. *Y* is a vector of variables indicating the level of educational attainment. *L* is a set of variables controlling for differences in the probability of receipt among individuals with different language characteristics. *M* is a set of indicator variables controlling for differences in the probability of receipt between single, married, common law or divorced individuals. Furthermore, *E* is a set of variables indicating the individual's employment status in the survey week. *F* captures differences in the probability of approval between male and females. Unlike Baker and Benjamin's study, females are included in this study to capture differences in the rate of receipt among male and female sub-groups.[60] Since some industries are prone to higher rates of unemployment than others, the probability of EI will be much higher in those industries sensitive to business cycle movements; thus, a set of industry dummies, ***Ind*** is included to control for these varying rates. Lastly, included is an

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[60] Note however that Baker and Benjamin intentionally excluded women from the sample since for some females, EI receipt is a function of a woman's fertility decision (since maternity benefits are included under EI receipt), and not necessarily the result of an individual's labour market outcome.

Table 2: Variable Descriptions for Model 2

Income Characteristics:	
EIBENF	The total amount of employment insurance benefits received by the individual in the income year of 1997. This includes benefits for sickness. maternity, work-sharing, retraining and retirement. Benefits to self-employed fisherman are also included.
EI	Denotes presence or absence of receipt of employment insurance benefits in the income year of 1997. =1 if individual received EI benefits =0 otherwise
Demographic Characteristics:	
REGION:	This variable captures the region in which the individual resides. Base Group: Individuals living in Ontario
prairie	=1 if individual lives in Manitoba, Saskatchewan, or Alberta; =0 otherwise
bc	=1 if individual lives in British Columbia; =0 otherwise
altantic	=1 if individual lives in Newfoundland, PEI, Nova Scotia, or New Brunswick; =0 otherwise
queb	=1 if individual lives in Quebec; =0 otherwise
SIZE OF AREA OF RESIDENCE:	This set of variables classify the population size of the area in which the individual resides. Base Group: individuals living in an urban population of less than 2,500 or rural areas
siz500	=1 if individual lives in an urban population of 500,000 or more; =0 otherwise
siz100	=1 if individual lives in an urban population of 100,000 to 499,999; =0 otherwise
siz30	=1 if individual lives in an urban population of 30,000 to 99,999; =0 otherwise
siz2	=1 if individual lives in an urban population of 2,500 to 29,999
IMMIGRATION STATUS:	This set of variables indicate whether the individual is foreign-born or native born. It also indicates the period of arrival for immigrants. Base Group: native born individuals
imm46p	=1 if individual arrived before 1946; =0 otherewise
imm46_55	=1 if individual arrived between 1946 and 1955; =0 otherwise
imm56_65	=1 if individual arrived between 1956 and 1965; =0 otherwise

imm66_70	=1 if individual arrived between 1966 and 1970; =0 otherwise
imm71_75	=1 if individual arrived between 1971 and 1975; =0 otherwise
imm76_80	=1 if individual arrived between 1976 and 1980; =0 otherwise
imm81_85	=1 if individual arrived between 1981 and 1985; =0 otherwise
imm86_97	=1 if individual arrived between 1986 and survey year; =0 otherwise

Personal Characteristics of Individual:

EDUCATION	Education captures the highest level of formal education attained, Base Group: Individuals with no schooling or grade 8 or lower
ed9	=1 if highest level of education completed by individual is grade 9-10, no other education =0 otherwsie
ed11_13	=1 if highest level of education completed by individual is grade 11–13, did not graduate from high school =0 otherwise
ed11_13g	=1 if highest level of education completed by individual is grade 11-13, graduated from high school, no other education =0 otherwise
edsps	=1 if completed some post secondary, no degree, certificate or diploma =0 otherwise
edps	=1 if have a post-secondary certificate or diploma (includes trades certificates) =0 otherwise
edud	=1 if have a university degree; =0 otherwise
MOTHER TONGUE:	This set of variables indicates the language the individual first attained and still understands. Base Group: Other
english	=1 if English; =0 otherwise
french	=1 if French; =0 otherwise
AGE:	
age	= 15 to 79yrs (actual age) =80 if 80 yrs and older
age2	=age*age
MARITAL STATUS:	Base Group: Other
single	=1 if single; =0 otherwise
married	=1 if married or living common law; =0 otherwise

GENDER: female	=1 if female; =0 otherwise
Employment Characteristics: LABOUR FORCE STATUS:	This set of variables indicate the labour force status of the individual during the reference week. Base Group: individuals outside the labour force
emp	=1 if employed; =0 otherwise
unemp	=1 if unemployed; =0 otherwise
INDUSTRY:	This set of variables indicate the industry of employment at the time of the survey or most recent job within one year if not currently employed. Base Group: individuals employed in agriculture
othprim	=1 if employed in other primary sectors; =0 otherwise
manufnd	=1 if employed in non-durable manufacturing; =0 otherwise
manufd	=1 if employed in durable manufacturing; =0 otherwise
construct	=1 if employed in construction; =0 otherwise
transcom	=1 if employed in transportation, communication, or other utilities; =0 otherwise
tradewh	=1 if employed in wholesale trade; =0 otherwise
traderet	=1 if employed in retail trade; =0 otherwise
finanserv	=1 if employed in finance, insurance , or real estate; =0 otherwise
commserv	=1 if employed in community service; =0 otherwise
perserv	=1 if employed in personal service; =0 otherwise
busmisc	=1 if employed in business and miscellaneous services; =0 otherwise
nwork1	=1 if worked more than one year ago; =0 otherwise
nvwork	=1 if never worked or permanently unable to work; =0 otherwise
ELIGIBILITY:	This set of variables indicates whether or not the individual was worked the minimum number of weeks required to be eligible to EI receipt. The minimum requirement varies by local economic conditions.
eligib	=1 if worked at least the minimum number of weeks to be eligible for EI receipt, according to region =0 otherwise
Other Variables: weight	This variable provides weights to inflate predetermined individual totals. This variable is used to calculate valid statistics.
provmis	This variable includes individuals with unusually high incomes, large income losses or unusual characteristics, such as large family size, that have the Province code masked to ensure confidentiality. =1 if missing observation for prov; =0 otherwise

eligibility dummy variable, *Eligib*, indicating whether an individual has satisfied the minimum required number of hours of insurable employment. Since the minimum required hours of insurable employment vary by the regional rate of unemployment, the eligibility variable was determined based on the total number of hours worked in the 52 week qualifying period:

total number of hours worked= (total usual hours worked per week)*(# of weeks worked per year)

The total number of hours worked is then compared to the required number of hours of insurable employment in the qualifying period, which varies by the regional rate of unemployment. Using 1997 provincial rates of unemployment, it is then established whether the individual has satisfied the eligibility criteria.[61]

Estimation Results:

The probability of transfer receipt is modeled by maximum likelihood probit estimation, using sampling weights. The estimation is restricted to working age individuals between the ages of 15 and 65yrs of age. According to the sample data, there are no statistically significant differences in the probability of Employment Insurance receipt among comparable native born and immigrant families. Sample evidence suggests, however, that regional and geographic characteristics are jointly significant at the 1% significance level.[62] Aside from the Prairies, individuals from the Atlantic region, British Columbia, or Quebec have a higher probability of EI receipt than do observationally equivalent individuals from Ontario. This is likely due to higher unemployment rates in these regions.[63] Moreover, individuals who live in larger municipalities have a lower probability of EI receipt than do those that live in smaller urban cities and rural areas, all else constant. As expected, the estimation results indicate that the probability of EI receipt falls as years of formal schooling increases. Whether an individual's mother tongue is English or not does not have a statistically significant effect on the probability of EI receipt. However, those whose native tongue is French exhibit a higher probability of EI receipt than individuals with a mother tongue other than English or French. Similarly, industry and labour force characteristics are statistically significant determinants of the probability of SA

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[61] See Appendix, p. 37.
[62] See Appendix, 39-40 for specification tests. For estimation output, refer to appendix, p.41-2.

receipt. The data also suggests that participation in Employment Insurance slightly increases in age at a diminishing rate. Women have a slightly higher probability of EI receipt than do observationally equivalent male individuals. Those individuals employed in cyclical industries have higher probabilities of EI receipt, all else equal. Individuals employed in primary sectors other than agriculture have the highest probability of EI receipt. Similarly, individuals employed in construction and manufacturing also have a high probability of receipt. The coefficient estimate for eligibility is negative and significant. At first glance, the sign is counter-intuitive. However, those individuals who have steady employment and qualify for EI benefits are less likely to use EI, even though these individuals meet eligibility criteria. This is true for most paid workers, which thereby suggests a negative coefficient estimate.

Interpretation:

The estimation results from model2 suggest there exist no differences in the probability of EI receipt by comparable native and foreign born working age individuals. These results correspond with Crossley, McDonald and Worswick estimates based on 13 SCF surveys in the 1980's and early nineties. This evidence suggests that immigrants do not pose a burden on short term income maintenance programs. These results do not support the hypothesis that immigrants assimilate into EI, as there exist no differences in the probability of EI receipt across cohorts.[64] Furthermore, these findings do not support Baker & Benjamin's results that more recent immigrant cohorts have higher recipiency rates than do preceding cohorts, all else constant.

Conclusion:

Taken together, the results suggest that more recent immigrant cohorts have a higher likelihood of SA receipt than do the comparable native born. The principal reasons presented for this trend are the recent shift in source country composition of immigrant flows, the steepening of the experience-earnings profiles of the native born, and labour

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[63] Refer to Table of Unemployment Rates of Appendix, p.37.
[64] Recall discussion regarding YSM and cross-cohort comparisons.

market discrimination against foreign born ethnic minorities. Furthermore, the decline in immigrant quality over periods when family and refugee class immigrants had greater processing priority than the assessed independent class may have increased incidence of SA by particular immigrant cohorts. Furthermore, the year of arrival may also explain the differences in the probability of SA receipt in 1996. However, these factors have not affected participation in EI . The estimation results suggest that native and foreign born alike have the same probability of EI receipt, all else constant. These results suggest that the decline in labour market position of recent immigrant cohorts has resulted in increased incidence in Canada's prolonged income maintenance programs rather than short term income support programs. That said, recent immigrant waves may pose a financial burden on public coffers, particularly in long term income maintenance programs.

Extensions:

The estimates from Model 1 and Model 2 are derived from a single cross-section. This prevents analysis of cohort effects, controlling for YSM. Furthermore, estimates from quasi-panel data would provide a more accurate glimpse of SA and EI receipt over time and across cohort. This will also control for sensitivity of the results to the survey year from which the estimates are taken. A discussion of this is presented by Crossley et al. Furthermore, it would be interesting, if the data is available, to control for differences in the probability of receipt among immigrant classes and among immigrants from different source countries. Lastly, this framework of analysis should be extended to other income maintenance programs to make a more accurate assessment of immigrant participation in social programs relative to the comparable native born.

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APPENDIX

Proportion of Census Families Receiving Social Assistance, by Immigrant Cohort, 1996[1]

Legend:
- Canadian
- Immigrant
- Imm56p
- Imm56_65
- Imm66_70
- Imm71_75
- Imm76_80
- Imm81_85
- Imm86_97
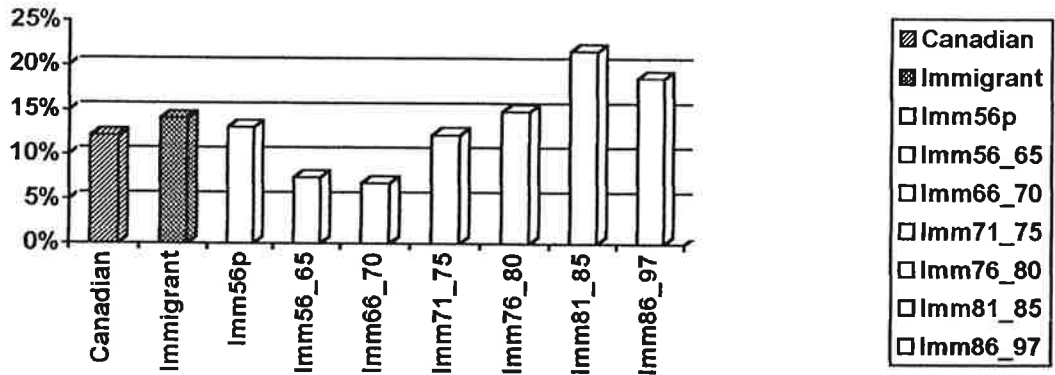
Proportion of Census Families Receiving Social Assistance, by Immigrant Cohort Over Time:

Legend:
- 1985
- 1990
- 1996

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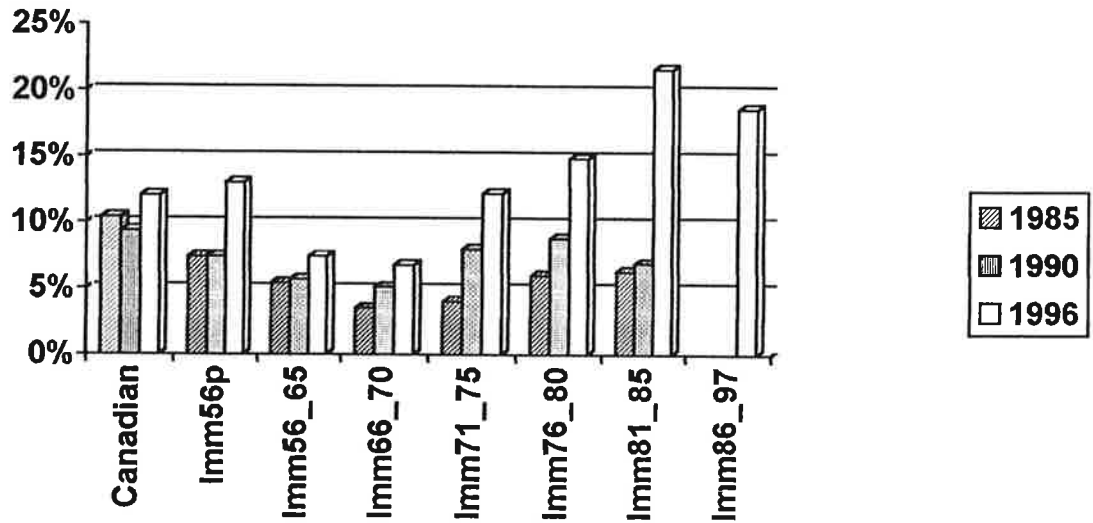
[1] Data from the Survey of Consumer Finances, 1996 Income, Census Families

Average SA Receipt by Immigrant Cohort ($) in 1996

	Canadian
	Immigrant
	Imm46p
	Imm46_55
	Imm56_65
	Imm66_70
	Imm71_75
	Imm76_80
	Imm81_85
	Imm86_97
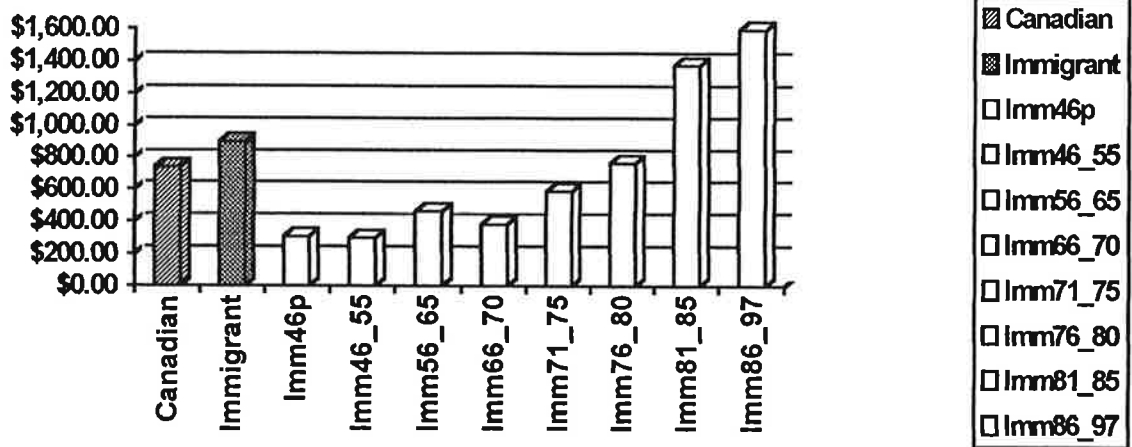
Average SA Receipt Among Recipients, by Immigrant Cohort ($) in 1996

	Canadian
	Immigrant
	Imm46p
	Imm46_55
	Imm56_65
	Imm66_70
	Imm71_75
	Imm76_80
	Imm81_85
	Imm86_97
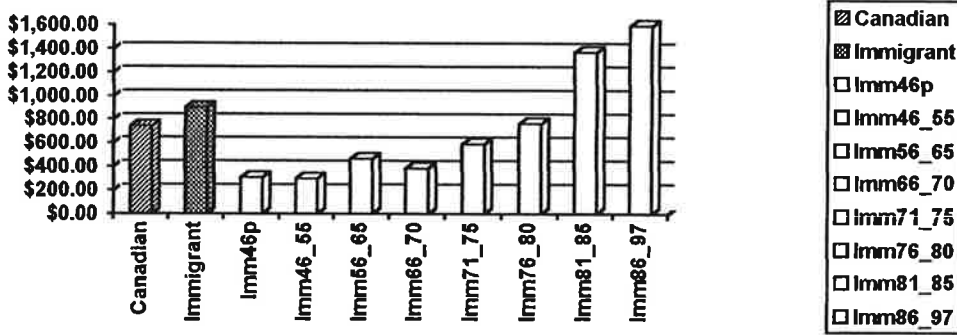
Percentage of Working Age Males Receiving EI benefits: Cross Comparison for a Given Cohort[2]

Legend: 1985, 1990, 1996

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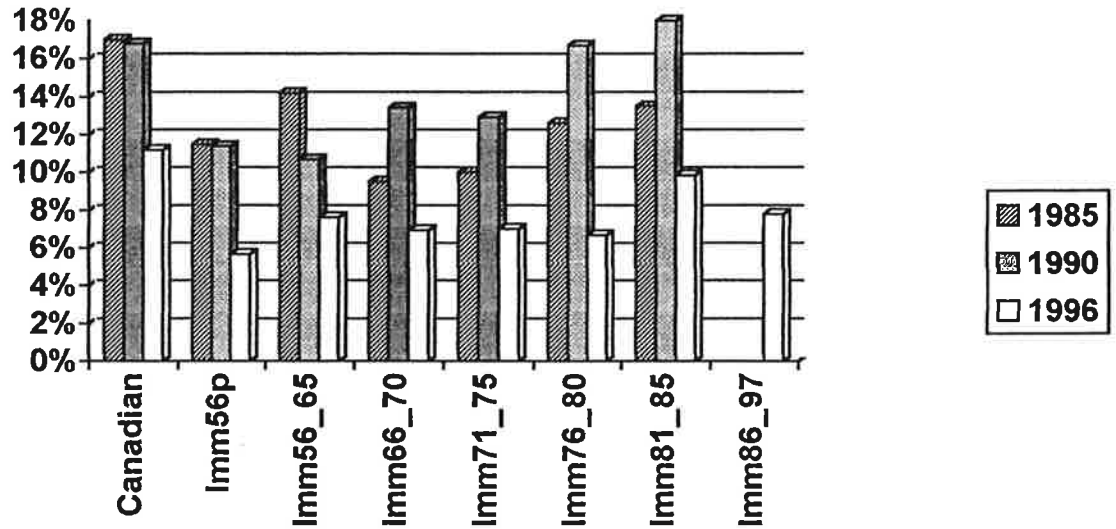
[2] 1997 data from the Survey of Consumer Finances, 1997 Income, Individuals With & Without Income. 1980 & 1985 data collected from Baker & Benjamin, "The Receipt of Transfer Payments by Immigrants to Canada," The Journal of Human Resources 30(4), 1995, p.672.

Average Employment Insurance Receipt by Individuals, 1997[1]

Legend:
- Canadian
- Immigrant
- Imm56p
- Imm56_65
- Imm66_70
- Imm71_75
- Imm76_80
- Imm81_85
- Imm86_97
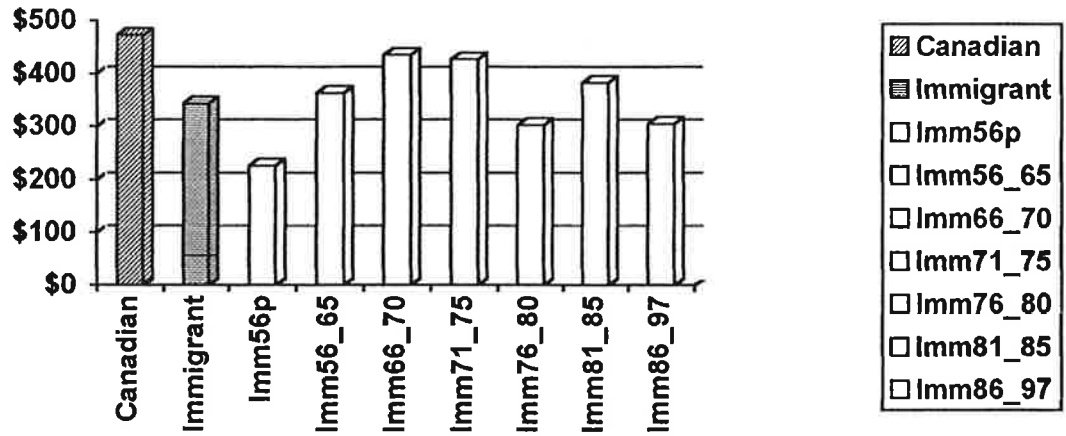
Percentage of Working Age Individuals Receiving EI benefits

Legend:
- Canadian
- Immigrant
- Imm56p
- Imm56_65
- Imm66_70
- Imm71_75
- Imm76_80
- Imm81_85
- Imm86_97

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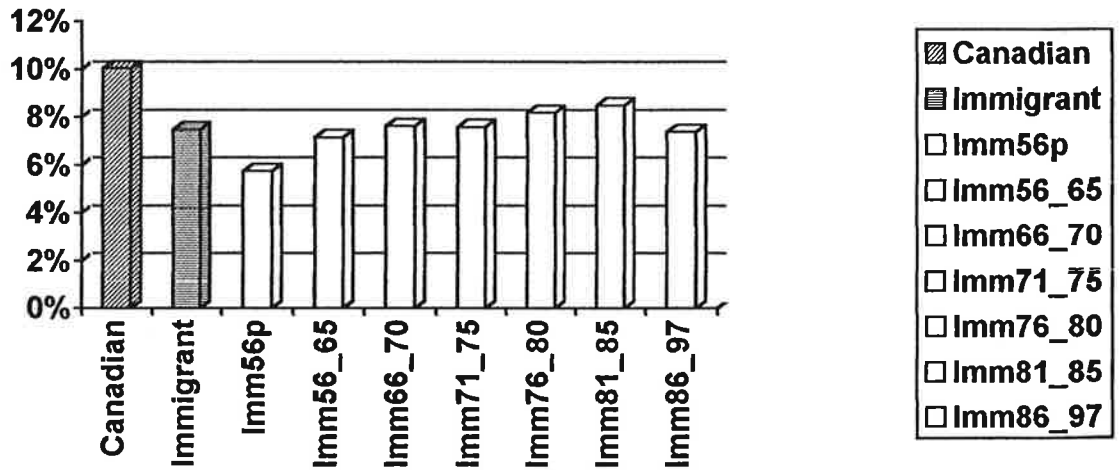
[1] Data from the Survey of Consumer Finances, 1997 Income, Individuals With & Without Income.

I.   **Education by Immigrant Status[1]**
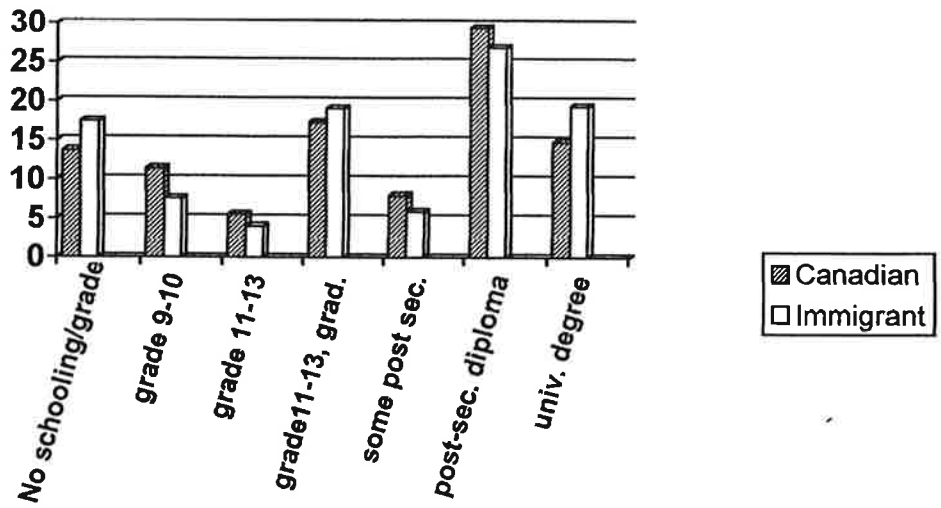
Education by Immigrant Cohort: No Schooling or Grade 8 or lower, no other education

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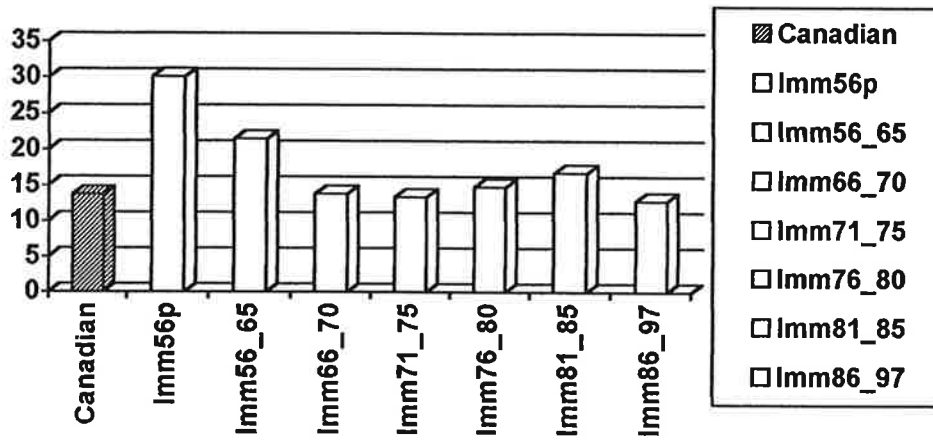
[1] Data from the Survey of Consumer Finances, 1996 Income, Census Families.

Education by Cohort: Grade 9-10

Legend: Canadian, Imm56p, Imm56_65, Imm66_70, Imm71_75, Imm76_80, Imm81_85, Imm86_97
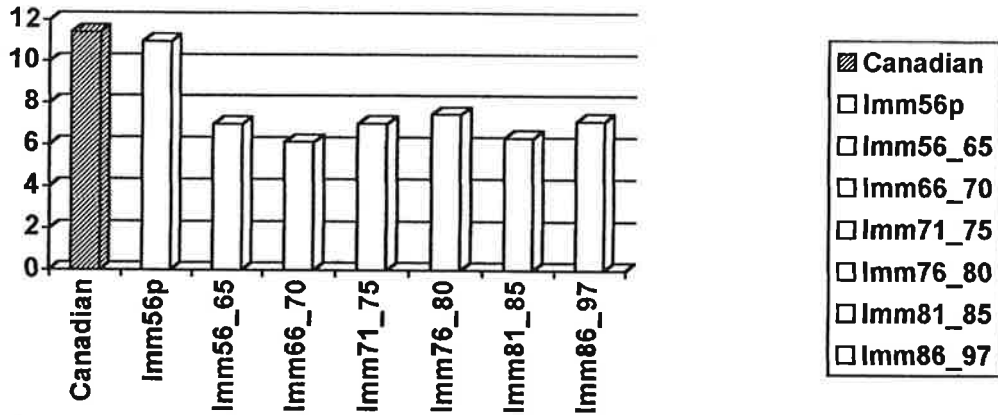
Education by Cohort: Grade 11-13, did not graduate from high school

Legend: Canadian, Imm56p, Imm56_65, Imm66_70, Imm71_75, Imm76_80, Imm81_85, Imm86_97
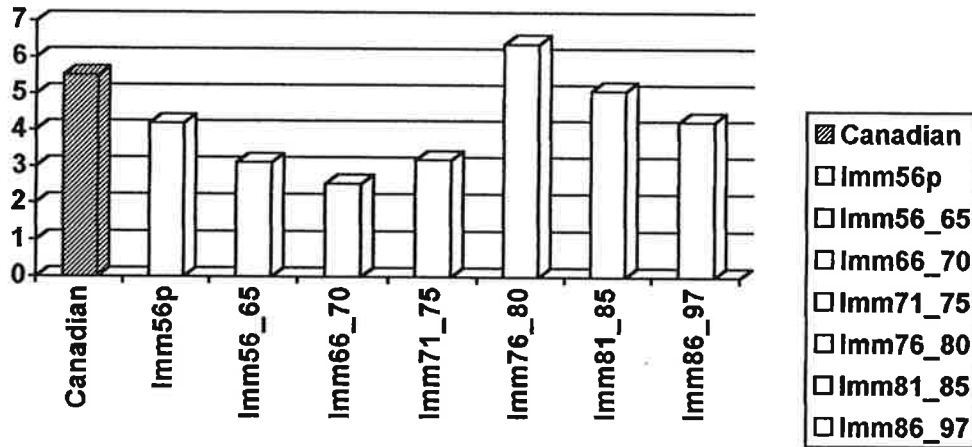
Education by Cohort: % Grade 11-13, graduated from high school

Legend: Canadian, Imm56p, Imm56_65, Imm66_70, Imm71_75, Imm76_80, Imm81_85, Imm86_97
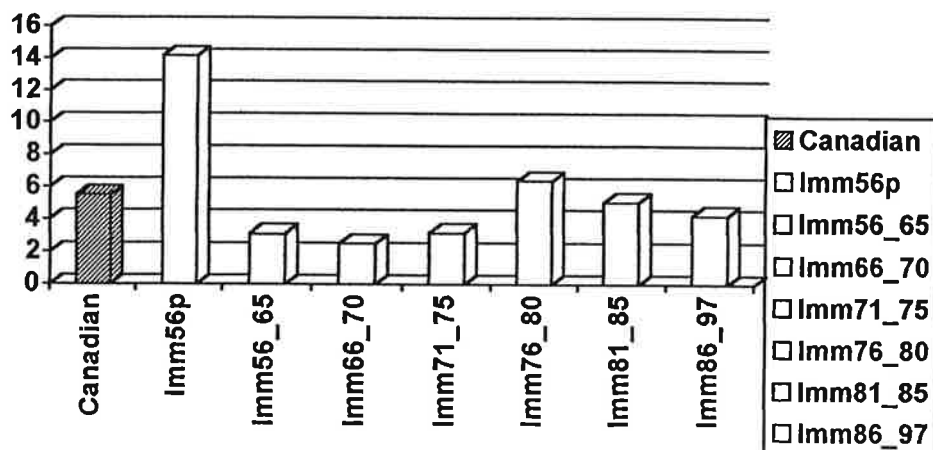
Education by Cohort: % Some Post Secondary, no Degree, Certificate, or Diploma

Legend: Canadian, Imm56p, Imm56_65, Imm66_70, Imm71_75, Imm76_80, Imm81_85, Imm86_97
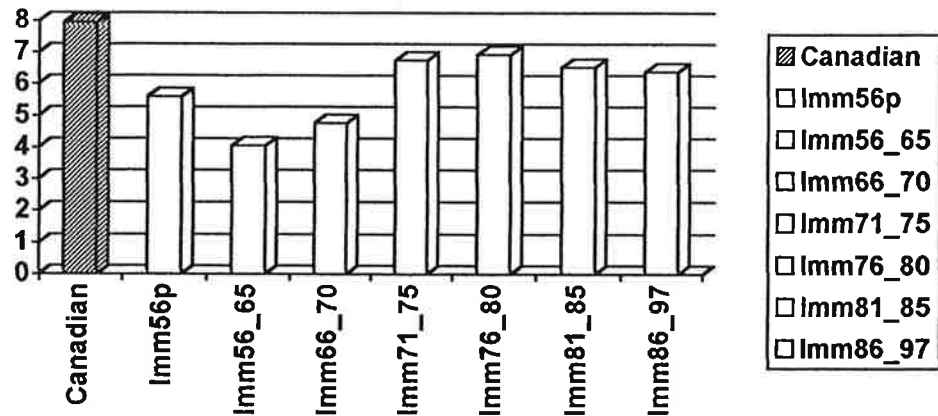
Education by Cohort: % Post Secondary Certificate or Diploma

Legend: Canadian, Imm56p, Imm56_65, Imm66_70, Imm71_75, Imm76_80, Imm81_85, Imm86_97
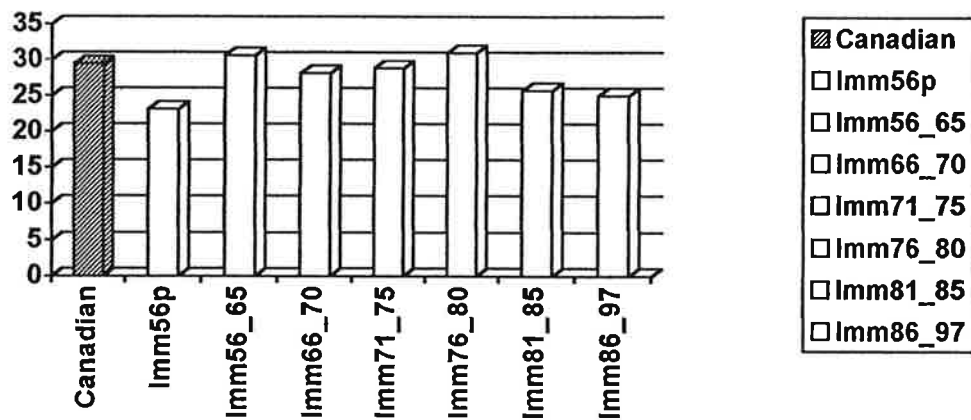
Education by Cohort: % University Degree

Legend: Canadian, Imm56p, Imm56_65, Imm66_70, Imm71_75, Imm76_80, Imm81_85, Imm86_97

7
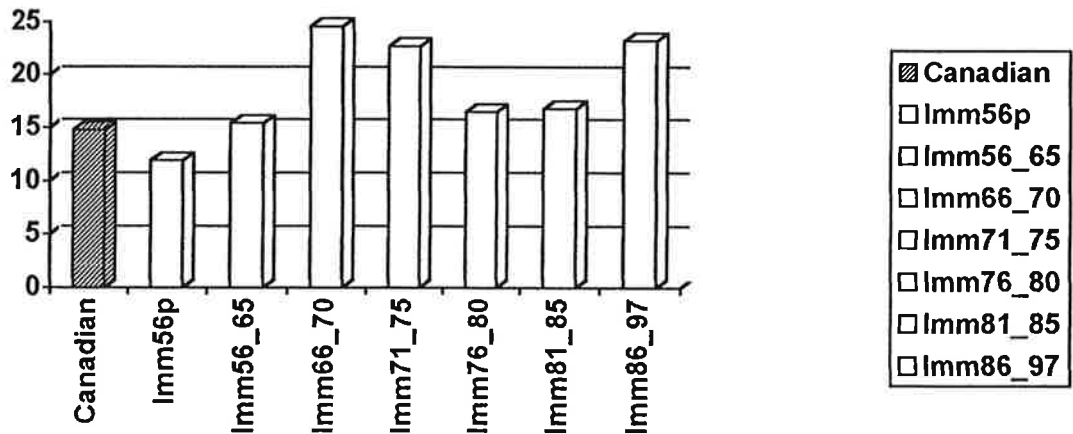
Mother Tongue by Immigrant Status (%), Census Families[1]
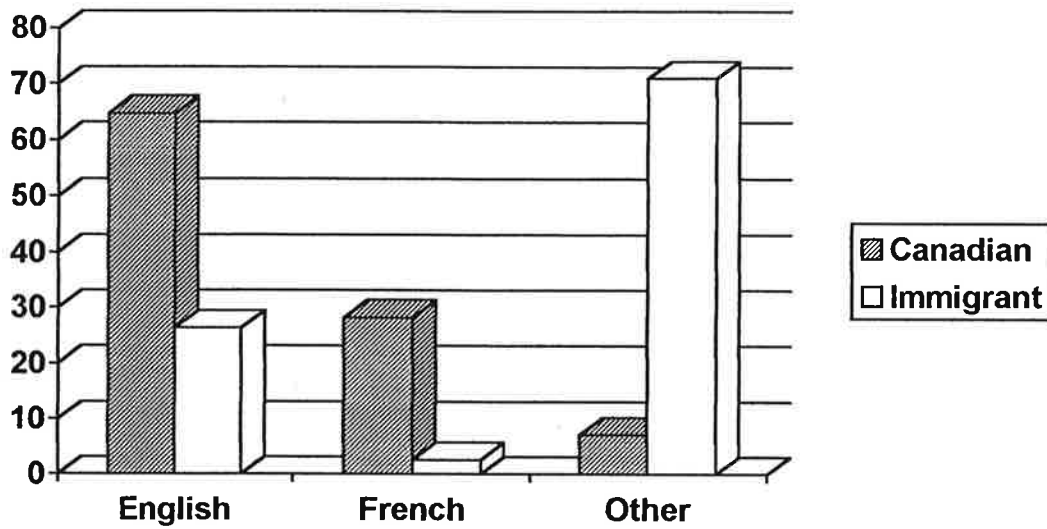
Mother Tongue by Immigrant Cohort: English (%)

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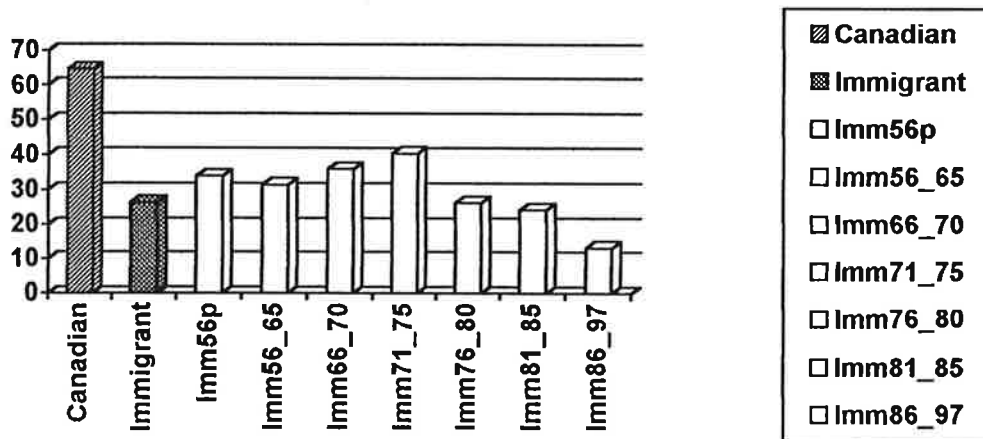
[1] Data from the Survey of Consumer Finances, 1996 Income, Census Families

Mother Tongue by Immigrant Cohort: French (%)

Legend:
- Canadian
- Imm56p
- Imm56_65
- Imm66_70
- Imm71_75
- Imm76_80
- Imm81_85
- Imm86_97

Mother Tongue by Immigrant Cohort: Other(%)

Legend:
- Canadian
- Imm56p
- Imm56_65
- Imm66_70
- Imm71_75
- Imm76_80
- Imm81_85
- Imm86_97

9
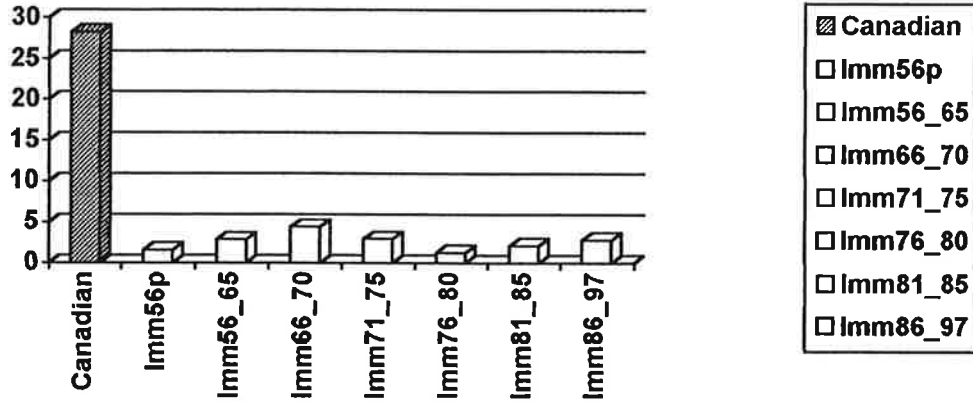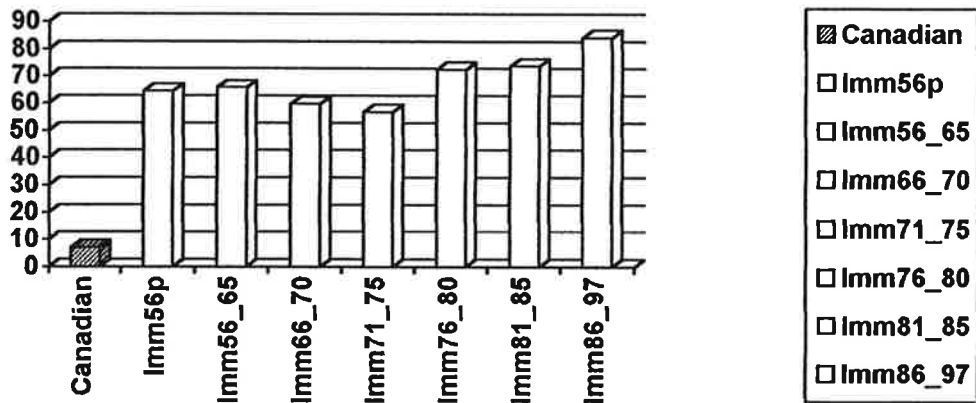
AGE AND AVERAGE AGE AT ARRIVAL

	Canadian	Immigrant	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
Avg Age	47.01008	50.40471	67.46259	56.90078	51.57417	47.14077	47.69396	45.39615	41.66113

midpoint year	1950	1960	1968	1973	1978	1983	1991
Avg. Age at arrival	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
Average Age at Arrival	20.46259	19.90078	22.57417	23.14077	28.69396	31.39615	35.66113

(using the midpoint of each cohort as year of entry)

Average Age at Arrival=Avg Age for cohort /- YSM
YSM=reference year(1997)-midpoint of cohort

Average Age at Arrival
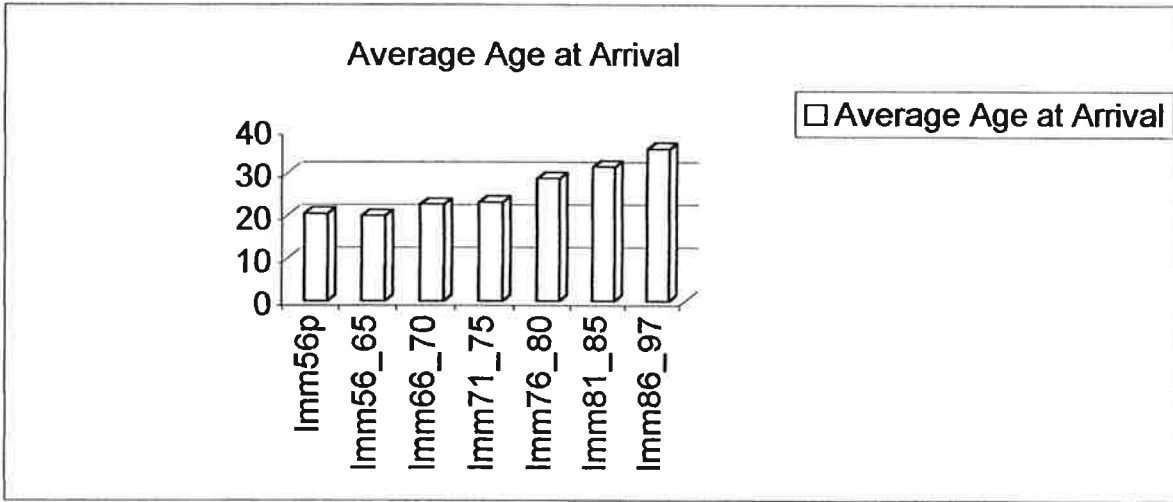
Labour Force Status:

Percentage of Individuals who are employed in reference week[1]

Legend:
- Canadian
- Immg
- Imm46p
- Imm46_55
- Imm56_65
- Imm66_70
- Imm71_75
- Imm76_80
- Imm81_85
- Imm86_97
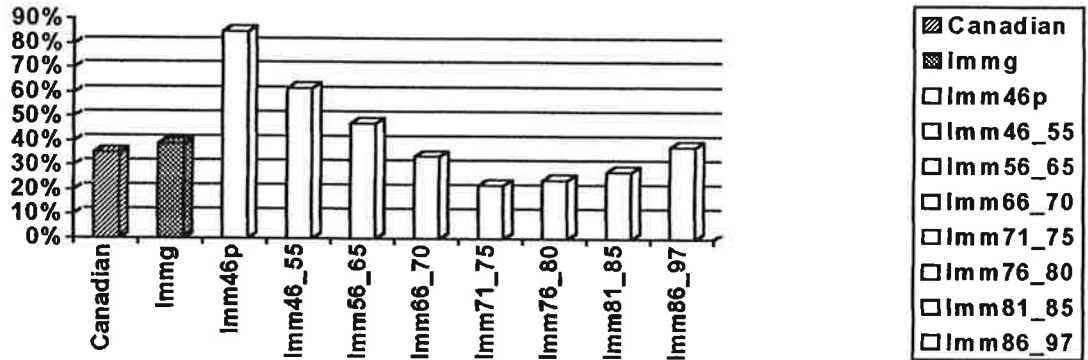
Percentage of Individuals who are Unemployed in reference week

Legend:
- Canadian
- Immg
- Imm46p
- Imm46_55
- Imm56_65
- Imm66_70
- Imm71_75
- Imm76_80
- Imm81_85
- Imm86_97

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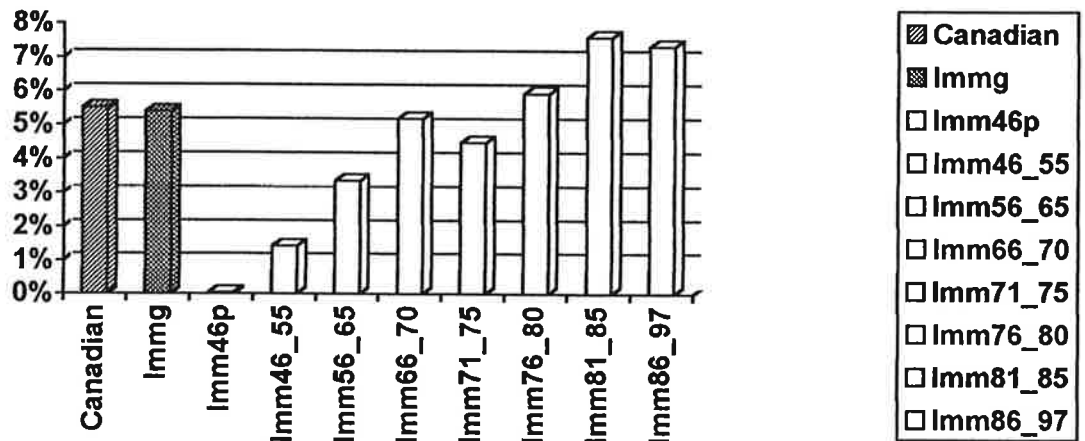
[1] Data collected from the Survey Of Consumer Finances, 1997 Income, Individuals with & without Income

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Percentage of Individuals who are Outside Labour Force in Reference Week:
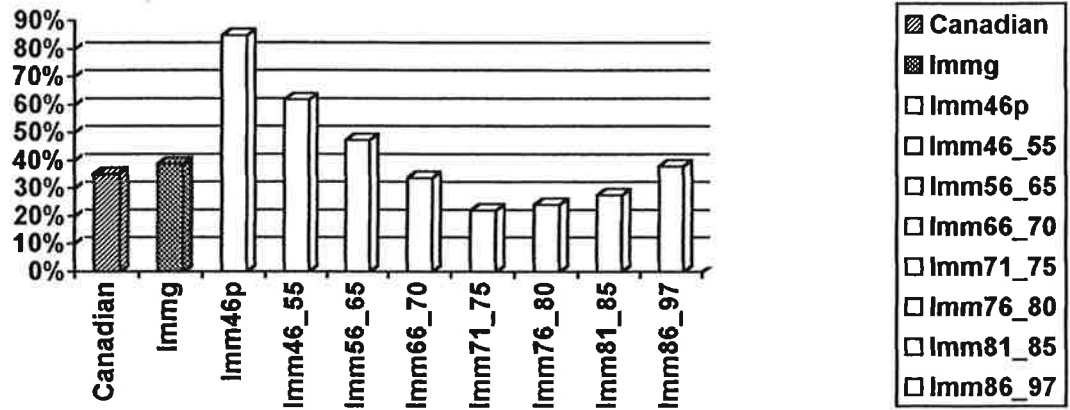
% of Census Families Below the Low Income Measure by Immigrant Cohort[1]
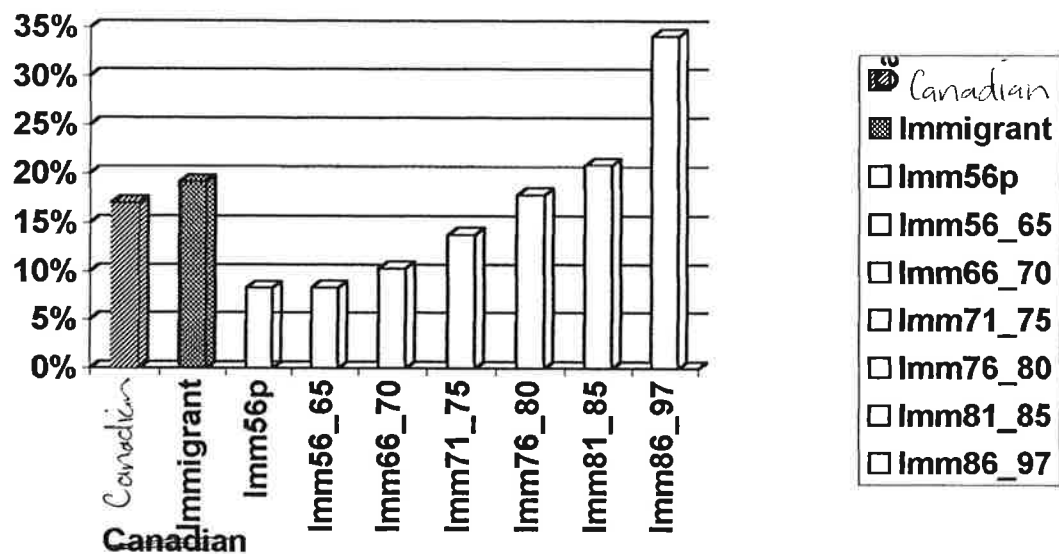
[1] Data from the Survey of Consumer Finances, 1996 Income, Census Families

FAMILY TYPE CHARACTERISTICS : % OF CANADIAN & IMMIGRANT HOUSEHOLDS
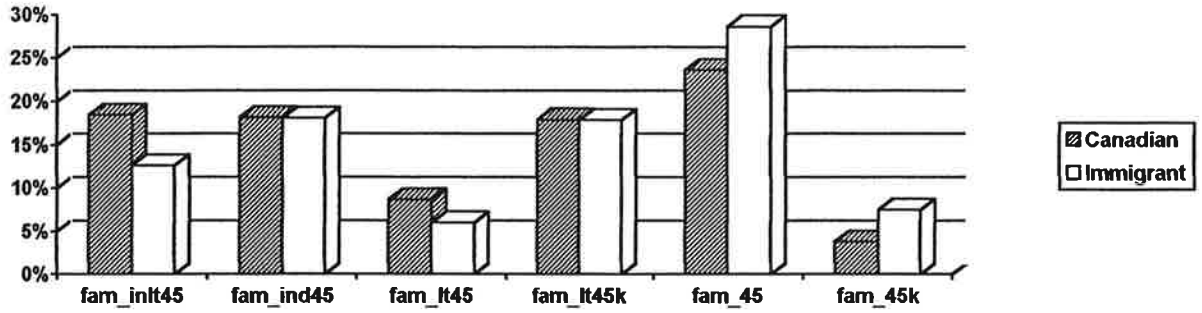
SUMMARY STATS ON CENSUS FAMILIES, SURVEY OF CONSUMER FINANCES 1996 INCOME

PERCENTAGE RECEIVING SAPIS

	Canadian	Immigrant	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
SA	12.08%	14.03%	13.02%	7.43%	6.78%	12.21%	14.85%	21.62%	18.60%

PECENTAGE WHO USE PROGRAM:

	Canadian	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
1985	10.40%	7.40%	5.40%	3.50%	4.00%	6.00%	6.30%	
1990	9.40%	7.40%	5.70%	5.10%	8.00%	8.80%	6.90%	
1996	12.08%	13.02%	7.43%	6.78%	12.21%	14.85%	21.62%	18.60%

AVERAGE SA RECEIPT:

	Canadian	Immigrant	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
SAPIS	$742.30	$901.76	$300.41	$464.37	$385.06	$591.51	$762.96	$1,374.64	$1,594.20

Average SAPIS Receipt IF SA==1

	Canadian	Immigrant	Imm46p	Imm46_55	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
SAPIS	$6,146.44	$6,426.34	$1,442.29	$2,965.94	$6,247.11	$5,678.76	$4,842.63	$5,138.42	$6,358.39	$8,571.68

*note that these are the income years. 1985 & 1990 figures are based on data in B&B's 1995 article

YEARS OF FORMAL SCHOOLING

	Canadian	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
No schooling/grade ≤	13.69	30.05	21.46	13.8	13.33	14.79	16.7	12.77
grade 9-10	11.4	10.97	6.98	6.14	7.01	7.47	6.33	7.14
grade 11-13	5.51	4.19	3.11	2.53	3.18	6.38	5.08	4.24
grade11-13, graduat	17.27	14.16	18.37	20.08	18.26	16.94	22.91	21.25
some post second.	7.95	5.59	4.05	4.76	6.75	6.94	6.53	6.39
post-second. diplomi	29.42	23.15	30.63	28.13	28.78	30.98	25.66	25
univ. degree	14.76	11.9	15.41	24.56	22.69	16.5	16.8	23.2

MOTHER TONGUE

	Canadian	Immigrant	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
English	64.68	26.32	33.86	31.4	35.92	40.44	26.25	24.19	13.17
French	28.21	2.63	1.6	2.86	4.42	2.93	1.28	2.13	2.8
Other	7.11	71.05	64.54	65.74	59.66	56.63	72.47	73.69	84.03

PERCENTAGE BELOW LIM

	Canadian	Immigrant	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
Below	17%	19.16%	8.26%	8.31%	10.33%	13.78%	17.86%	20.86%	34.11%

FAMILY CHARACTERISTICS:

	fam_inlt45	fam_ind45	fam_lt45	fam_lt45k	fam_45	fam_45k
Canadian	18.42%	18.15%	8.70%	17.89%	23.59%	3.78%
Immigrant	12.61%	18.05%	6.02%	17.82%	28.60%	7.50%

PERCENTAGE OF INDIVIDUALS WHO USE PROGRAM, <65YRS

	Canadian	Immigrant	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
EI	10.04%	7.48%	5.75%	7.15%	7.62%	7.58%	8.19%	8.49%	7.38%

PERCENTAGE WHO USE PROGRAM, MALES <65YRS

	Canadian	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
1985	17.00%	11.50%	14.20%	9.50%	10.00%	12.60%	13.50%	
1990	16.80%	11.40%	10.70%	13.40%	12.90%	16.70%	18.00%	
1996	11.18%	5.67%	7.63%	6.93%	7.00%	6.68%	9.83%	7.79%

AVERAGE RECEIPT BY COHORT, INDIVIDUALS <65YRS

	Canadian	Immigrant	Imm56p	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
EIBENF	$472.27	$343.69	$226.28	$363.40	$435.72	$427.17	$302.60	$383.06	$305.23

	Canadian	Immg	Imm46p	Imm46_55	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
No schooling/grade 8 or lower	10.81%	14.63%	29.90%	20.37%	20.62%	17.53%	13.01%	12.62%	12.10%	10.34%
grade 9-10	13.02%	9.23%	21.47%	9.27%	9.80%	5.91%	5.52%	9.05%	9.67%	9.94%
grade 11-13	7.20%	5.23%	3.89%	3.66%	5.46%	3.13%	2.50%	4.81%	6.00%	7.00%
grade11-13, graduated	18.73%	20.04%	16.21%	20.06%	22.13%	19.11%	20.08%	19.67%	18.18%	20.39%
some post second.	9.47%	7.65%	6.53%	6.70%	5.50%	5.85%	6.78%	7.51%	9.20%	9.12%
post-second. diploma	27.89%	25.55%	15.57%	25.23%	25.15%	28.80%	31.78%	28.44%	26.80%	22.95%
univ. degree	12.88%	17.67%	6.43%	14.45%	11.27%	19.67%	20.30%	17.90%	18.10%	20.29%

MOTHER TONGUE

	Canadian	Immg	Imm46p	Imm46_55	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
english	66.49%	33.65%	63.82%	40.97%	40.03%	44.25%	44.08%	33.44%	32.74%	21.23%
french	28.19%	3.14%	3.18%	1.79%	2.74%	3.27%	4.28%	4.34%	2.04%	3.27%
other	4.97%	62.63%	33.01%	56.67%	56.95%	52.02%	51.42%	62.11%	64.56%	74.55%

LABOUR FORCE STATUS:

	Canadian	Immg	Imm46p	Imm46_55	Imm56_65	Imm66_70	Imm71_75	Imm76_80	Imm81_85	Imm86_97
employed	59.28%	55.80%	15.24%	36.82%	49.43%	60.99%	73.41%	69.97%	64.78%	54.74%
unemployed	5.52%	5.40%	0.05%	1.43%	3.36%	5.19%	4.49%	5.94%	7.60%	7.33%
outside labour force	35.20%	38.80%	84.72%	61.75%	47.21%	33.82%	22.10%	24.10%	27.61%	37.93%

Table 1: Variable Descriptions for Model 1

Income Characteristics: SAPIS	The total amount received by all individuals of the census family in the income year of 1996 in the form of social assistance from the provincial or municipal governments. Payments from provincial income supplement programs are included. Social assistance includes cash benefits to low income mothers with dependent children, to the blind and disabled and to any persons in need.
SA	Denotes presence or absence of receipt of social assistance and provincial income supplements. =1 if census family receives social assistance and/or provincial income supplements =0 otherwise
Demographic Characteristics :	
REGION(X):	This variable captures the region in which the census family resides. Base Group: census families residing in Newfoundland, PEI, Nova Scotia, or New Brunswick
prairie	=1 if census family lives in Manitoba, Saskatchewan, or Alberta; =0 otherwise
bc	=1 if census family lives in British Columbia; =0 otherwise
on	=1 if census family lives in Ontario; =0 otherwise
queb	=1 if census family lives in Quebec; =0 otherwise
SIZE OF AREA OF RESIDENCE(S):	This set of variables classify the population size of the area in which the census family resides. Base Group: Census families residing in Rural or Urban Population under 30,000
siz500	=1 if census family lives in an urban population of 500,000 or more; =0 otherwise
siz100	=1 if census family lives in an urban population of 100,000 to 499,999; =0 otherwise
siz30	=1 if census family lives in an urban population of 30,000 to 99,999; =0 otherwise
IMMIGRATION STATUS(I):	This set of variables indicate whether the household head is foreign-born or native born. It also indicates the period of arrival for immigrants. Base Group: Native Born Households
imm56p	=1 if census family head arrived before 1956; =0 otherewise
imm56_65	=1 if census family head arrived between 1956 and 1965; =0 otherwise

imm66_70	=1 if census family head arrived between 1966 and 1970; =0 otherwise
imm71_75	=1 if census family head arrived between 1971 and 1975; =0 otherwise
imm76_80	=1 if census family head arrived between 1976 and 1980; =0 otherwise
imm81_85	=1 if census family head arrived between 1981 and 1985; =0 otherwise
imm86_97	=1 if census family head arrived between 1986 and survey year; =0 otherwise
Family Charactericstics (F):	These variables account for the size, compostion and age of the family head and of the children. Base Group: census families comprised of persons not in family, under 46yrs of age
fam_ind45	=1 if person not in family, 45 years and over; =0 otherwise
fam_lt45	=1 if husband-wife family, head under 45, no children under age 16 =0 otherwise
fam_lt45k	=1 if husband-wife family, head under 45, with children under age 16 =0 otherwise
fam_45	=1 if husband-wise family, head 45 years and over, no children under age 16 =0 otherwise
fam_45k	=1 if husband-wife family, head 45 years and over, with children under age 16 =0 otherwise
fam_spar	=1 if single parent family =0 otherwise
numdep	=children under 17 years of age plus children 18 to 22 years of age, attending school full or part-time
Economic Family Unit Low Income Measure(M):	The low income measure is 50% of the median economic family income adjusted for family size to account for family needs.
lim	=1 if economic family unit falls below the low income measure =0 otherwise.
Personal Characteristics of Household Head: EDUCATION (E)	Education captures the highest level of formal education attained, Base Group: census family head who has no schooling, or grade 8 or lower, no other education
educ9	=1 if highest level of education completed by household head is grade 9-10, no other education =0 otherwsie
educ11	=1 if highest level of education completed by household head is grade 11–13, did not graduate from high school

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	=0 otherwise
educhsg	=1 if highest level of education completed by household head is grade 11-13, graduated from high school, no other education =0 otherwise
educsps	=1 if completed some post secondary, no degree, certificate or diploma =0 otherwise
educpsd	=1 if have a post-secondary certificate or diploma (includes trades certificates) =0 otherwise
educud	=1 if have a university degree; =0 otherwise
LABOUR FORCE STATUS(E):	This set of variables indicates the labour force status of the household head during the reference week. Base Group: Individuals outside the labour force & unpaid family workers
emp	=1 if paid worker; =0 otherwise
self	=1 if self-employed; =0 otherwise
nowork	=1 if unemployed; 0 otherwise
MOTHER TONGUE (L):	This set of variables indicates the language the household head first attained and still understands. Base Group: Individuals whose mother tongue is something other than English or French.
english	=1 if English; =0 otherwise
french	=1 if French; =0 otherwise
AGE:	
age	= 15 to 79yrs (actual age) =80 if 80 yrs and older
age2	=age*age
Spousal Characteristics(S): AGE:	
spage	=15 to 79 yrs (actual age) =80 if 80 yrs and older
spage2	=spage*spage
MOTHER TONGUE:	
spenglish	=1 if English; =0 otherwise
spfrench	=1 if French; =0 otherwise
EDUCATION: spedns	=1 if no schooling or grade 8 or lower, no other education; =0 otherwise
sped9_10	=1 if highest level of education completed by household head is grade 9-10, no other education =0 otherwsie

sped11_13	=1 if highest level of education completed by household head is grade 11–13, did not graduate from high school =0 otherwise
sped11_13g	=1 if highest level of education completed by household head is grade 11–13, graduated from high school, no other education =0 otherwise
spedps	=1 if completed some or post secondary (may or may not have a diploma, certificate), no degree , =0 otherwise
spedud	=1 if have a university degree; =0 otherwise

Other Variables:

weight	A variable computed to provide weights to inflate the sample to census family totals.
provmis	=1 if observation is missing for prov =0 otherwise Denote missing observations. These are special family units with unusually high incomes, large income losses or other unusual characteristics such as large family size. These observations are masked to ensure confidentiality. These observations are non-randomly distributed among immigrant cohorts and Canadian categories.
spagemis	=1 if observation is missing for spage =0 otherwise Denotes missing observation for spage. These observations are those household heads that do not have a spouse. These observations are missing for all variables controlling for spousal characteristics.

Definitions:

Census Family	The census family is composed of either a husband or wife (with or without children who are not married) or a single parent with one or more children, who share accommodation. A family member who falls outside this family is considered a separate economic unit. This may include grandparents, uncles, aunts, cousins, or a married child.
Census Family Head:	The census family head is the husband or parent who is 15yrs or older. The head of a census family comprised of one person is that individual herself. The head is not necessarily the highest income earner.
Immigrant Family	An immigrant family is defined as a family in the family head is foreign born.

Summary Statistics for Model 1

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
sapis	37396	12882250	772.2922	2630.6	0	34692
sa	37396	12882250	0.124447	0.330095	0	1
age	37396	12882250	47.64862	16.73858	17	80
age2	37396	12882250	2550.564	1717.539	289	6400
prairie	37396	12882250	0.161465	0.367964	0	1
bc	37396	12882250	0.135437	0.342195	0	1
on	37396	12882250	0.364572	0.481317	0	1
queb	37396	12882250	0.255257	0.436011	0	1
provmis	37396	12882250	0.005127	0.071419	0	1
siz500	37396	12882250	0.497458	0.5	0	1
siz100	37396	12882250	0.161187	0.367708	0	1
siz30	37396	12882250	0.085749	0.279997	0	1
imm56p	37396	12882250	0.029299	0.168646	0	1
imm56_65	37396	12882250	0.028089	0.165231	0	1
imm66_70	37396	12882250	0.020688	0.142339	0	1
imm71_75	37396	12882250	0.018732	0.135578	0	1
imm76_80	37396	12882250	0.016406	0.127033	0	1
imm81_85	37396	12882250	0.014448	0.119331	0	1
imm86_97	37396	12882250	0.060441	0.238305	0	1
fam_ind45	37396	12882250	0.181287	0.385261	0	1
fam_lt45	37396	12882250	0.082015	0.274391	0	1
fam_lt45k	37396	12882250	0.178781	0.383174	0	1
fam_45	37396	12882250	0.245354	0.430302	0	1
fam_45k	37396	12882250	0.044833	0.206939	0	1
fam_spar	37396	12882250	0.094491	0.292515	0	1
numdep	37396	12882250	0.62759	1.009586	0	9
emp	37396	12882250	0.604872	0.488885	0	1
self	37396	12882250	0.082054	0.274451	0	1
nowork	37396	12882250	0.269805	0.443864	0	1
english	37396	12882250	0.571634	0.494849	0	1
french	37396	12882250	0.232716	0.422568	0	1
lim	37396	12882250	0.17603	0.380851	0	1
educ9	37396	12882250	0.106737	0.308782	0	1
educ11	37396	12882250	0.052305	0.222644	0	1
educhsg	37396	12882250	0.176027	0.380848	0	1
educsps	37396	12882250	0.075544	0.264271	0	1
educpsd	37396	12882250	0.28937	0.453476	0	1
educud	37396	12882250	0.156139	0.362992	0	1
newspage	37396	12882250	26.12329	24.93195	0	80
newspage2	37396	12882250	1304.012	1547.095	0	6400
spagemis	37396	12882250	0.425811	0.494472	0	1
sped9_10	37396	12882250	0.065865	0.24805	0	1
sped11_13	37396	12882250	0.032757	0.178001	0	1
sped11_13g	37396	12882250	0.125911	0.331753	0	1
spedps	37396	12882250	0.177717	0.38228	0	1
spedud	37396	12882250	0.091521	0.288352	0	1
spenglish	37396	12882250	0.371386	0.483182	0	1
spfrench	37396	12882250	0.121896	0.32717	0	1
weight	37396	12882250	554.3271	351.1986	16	1999

SPECIFICATION TESTING FOR MODEL1

(1) Testing the hypothesis that immigrants have the same probability of SA receipt than comparable native born

H_o: $\lambda_i = 0$ for $\forall$ i= 1....7

H_1: $\lambda_1 \neq 0$, &/or $\lambda_2 \neq 0$, &/or $\lambda_3 \neq 0$, &/or $\lambda_4 \neq 0$, &/or $\lambda_5 \neq 0$, &/or $\lambda_6 \neq 0$, &/or $\lambda_7 \neq 0$

chi2(7) = 30.89, Prob > chi2 =   0.0001

Inference: H_o is rejected at the 1% significance level.

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(2) Testing the proposition that family characteristics do not affect the probability of Social Assistance receipt

H_o: $\alpha_i = 0$ for $\forall$ i= 1....6

H_1: $\alpha_1 \neq 0$, &/or $\alpha_2 \neq 0$, &/or $\alpha_3 \neq 0$, &/or $\alpha_4 \neq 0$, &/or $\alpha_5 \neq 0$, &/or $\alpha_6 \neq 0$

chi2(6) = 299.52, Prob > chi2 =   0.0000

Inference: H_o is rejected at the 1% significance level.

---

(3) Testing the proposition that employment status does not affect the probability of Social Assistance receipt

H_o: $\Phi_i = 0$ for $\forall$ i= 1....3

H_1: $\Phi_1 \neq 0$, &/or $\Phi_2 \neq 0$, &/or $\Phi_3 \neq 0$

chi2(3) = 936.43, Prob > chi2 =   0.0000

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Inference: H_o is rejected at the 1% significance level

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(4) Testing the proposition that language does not affect the probability of Social Assistance receipt

H_o: $\psi_i = 0$ for $\forall$ i= 1...2

H_1: $\psi_1 \neq 0$, &/or $\psi_2 \neq 0$

chi2(2) = 0.06, Prob > chi2 =   0.9725

Inference: H_o is retained at the 10% significance level

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(5) Testing the proposition that education does not affect the probability of Social Assistance receipt

H_o: $\phi_i = 0$ for $\forall$ i= 1....6

H_1: $\phi_1 \neq 0$, &/or $\phi_2 \neq 0$, &/or $\phi_3 \neq 0$, &/or $\phi_4 \neq 0$, &/or $\phi_5 \neq 0$, &/or $\phi_6 \neq 0$

```
chi2(6)=174.15,  Prob>chi2=0.0000
```

Inference: H_o is rejected at the 1% significance level

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(6) Testing the proposition that whether or not an economic family unit falls below the LIM does not affect the probability of Social Assistance receipt

H_o: $\delta = 0$

H_1: $\delta \neq 0$

chi2(1) = 1293.61, Prob > chi2 =   0.0000

Inference: H_o is rejected at the 1% significance level

---

(7) Testing the proposition that spousal characteristics do not affect the probability of Social Assistance receipt

H_o: $\varphi_i = 0$ for $\forall$ i= 1....9

H_1: $\varphi_1 \neq 0$, &/or $\varphi_2 \neq 0$, &/or $\varphi_3 \neq 0$, &/or $\varphi_4 \neq 0$, &/or $\varphi_5 \neq 0$, &/or $\varphi_6 \neq 0$, &/or $\varphi_7 \neq 0$, &/or $\varphi_8 \neq 0$,
    &/or $\varphi_9 \neq 0$

chi2(9)=41.21, Prob>chi2=0.0000

Inference: H_o is rejected at the 1% significance level

---

(8) Testing the proposition that the probability of Social Assistance receipt does not vary by province

H_o: $\beta_i = 0$ for $\forall$ i= 1....4

H_1: $\beta_1 \neq 0$, &/or $\beta_2 \neq 0$, &/or $\beta_3 \neq 0$, &/or $\beta_4 \neq 0$

chi2(4) =14.43, Prob > chi2 = 0.0060

Inference: H_o is rejected at the 1% significance level

(9) Testing the proposition that the probability of Social Assistance receipt does not vary by city size

H_o: $\theta_i = 0$ for $\forall$ $i = 1....3$

H_1: $\theta_1 \neq 0$, &/or $\theta_2 \neq 0$, &/or $\theta_3 \neq 0$

chi2(3)=14.99, Prob>chi2=0.0018

Inference: H_o is rejected at the 1% significance level

ESTIMATED PROBABILITY OF SA RECEIPT
AT SAMPLE MEANS AND PROPORTIONS

			Number of obs	37396
			Wald chi2(46)	4420.65
			Prob > chi2	0.000
			Pseudo R2	0.3109

sa	dF/dx	Std. Err.	z	P>|z|	x-bar
age	0.0018336	0.0007134	2.57	0.010	47.6486
age2	-0.0000362	6.50E-06	-5.6	0.000	2550.56
prairie*	-0.0230078	0.007123	-2.94	0.003	0.161465
bc*	-0.0317766	0.0097243	-2.79	0.005	0.135437
on*	0.0001813	0.0044982	0.04	0.968	0.364572
queb*	-0.0136486	0.0064717	-2.02	0.044	0.255256
provmis*	-0.0598885	0.0071294	-3.15	0.002	0.005127
siz500*	-0.0033741	0.0043413	-0.77	0.439	0.497458
siz100*	-0.0071873	0.0037206	-1.88	0.060	0.161187
siz30*	0.0128333	0.0055351	2.45	0.014	0.085749
imm56p*	0.0155585	0.0114954	1.46	0.145	0.029299
imm56_65*	-0.0200375	0.0097803	-1.79	0.073	0.028089
imm66_70*	-0.0189378	0.0112681	-1.48	0.138	0.020688
imm71_75*	0.037133	0.0198015	2.18	0.029	0.018732
imm76_80*	0.0288389	0.0187525	1.74	0.082	0.016406
imm81_85*	0.0704026	0.0231928	3.82	0.000	0.014448
imm86_97*	0.0167937	0.0104776	1.73	0.084	0.060441
fam_~d45*	0.0229262	0.0101249	2.44	0.015	0.181287
fam_lt45*	0.0171455	0.0097231	1.9	0.058	0.082015
fam_lt~k*	0.0263775	0.0105919	2.71	0.007	0.178781
fam_45*	0.0054997	0.0088491	0.63	0.527	0.245353
fam_45k*	0.0002992	0.0127568	0.02	0.981	0.044832
fam_spar*	0.1404101	0.0159498	11.95	0.000	0.094491
numdep	-0.0056682	0.0028093	-2.02	0.043	0.62759
emp*	-0.1589174	0.0112215	-16.98	0.000	0.604872
self*	-0.0709835	0.0029485	-13.08	0.000	0.082054
nowork*	0.0143903	0.0075329	1.98	0.048	0.269804
english*	-0.0008286	0.005848	-0.14	0.887	0.571634
french*	-0.0017927	0.0075822	-0.24	0.814	0.232716
lim*	0.2200286	0.0083884	35.97	0.000	0.17603
educ9*	-0.0081062	0.0050952	-1.53	0.125	0.106736
educ11*	-0.0145128	0.0066172	-2.02	0.044	0.052305
educhsg*	-0.0319903	0.0045175	-6.19	0.000	0.176026
educsps*	-0.0370585	0.0046758	-6.2	0.000	0.075544
educpsd*	-0.0439802	0.0044089	-9.03	0.000	0.28937
educud*	-0.0612881	0.0039565	-10.8	0.000	0.156139
newspage	0.0005787	0.0009322	0.62	0.535	26.1233
newspa~2	-6.43E-06	9.53E-06	-0.67	0.500	1304.01
spagemis*	0.0229022	0.0236552	0.99	0.322	0.425811
sped9_10*	-0.0055912	0.0088032	-0.62	0.537	0.065865
sped1~13*	-0.0005362	0.0117589	-0.05	0.964	0.032757
sped~13g*	0.001058	0.008386	0.13	0.899	0.125911
spedps*	0.0545662	0.0108498	5.89	0.000	0.177717
spedud*	0.0584731	0.0197322	3.58	0.000	0.091521
spengl~h*	0.0039334	0.0060734	0.65	0.515	0.371386
spfrench*	-0.0007147	0.0072663	-0.1	0.922	0.121896

obs. P   0.1244467
pred. P   0.0682151 (at x-bar)

(*) dF/dx   is for discrete change of dummy variable from 0 to 1
z and   P>|z| are the test of the underlying coefficient be ing 0

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PREDICTED PROBABILITY OF SA RECEIPT FOR NATIVE BORN FAMILIES

				Number of obs	37396
				Wald chi2(46)	4420.65
				Prob > chi2	0.000
				Pseudo R2	0.3109

sa	dF/dx	RobustStd. Err.	z	P>|z|	x
age	0.001645	0.0006622	2.57	0.010	47.6486
age2	-3.25E-05	6.86E-06	-5.6	0.000	2550.56
prairie*	-0.020556	0.0069718	-2.94	0.003	0.161465
bc*	-0.028326	0.009362	-2.79	0.005	0.135437
on*	0.000163	0.0040374	0.04	0.968	0.364572
queb*	-0.012225	0.0059463	-2.02	0.044	0.255256
provmis*	-0.052087	0.0093769	-3.15	0.002	0
siz500*	-0.002968	0.0038145	-0.77	0.439	0.005127
siz100*	-0.00644	0.0034656	-1.88	0.060	0.161187
siz30*	0.011547	0.0050686	2.45	0.014	0.085749
imm56p*	0.014081	0.0105503	1.46	0.145	0
imm56_65*	-0.017739	0.0089121	-1.79	0.073	0
imm66_70*	-0.016811	0.0101763	-1.48	0.138	0
imm71_75*	0.033824	0.0184985	2.18	0.029	0
imm76_80*	0.026175	0.0173779	1.74	0.082	0
imm81_85*	0.064647	0.0224304	3.82	0.000	0
imm86_97*	0.015289	0.0097247	1.73	0.084	0
fam_~d45*	0.020651	0.0094412	2.44	0.015	0.181287
fam_lt45*	0.015441	0.0089302	1.9	0.058	0.082015
fam_lt~k*	0.023774	0.0100035	2.71	0.007	0.178781
fam_45*	0.004939	0.0079699	0.63	0.527	0.245353
fam_45k*	0.000269	0.0114478	0.02	0.981	0.044832
fam_spar*	0.129081	0.0191049	11.95	0.000	0.094491
numdep	-0.005086	0.0025886	-2.02	0.043	0.62759
emp*	-0.144803	0.018043	-16.98	0.000	0.604872
self*	-0.062491	0.0088568	-13.08	0.000	0.082054
nowork*	0.012936	0.0069273	1.98	0.048	0.269804
english*	-0.000744	0.0052518	-0.14	0.887	0.571634
french*	-0.001608	0.0068071	-0.24	0.814	0.232716
lim*	0.203754	0.0185014	35.97	0.000	0.17603
educ9*	-0.007261	0.0046272	-1.53	0.125	0.106736
educ11*	-0.012974	0.0061482	-2.02	0.044	0.052305
educhsg*	-0.028542	0.0052402	-6.19	0.000	0.176026
educsps*	-0.03294	0.0057758	-6.2	0.000	0.075544
educpsd*	-0.039293	0.0060544	-9.03	0.000	0.28937
educud*	-0.054359	0.0075673	-10.8	0.000	0.156139
newspage	0.000519	0.0007837	0.62	0.535	26.1233
newspa~2	-5.77E-06	8.00E-06	-0.67	0.500	1304.01
spagemis*	0.022953	0.0237306	0.99	0.322	0
sped9_10*	-0.00501	0.0079638	-0.62	0.537	0.065865
sped1~13*	-0.000481	0.0105579	-0.05	0.964	0.032757
sped~13g*	0.00095	0.007512	0.13	0.899	0.125911
spedps*	0.049406	0.0108685	5.89	0.000	0.177717
spedud*	0.053072	0.0186578	3.58	0.000	0.091521
spengl~h*	0.00353	0.0053786	0.65	0.515	0.371386
spfrench*	-0.000641	0.0065331	-0.1	0.922	0.121896

obs. P	0.124447
pred. P	0.068215 (at x-bar)
pred. P	**0.059343 (at x)**

(*) dF/dx is for discrete change of dummy variable from 0 to 1
  z and P>|z| are the test of the underlying coefficient being 0

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PREDICTED PROBABILITY OF SA RECEIPT FOR IMMIGRANT FAMILIES
WHO ARRIVED BETWEEN 1956 & 1965

				Number of obs	37396
				Wald chi2(46)	4420.65
				Prob > chi2	0.000
				Pseudo R2	0.3109

sa	dF/dx	Robust Std. Err.	z	P>|z|	x
age	0.00194	0.0008051	2.57	0.010	47.6486
age2	-3.83E-05	8.98E-06	-5.6	0.000	2550.56
prairie*	-0.024403	0.0087499	-2.94	0.003	0.161465
bc*	-0.033744	0.01177	-2.79	0.005	0.135437
on*	0.000192	0.00476	0.04	0.968	0.364572
queb*	-0.014456	0.0070865	-2.02	0.044	0.255256
provmis*	-0.063646	0.0137074	-3.15	0.002	0
siz500*	-0.003505	0.0045221	-0.77	0.439	0.005127
siz100*	-0.007611	0.0041819	-1.88	0.060	0.161187
siz30*	0.013559	0.0060424	2.45	0.014	0.085749
imm56p*	0.014081	0.0105503	1.46	0.145	1
imm56_65*	-0.021109	0.0106472	-1.79	0.073	0
imm66_70*	-0.019994	0.0121308	-1.48	0.138	0
imm71_75*	0.039343	0.021916	2.18	0.029	0
imm76_80*	0.030532	0.0205311	1.74	0.082	0
imm81_85*	0.074423	0.0267317	3.82	0.000	0
imm86_97*	0.017911	0.0117871	1.73	0.084	0
fam_~d45*	0.024209	0.0112168	2.44	0.015	0.181287
fam_lt45*	0.018106	0.0105603	1.9	0.058	0.082015
fam_lt~k*	0.027844	0.0119053	2.71	0.007	0.178781
fam_45*	0.005817	0.0093818	0.63	0.527	0.245353
fam_45k*	0.000317	0.0134971	0.02	0.981	0.044832
fam_spar*	0.146651	0.02362	11.95	0.000	0.094491
numdep	-0.005998	0.0031033	-2.02	0.043	0.62759
emp*	-0.166792	0.0248015	-16.98	0.000	0.604872
self*	-0.075899	0.0139781	-13.08	0.000	0.082054
nowork*	0.015212	0.0082212	1.98	0.048	0.269804
english*	-0.000877	0.0061602	-0.14	0.887	0.571634
french*	-0.001897	0.0079907	-0.24	0.814	0.232716
lim*	0.228925	0.0256316	35.97	0.000	0.17603
educ9*	-0.008586	0.0055148	-1.53	0.125	0.106736
educ11*	-0.015388	0.0074793	-2.02	0.044	0.052305
educhsg*	-0.033955	0.007111	-6.19	0.000	0.176026
educsps*	-0.039415	0.0082122	-6.2	0.000	0.075544
educpsd*	-0.046647	0.0085588	-9.03	0.000	0.28937
educud*	-0.065265	0.0115465	-10.8	0.000	0.156139
newspage	0.000612	0.0009301	0.62	0.535	26.1233
newspa~2	-6.80E-06	9.50E-06	-0.67	0.500	1304.01
spagemis*	0.026808	0.0277152	0.99	0.322	0
sped9_10*	-0.005921	0.0094702	-0.62	0.537	0.065865
sped1~13*	-0.000567	0.0124582	-0.05	0.964	0.032757
sped~13g*	0.001119	0.0088501	0.13	0.899	0.125911
spedps*	0.057459	0.0134416	5.89	0.000	0.177717
spedud*	0.061492	0.0216644	3.58	0.000	0.091521
spengl~h*	0.004162	0.0063511	0.65	0.515	0.371386
spfrench*	-0.000756	0.0077083	-0.1	0.922	0.121896
obs. P	0.124447				
pred. P	0.068215	(at x-bar)			
pred. P	**0.073424**	**(at x)**			

(*) dF/dx is for discrete change of dummy variable from 0 to 1
   z and P>|z| are the test of the underlying coefficient being 0

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PREDICTED PROBABILITY OF SA RECEIPT FOR IMMIGRANT FAMILIES WHO ARRIVED BETWEEN 1956 & 1965

			Number of obs	37396
			Wald chi2(46)	4420.65
			Prob > chi2	0.000
			Pseudo R2	0.3109

sa	dF/dx	ɔbust Std. E	z	P>|z|	x
age	0.001239	0.000531	2.57	0.010	47.6486
age2	-2.45E-05	6.54E-06	-5.6	0.000	2550.56
prairie*	-0.015326	0.005753	-2.94	0.003	0.161465
bc*	-0.021007	0.007759	-2.79	0.005	0.135437
on*	0.000123	0.003041	0.04	0.968	0.364572
queb*	-0.00917	0.004698	-2.02	0.044	0.255256
provmis*	-0.037161	0.009699	-3.15	0.002	0
siz500*	-0.002231	0.002901	-0.77	0.439	0.005127
siz100*	-0.004836	0.002746	-1.88	0.060	0.161187
siz30*	0.008758	0.004125	2.45	0.014	0.085749
imm56p*	0.010711	0.008471	1.46	0.145	0
imm56_65*	-0.017739	0.008912	-1.79	0.073	1
imm66_70*	-0.012497	0.007639	-1.48	0.138	0
imm71_75*	0.026042	0.015308	2.18	0.029	0
imm76_80*	0.020062	0.014079	1.74	0.082	0
imm81_85*	0.050596	0.020002	3.82	0.000	0
imm86_97*	0.011639	0.007925	1.73	0.084	0
fam_~d45*	0.015704	0.007779	2.44	0.015	0.181287
fam_lt45*	0.011738	0.007118	1.9	0.058	0.082015
fam_lt~k*	0.018106	0.008254	2.71	0.007	0.178781
fam_45*	0.003727	0.006083	0.63	0.527	0.245353
fam_45k*	0.000202	0.008629	0.02	0.981	0.044832
fam_spar*	0.10321	0.021172	11.95	0.000	0.094491
numdep	-0.003831	0.002061	-2.02	0.043	0.62759
emp*	-0.113396	0.021884	-16.98	0.000	0.604872
self*	-0.04502	0.010765	-13.08	0.000	0.082054
nowork*	0.009788	0.005523	1.98	0.048	0.269804
english*	-0.00056	0.003941	-0.14	0.887	0.571634
french*	-0.001211	0.005099	-0.24	0.814	0.232716
lim*	0.165961	0.025915	35.97	0.000	0.17603
educ9*	-0.005447	0.003624	-1.53	0.125	0.106736
educ11*	-0.009688	0.004925	-2.02	0.044	0.052305
educhsg*	-0.021211	0.00554	-6.19	0.000	0.176026
educsps*	-0.02426	0.00623	-6.2	0.000	0.075544
educpsd*	-0.029302	0.007029	-9.03	0.000	0.28937
educud*	-0.039845	0.009282	-10.8	0.000	0.156139
newspage	0.000391	0.000589	0.62	0.535	26.1233
newspa~2	-4.35E-06	6.02E-06	-0.67	0.500	1304.01
spagemis*	0.017558	0.018444	0.99	0.322	0
sped9_10*	-0.003762	0.006001	-0.62	0.537	0.065865
sped1~13*	-0.000362	0.007948	-0.05	0.964	0.032757
sped~13g*	0.000716	0.005669	0.13	0.899	0.125911
spedps*	0.038052	0.010406	5.89	0.000	0.177717
spedud*	0.041115	0.01599	3.58	0.000	0.091521
spengl~h*	0.002661	0.004076	0.65	0.515	0.371386
spfrench*	-0.000483	0.004921	-0.1	0.922	0.121896

obs. P	0.124447	
pred. P	0.068215	(at x-bar)
pred. P	**0.041604**	**(at x)**

(*) dF/dx is for discrete change of dummy variable from 0 to 1
  z and P>|z| are the test of the underlying coefficient being 0

WHO ARRIVED BETWEEN 1966 & 1970

			Number of obs	37396
			Wald chi2(46)	4420.65
			Prob > chi2	0.000
			Pseudo R2	0.3109

sa	dF/dx	Robust Std. Err.	z	P>|z|	x
age	0.001262	0.0005554	2.57	0.010	47.6486
age2	-2.49E-05	6.98E-06	-5.6	0.000	2550.56
prairie*	-0.015612	0.0059804	-2.94	0.003	0.161465
bc*	-0.021406	0.0080896	-2.79	0.005	0.135437
on*	0.000125	0.0030959	0.04	0.968	0.364572
queb*	-0.009338	0.0048237	-2.02	0.044	0.255256
provmis*	-0.037953	0.0105775	-3.15	0.002	0
siz500*	-0.002272	0.002979	-0.77	0.439	0.005127
siz100*	-0.004924	0.0028281	-1.88	0.060	0.161187
siz30*	0.008912	0.0042556	2.45	0.014	0.085749
imm56p*	0.010897	0.0086757	1.46	0.145	0
imm56_65*	-0.013426	0.0070007	-1.79	0.073	0
imm66_70*	-0.016811	0.0101763	-1.48	0.138	1
imm71_75*	0.026476	0.015788	2.18	0.029	0
imm76_80*	0.020402	0.0144762	1.74	0.082	0
imm81_85*	0.05139	0.0208283	3.82	0.000	0
imm86_97*	0.011841	0.0082049	1.73	0.084	0
fam_~d45*	0.015978	0.0078435	2.44	0.015	0.181287
fam_lt45*	0.011943	0.0072673	1.9	0.058	0.082015
fam_lt~k*	0.01842	0.0084258	2.71	0.007	0.178781
fam_45*	0.003794	0.0061403	0.63	0.527	0.245353
fam_45k*	0.000206	0.0087812	0.02	0.981	0.044832
fam_spar*	0.104691	0.0223223	11.95	0.000	0.094491
numdep	-0.0039	0.0021105	-2.02	0.043	0.62759
emp*	-0.115165	0.0239283	-16.98	0.000	0.604872
self*	-0.045952	0.0118508	-13.08	0.000	0.082054
nowork*	0.009962	0.0057005	1.98	0.048	0.269804
english*	-0.00057	0.0040071	-0.14	0.887	0.571634
french*	-0.001233	0.0051843	-0.24	0.814	0.232716
lim*	0.168149	0.0281885	35.97	0.000	0.17603
educ9*	-0.005546	0.0036764	-1.53	0.125	0.106736
educ11*	-0.009867	0.0049906	-2.02	0.044	0.052305
educhsg*	-0.021611	0.0058501	-6.19	0.000	0.176026
educsps*	-0.02473	0.006659	-6.2	0.000	0.075544
educpsd*	-0.029848	0.0074654	-9.03	0.000	0.28937
educud*	-0.040629	0.0101881	-10.8	0.000	0.156139
newspage	0.000398	0.0006012	0.62	0.535	26.1233
newspa~2	-4.42E-06	6.15E-06	-0.67	0.500	1304.01
spagemis*	0.017858	0.0188089	0.99	0.322	0
sped9_10*	-0.003831	0.0061185	-0.62	0.537	0.065865
sped1~13*	-0.000369	0.0080932	-0.05	0.964	0.032757
sped~13g*	0.000729	0.0057682	0.13	0.899	0.125911
spedps*	0.038686	0.0108732	5.89	0.000	0.177717
spedud*	0.041786	0.0164536	3.58	0.000	0.091521
spengl~h*	0.002709	0.0041568	0.65	0.515	0.371386
spfrench*	-0.000492	0.0050067	-0.1	0.922	0.121896

obs. P	0.124447	
pred. P	0.068215	(at x-bar)
pred. P	**0.042532**	**(at x)**

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| are the test of the underlying coefficient being 0

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PREDICTED PROBABILITY OF SA RECEIPT FOR IMMIGRANT FAMILIES
WHO ARRIVED BETWEEN 1971 & 1975

		Number of obs	37396
		Wald chi2(46)	4420.65
		Prob > chi2	0.000
		Pseudo R2	0.3109

sa	dF/dx	Robust Std. Err.	z	P>|z|	x
age	0.002321	0.0009716	2.57	0.010	47.6486
age2	-4.59E-05	0.0000112	-5.6	0.000	2550.56
prairie*	-0.029421	0.0107215	-2.94	0.003	0.161465
bc*	-0.040853	0.0147471	-2.79	0.005	0.135437
on*	0.000229	0.0056925	0.04	0.968	0.364572
queb*	-0.017349	0.0085233	-2.02	0.044	0.255256
provmis*	-0.079459	0.0196001	-3.15	0.002	0
siz500*	-0.0042	0.0054706	-0.77	0.439	0.005127
siz100*	-0.009126	0.0050757	-1.88	0.060	0.161187
siz30*	0.016138	0.0073023	2.45	0.014	0.085749
imm56p*	0.019599	0.0149667	1.46	0.145	0
imm56_65*	-0.025522	0.0132887	-1.79	0.073	0
imm66_70*	-0.024159	0.0149669	-1.48	0.138	0
imm71_75*	0.033824	0.0184985	2.18	0.029	1
imm76_80*	0.036056	0.0241581	1.74	0.082	0
imm81_85*	0.086546	0.0310469	3.82	0.000	0
imm86_97*	0.021259	0.0139987	1.73	0.084	0
fam_~d45*	0.028757	0.0135509	2.44	0.015	0.181287
fam_lt45*	0.021514	0.0125963	1.9	0.058	0.082015
fam_lt~k*	0.033039	0.0141463	2.71	0.007	0.178781
fam_45*	0.006949	0.0112497	0.63	0.527	0.245353
fam_45k*	0.000379	0.0161393	0.02	0.981	0.044832
fam_spar*	0.167975	0.0283121	11.95	0.000	0.094491
numdep	-0.007175	0.0037498	-2.02	0.043	0.62759
emp*	-0.194272	0.0318523	-16.98	0.000	0.604872
self*	-0.094098	0.0202189	-13.08	0.000	0.082054
nowork*	0.018137	0.0098453	1.98	0.048	0.269804
english*	-0.001049	0.007375	-0.14	0.887	0.571634
french*	-0.002271	0.0095963	-0.24	0.814	0.232716
lim*	0.258961	0.0312781	35.97	0.000	0.17603
educ9*	-0.010303	0.006711	-1.53	0.125	0.106736
educ11*	-0.01853	0.0091816	-2.02	0.044	0.052305
educhsg*	-0.041043	0.0095123	-6.19	0.000	0.176026
educsps*	-0.047973	0.0109954	-6.2	0.000	0.075544
educpsd*	-0.056248	0.0115423	-9.03	0.000	0.28937
educud*	-0.079777	0.0158149	-10.8	0.000	0.156139
newspage	0.000733	0.0011208	0.62	0.535	26.1233
newspa~2	-8.14E-06	0.0000115	-0.67	0.500	1304.01
spagemis*	0.031703	0.0328917	0.99	0.322	0
sped9_10*	-0.0071	0.0113685	-0.62	0.537	0.065865
sped1~13*	-0.000679	0.0149067	-0.05	0.964	0.032757
sped~13g*	0.001339	0.0105866	0.13	0.899	0.125911
spedps*	0.067622	0.0164224	5.89	0.000	0.177717
spedud*	0.072053	0.0256471	3.58	0.000	0.091521
spengl~h*	0.004976	0.0076258	0.65	0.515	0.371386
spfrench*	-0.000905	0.009225	-0.1	0.922	0.121896

obs. P	0.124447	
pred. P	0.068215	(at x-bar)
pred. P	**0.093167**	**(at x)**

(*) dF/dx is for discrete change of dummy variable from 0 to 1
   z and P>|z| are the test of the underlying coefficient being 0

PREDICTED PROBABILITY OF SA RECEIPT FOR IMMIGRANT FAMILIES
WHO ARRIVED BETWEEN 1976 & 1980

				Number of obs	37396
				Wald chi2(46)	4420.65
				Prob > chi2	0.000
				Pseudo R2	0.3109

sa	dF/dx	Robust Std. Err.	z	P>|z|	x
age	0.002178	0.0009195	2.57	0.010	47.6486
age2	-0.000043	0.0000107	-5.6	0.000	2550.56
prairie*	-0.027525	0.0101008	-2.94	0.003	0.161465
bc*	-0.038162	0.0140583	-2.79	0.005	0.135437
on*	0.000215	0.0053437	0.04	0.968	0.364572
queb*	-0.016258	0.0082301	-2.02	0.044	0.255256
provrnis*	-0.073386	0.0185207	-3.15	0.002	0
siz500*	-0.003938	0.0051375	-0.77	0.439	0.005127
siz100*	-0.008555	0.0047882	-1.88	0.060	0.161187
siz30*	0.01517	0.0069015	2.45	0.014	0.085749
imm56p*	0.018438	0.0141283	1.46	0.145	0
imm56_65*	-0.023853	0.0124381	-1.79	0.073	0
imm66_70*	-0.022584	0.013992	-1.48	0.138	0
imm71_75*	0.043705	0.0244539	2.18	0.029	0
imm76_80*	0.026175	0.0173779	1.74	0.082	1
imm81_85*	0.082045	0.029934	3.82	0.000	0
imm86_97*	0.020003	0.013279	1.73	0.084	0
fam_~d45*	0.02705	0.0126523	2.44	0.015	0.181287
fam_lt45*	0.020235	0.0118791	1.9	0.058	0.082015
fam_lt~k*	0.031091	0.013592	2.71	0.007	0.178781
fam_45*	0.006523	0.010543	0.63	0.527	0.245353
fam_45k*	0.000355	0.015147	0.02	0.981	0.044832
fam_spar*	0.160118	0.0279906	11.95	0.000	0.094491
numdep	-0.006732	0.0035874	-2.02	0.043	0.62759
emp*	-0.184039	0.0313867	-16.98	0.000	0.604872
self*	-0.087127	0.0192739	-13.08	0.000	0.082054
nowork*	0.017038	0.009303	1.98	0.048	0.269804
english*	-0.000984	0.0069191	-0.14	0.887	0.571634
french*	-0.00213	0.0089739	-0.24	0.814	0.232716
lim*	0.247958	0.0319713	35.97	0.000	0.17603
educ9*	-0.009656	0.0063175	-1.53	0.125	0.106736
educ11*	-0.017344	0.008651	-2.02	0.044	0.052305
educhsg*	-0.038362	0.0090429	-6.19	0.000	0.176026
educsps*	-0.044725	0.0103705	-6.2	0.000	0.075544
educpsd*	-0.05262	0.011129	-9.03	0.000	0.28937
educud*	-0.074255	0.0155006	-10.8	0.000	0.156139
newspage	0.000687	0.001049	0.62	0.535	26.1233
newspa~2	-7.63E-06	0.0000107	-0.67	0.500	1304.01
spagemis*	0.02987	0.0309823	0.99	0.322	0
sped9_10*	-0.006655	0.0106362	-0.62	0.537	0.065865
sped1~13*	-0.000637	0.0139825	-0.05	0.964	0.032757
sped~13g*	0.001256	0.0099413	0.13	0.899	0.125911
spedps*	0.063826	0.0158305	5.89	0.000	0.177717
spedud*	0.068117	0.0249148	3.58	0.000	0.091521
spengl~h*	0.004669	0.0071432	0.65	0.515	0.371386
spfrench*	-0.000849	0.0086546	-0.1	0.922	0.121896

obs. P	0.124447		
pred. P	0.068215	(at x-bar)
pred. P	**0.085518**	**(at x)**

(*) dF/dx is for discrete change of dummy variable from 0 to 1
   z and P>|z| are the test of the underlying coefficient being 0

PREDICTED PROBABILITY OF SA RECEIPT FOR IMMIGRANT FAMILIES
WHO ARRIVED BETWEEN 1981 & 1985

			Number of obs	37396
			Wald chi2(46)	4420.65
			Prob > chi2	0.000
			Pseudo R2	0.3109

sa	dF/dx	Robust Std. Err.	z	P>|z|	x
age	0.0028514	0.0011703	2.57	0.010	47.6486
age2	-0.0000563	0.0000128	-5.6	0.000	2550.56
prairie*	-0.0365156	0.0129801	-2.94	0.003	0.161465
bc*	-0.0509793	0.0181312	-2.79	0.005	0.135437
on*	0.0002819	0.0069947	0.04	0.968	0.364572
queb*	-0.0214039	0.0104481	-2.02	0.044	0.255256
provmis*	-0.1032797	0.0239296	-3.15	0.002	0
siz500*	-0.0051708	0.0067228	-0.77	0.439	0.005127
siz100*	-0.0112471	0.0061732	-1.88	0.060	0.161187
siz30*	0.0196987	0.008699	2.45	0.014	0.085749
imm56p*	0.0238565	0.0179203	1.46	0.145	0
imm56_65*	-0.0317901	0.0165042	-1.79	0.073	0
imm66_70*	-0.0300682	0.0186624	-1.48	0.138	0
imm71_75*	0.0557232	0.0299959	2.18	0.029	0
imm76_80*	0.0435732	0.0285446	1.74	0.082	0
imm81_85*	0.064647	0.0224304	3.82	0.000	1
imm86_97*	0.0258566	0.0167341	1.73	0.084	0
fam_~d45*	0.0350139	0.0159614	2.44	0.015	0.181287
fam_lt45*	0.0262038	0.0150349	1.9	0.058	0.082015
fam_lt~k*	0.0401729	0.0167278	2.71	0.007	0.178781
fam_45*	0.0085224	0.0137313	0.63	0.527	0.245353
fam_45k*	0.0004651	0.0198247	0.02	0.981	0.044832
fam_spar*	0.1953624	0.0289273	11.95	0.000	0.094491
numdep	-0.0088148	0.0045541	-2.02	0.043	0.62759
emp*	-0.2310657	0.0327287	-16.98	0.000	0.604872
self*	-0.1212516	0.0229493	-13.08	0.000	0.082054
nowork*	0.0221893	0.0118768	1.98	0.048	0.269804
english*	-0.0012884	0.0090577	-0.14	0.887	0.571634
french*	-0.0027912	0.0117918	-0.24	0.814	0.232716
lim*	0.2967079	0.0296491	35.97	0.000	0.17603
educ9*	-0.0127106	0.0082203	-1.53	0.125	0.106736
educ11*	-0.0229636	0.0112944	-2.02	0.044	0.052305
educhsg*	-0.0511121	0.0107835	-6.19	0.000	0.176026
educsps*	-0.0602806	0.0125848	-6.2	0.000	0.075544
educpsd*	-0.069839	0.0127523	-9.03	0.000	0.28937
educud*	-0.100855	0.0180202	-10.8	0.000	0.156139
newspage	0.0009	0.0013846	0.62	0.535	26.1233
newspa~2	-1.00E-05	0.0000141	-0.67	0.500	1304.01
spagemis*	0.0383841	0.0395999	0.99	0.322	0
sped9_10*	-0.0087496	0.0140094	-0.62	0.537	0.065865
sped1~13*	-0.0008343	0.0183211	-0.05	0.964	0.032757
sped~13g*	0.0016437	0.0130013	0.13	0.899	0.125911
spedps*	0.0813767	0.018455	5.89	0.000	0.177717
spedud*	0.086221	0.0295175	3.58	0.000	0.091521
spengl~h*	0.006109	0.0093449	0.65	0.515	0.371386
spfrench*	-0.0011122	0.0113366	-0.1	0.922	0.121896

obs. P   0.1244467
pred. P   0.0682151 (at x-bar)
pred. P   0.12399 (at x)

(*) dF/dx is for discrete change of dummy variable from 0 to 1
    z and P>|z| are the test of the underlying coefficient being 0

PREDICTED PROBABILITY OF SA RECEIPT FOR IMMIGRANT FAMILIES
WHO ARRIVED BETWEEN 1986 & 1987

Number of obs	37396
Wald chi2(46)	4420.65
Prob > chi2	0.000
Pseudo R2	0.3109

sa	dF/dx	RobustStd. Err.	z	P>|z|	x
age	0.001965	0.0008062	2.57	0.010	47.6486
age2	-3.88E-05	8.75E-06	-5.6	0.000	2550.56
prairie*	-0.024722	0.0085024	-2.94	0.003	0.161465
bc*	-0.034195	0.0117503	-2.79	0.005	0.135437
on*	0.000194	0.0048199	0.04	0.968	0.364572
queb*	-0.014641	0.0070967	-2.02	0.044	0.255256
provmis*	-0.064627	0.0131954	-3.15	0.002	0
siz500*	-0.00355	0.0046247	-0.77	0.439	0.005127
siz100*	-0.007708	0.0042288	-1.88	0.060	0.161187
siz30*	0.013725	0.0060851	2.45	0.014	0.085749
imm56p*	0.016703	0.0127989	1.46	0.145	0
imm56_65*	-0.02139	0.0107404	-1.79	0.073	0
imm66_70*	-0.020259	0.0121823	-1.48	0.138	0
imm71_75*	0.039793	0.0221746	2.18	0.029	0
imm76_80*	0.030889	0.02084	1.74	0.082	0
imm81_85*	0.075214	0.0270561	3.82	0.000	0
imm86_97*	0.015289	0.0097247	1.73	0.084	1
fam_~d45*	0.024501	0.0113689	2.44	0.015	0.181287
fam_lt45*	0.018325	0.0106109	1.9	0.058	0.082015
fam_lt~k*	0.028178	0.011996	2.71	0.007	0.178781
fam_45*	0.00589	0.0094995	0.63	0.527	0.245353
fam_45k*	0.000321	0.0136665	0.02	0.981	0.044832
fam_spar*	0.148059	0.0234167	11.95	0.000	0.094491
numdep	-0.006073	0.0031449	-2.02	0.043	0.62759
emp*	-0.168579	0.0230139	-16.98	0.000	0.604872
self*	-0.077033	0.0132194	-13.08	0.000	0.082054
nowork*	0.0154	0.0084782	1.98	0.048	0.269804
english*	-0.000888	0.0062321	-0.14	0.887	0.571634
french*	-0.001921	0.0080861	-0.24	0.814	0.232716
lim*	0.230926	0.0238311	35.97	0.000	0.17603
educ9*	-0.008696	0.0055927	-1.53	0.125	0.106736
educ11*	-0.015588	0.0075342	-2.02	0.044	0.052305
educhsg*	-0.034405	0.00707	-6.19	0.000	0.176026
educsps*	-0.039956	0.0079725	-6.2	0.000	0.075544
educpsd*	-0.047258	0.0083501	-9.03	0.000	0.28937
educud*	-0.066178	0.011221	-10.8	0.000	0.156139
newspage	0.00062	0.000941	0.62	0.535	26.1233
newspa~2	-6.89E-06	9.61E-06	-0.67	0.500	1304.01
spagemis*	0.027123	0.028077	0.99	0.322	0
sped9_10*	-0.005996	0.0095532	-0.62	0.537	0.065865
sped1~13*	-0.000575	0.0126105	-0.05	0.964	0.032757
sped~13g*	0.001133	0.0089683	0.13	0.899	0.125911
spedps*	0.058117	0.0132192	5.89	0.000	0.177717
spedud*	0.062178	0.0220012	3.58	0.000	0.091521
spengl~h*	0.004214	0.0064379	0.65	0.515	0.371386
spfrench*	-0.000766	0.0078023	-0.1	0.922	0.121896

obs. P	0.124447
pred. P	0.068215 (at x-bar)
pred. P	**0.074632 (at x)**

(*) dF/dx is for discrete change of dummy variable from 0 to 1
   z and P>\|z\| are the test of the underlying coefficient being 0

Immigrant Status	Estimated Probability of SA Receipt (evaluated at sample means and proportions, Canad=1)
Canadian	5.93%
Imm56p	5.93%
Imm56_65	4.16%
Imm66_70	5.93%
Imm71_75	9.32%
Imm76_80	8.55%
Imm81_85	12.40%
Imm86_97	7.46%

Est Pr(SA=1)

*note that estimated probabilities for Imm56p & Imm66_70 are are set equal to the base case estimate
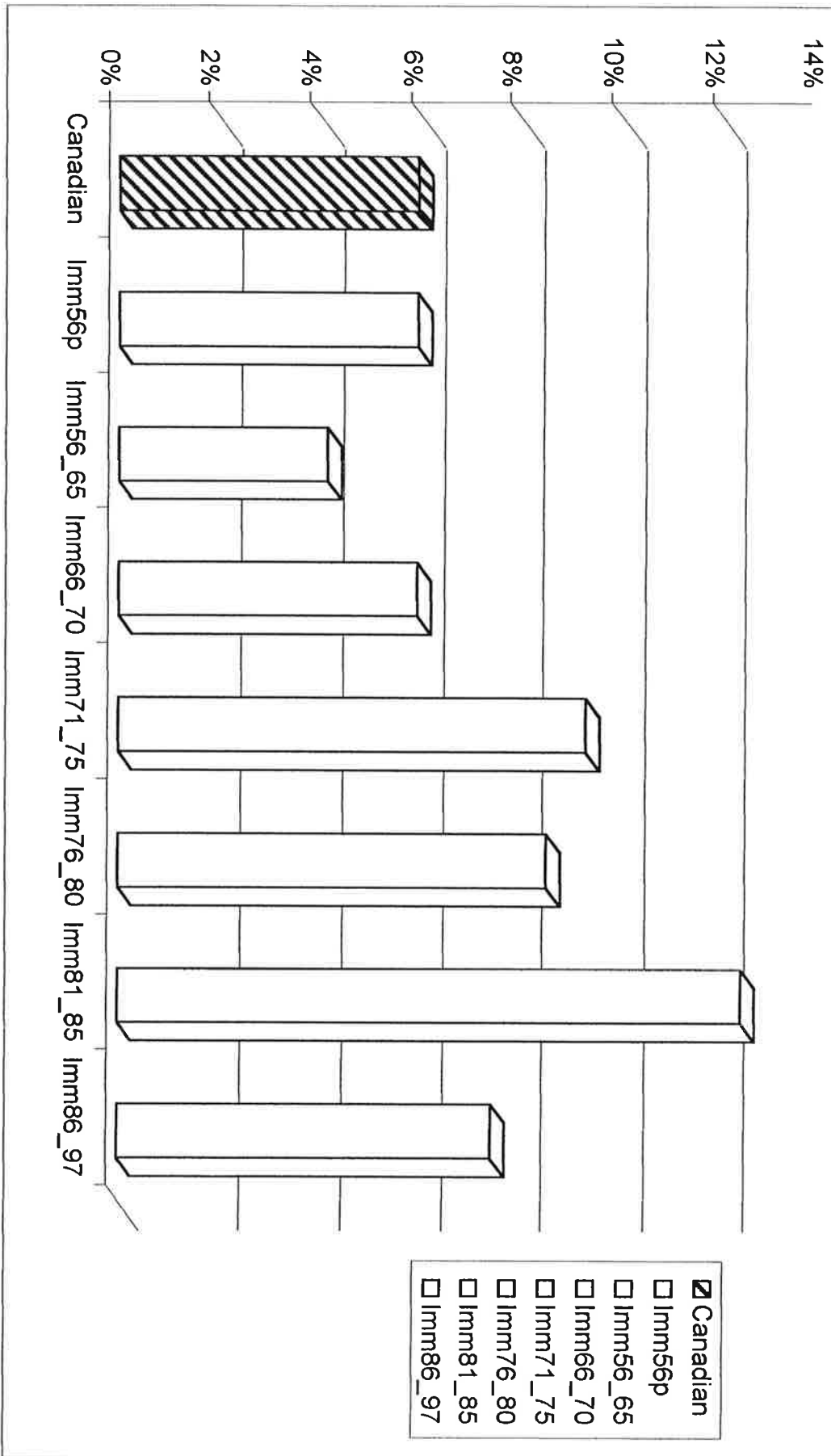
Table 2: Variable Descriptions for Model 2

Income Characteristics:	
EIBENF	The total amount of employment insurance benefits received by the individual in the income year of 1997. This includes benefits for sickness, maternity, work-sharing, retraining and retirement. Benefits to self-employed fisherman are also included.
EI	Denotes presence or absence of receipt of employment insurance benefits in the income year of 1997. =1 if individual received EI benefits =0 otherwise
Demographic Characteristics:	
REGION:	This variable captures the region in which the individual resides. Base Group: Individuals living in Ontario
prairie	=1 if individual lives in Manitoba, Saskatchewan, or Alberta; =0 otherwise
bc	=1 if individual lives in British Columbia; =0 otherwise
altantic	=1 if individual lives in Newfoundland, PEI, Nova Scotia, or New Brunswick; =0 otherwise
queb	=1 if individual lives in Quebec; =0 otherwise
SIZE OF AREA OF RESIDENCE:	This set of variables classify the population size of the area in which the individual resides. Base Group: individuals living in an urban population of less than 2,500 or rural areas
siz500	=1 if individual lives in an urban population of 500,000 or more; =0 otherwise
siz100	=1 if individual lives in an urban population of 100,000 to 499,999; =0 otherwise
siz30	=1 if individual lives in an urban population of 30,000 to 99,999; =0 otherwise
siz2	=1 if individual lives in an urban population of 2,500 to 29,999
IMMIGRATION STATUS:	This set of variables indicate whether the individual is foreign-born or native born. It also indicates the period of arrival for immigrants. Base Group: native born individuals
imm46p	=1 if individual arrived before 1946; =0 otherewise
imm46_55	=1 if individual arrived between 1946 and 1955; =0 otherwise
imm56_65	=1 if individual arrived between 1956 and 1965; =0 otherwise

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imm66_70	=1 if individual arrived between 1966 and 1970; =0 otherwise
imm71_75	=1 if individual arrived between 1971 and 1975; =0 otherwise
imm76_80	=1 if individual arrived between 1976 and 1980; =0 otherwise
imm81_85	=1 if individual arrived between 1981 and 1985; =0 otherwise
imm86_97	=1 if individual arrived between 1986 and survey year; =0 otherwise

Personal Characteristics of Individual:

EDUCATION	Education captures the highest level of formal education attained, Base Group: Individuals with no schooling or grade 8 or lower
ed9	=1 if highest level of education completed by individual is grade 9-10, no other education =0 otherwsie
ed11_13	=1 if highest level of education completed by individual is grade 11–13, did not graduate from high school =0 otherwise
ed11_13g	=1 if highest level of education completed by individual is grade 11-13, graduated from high school, no other education =0 otherwise
edsps	=1 if completed some post secondary, no degree, certificate or diploma =0 otherwise
edps	=1 if have a post-secondary certificate or diploma (includes trades certificates) =0 otherwise
edud	=1 if have a university degree; =0 otherwise
MOTHER TONGUE:	This set of variables indicates the language the individual first attained and still understands. Base Group: Other
english	=1 if English; =0 otherwise
french AGE:	=1 if French; =0 otherwise
age	= 15 to 79yrs (actual age) =80 if 80 yrs and older
age2	=age*age
MARITAL STATUS:	Base Group: Other
single	=1 if single; =0 otherwise
married	=1 if married or living common law; =0 otherwise

GENDER: female	=1 if female; =0 otherwise
Employment Characteristics: LABOUR FORCE STATUS:	This set of variables indicate the labour force status of the individual during the reference week. Base Group: individuals outside the labour force
emp	=1 if employed; =0 otherwise
unemp	=1 if unemployed; =0 otherwise
INDUSTRY:	This set of variables indicate the industry of employment at the time of the survey or most recent job within one year if not currently employed. Base Group: individuals employed in agriculture
othprim	=1 if employed in other primary sectors; =0 otherwise
manufnd	=1 if employed in non-durable manufacturing; =0 otherwise
manufd	=1 if employed in durable manufacturing; =0 otherwise
construct	=1 if employed in construction; =0 otherwise
transcom	=1 if employed in transportation, communication, or other utilities; =0 otherwise
tradewh	=1 if employed in wholesale trade; =0 otherwise
traderet	=1 if employed in retail trade; =0 otherwise
finanserv	=1 if employed in finance, insurance , or real estate; =0 otherwise
commserv	=1 if employed in community service; =0 otherwise
perserv	=1 if employed in personal service; =0 otherwise
busmisc	=1 if employed in business and miscellaneous services; =0 otherwise
nwork1	=1 if worked more than one year ago; =0 otherwise
nvwork	=1 if never worked or permanently unable to work; =0 otherwise
ELIGIBILITY:	This set of variables indicates whether or not the individual was worked the minimum number of weeks required to be eligible to EI receipt. The minimum requirement varies by local economic conditions.
eligib	=1 if worked at least the minimum number of weeks to be eligible for EI receipt, according to region =0 otherwise
Other Variables: weight	This variable provides weights to inflate predetermined individual totals. This variable is used to calculate valid statistics.
provmis	This variable includes individuals with unusually high incomes, large income losses or unusual characteristics, such as large family size, that have the Province code masked to ensure confidentiality. =1 if missing observation for prov; =0 otherwise

Province	Unemployment Rate (1997)	Minimum Number of Hours Worked
Newfoundland	18.6 %	420 hrs
PEI	15.5%	420 hrs
Nova Scotia	12.2%	455 hrs
New Brunswick	12.7 %	455 hrs
Quebec	11.4 %	490 hrs
Ontario	8.4%	595 hrs
Manitoba	6.5%	665 hrs
Saskatchewan	5.9%	700 hrs
Alberta	5.8 %	700 hrs
British Columbia	8.4%	595 hrs

[1]Data collected from CANSIM, "Selected Economic Indicators," Provincial Unemployment Rates

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[1] Source: CANSIM database, Selected Economic Indicators, 1997 Provincial Unemployment Rates.

Summary Statistics for Model 2

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
eibenf	57882	20430404	451.1873	1798.886	0	20263
ei	57882	20430404	0.0957014	0.2941839	0	1
age	57882	20430404	37.80576	13.15863	15	64
age2	57882	20430404	1602.422	1027.126	225	4096
siz500	57882	20430404	0.504313	0.4999857	0	1
siz100	57882	20430404	0.1566535	0.3634769	0	1
siz30	57882	20430404	0.0816603	0.2738489	0	1
siz2	57882	20430404	0.0832295	0.2762312	0	1
atlantic	57882	20430404	0.0796198	0.270706	0	1
quebec	57882	20430404	0.2484859	0.4321388	0	1
prairie	57882	20430404	0.1600181	0.366626	0	1
bc	57882	20430404	0.1298861	0.336181	0	1
provmis	57882	20430404	0.0045822	0.0675372	0	1
ed9	57882	20430404	0.1162078	0.3204767	0	1
ed11_13g	57882	20430404	0.1964636	0.3973265	0	1
ed11_13	57882	20430404	0.0716324	0.2578805	0	1
edsps	57882	20430404	0.0996304	0.2995092	0	1
edps	57882	20430404	0.2915853	0.4544963	0	1
edud	57882	20430404	0.1508024	0.3578593	0	1
imm56p	57882	20430404	0.0121483	0.1095486	0	1
imm56_65	57882	20430404	0.0202769	0.1409472	0	1
imm66_70	57882	20430404	0.0206087	0.1420716	0	1
imm71_75	57882	20430404	0.0204598	0.1415682	0	1
imm76_80	57882	20430404	0.0183314	0.1341478	0	1
imm81_85	57882	20430404	0.0164817	0.1273198	0	1
imm86_97	57882	20430404	0.0760723	0.265116	0	1
english	57882	20430404	0.6045915	0.4889425	0	1
french	57882	20430404	0.2350418	0.4240286	0	1
emp	57882	20430404	0.6771192	0.4675816	0	1
unemp	57882	20430404	0.0641955	0.2451029	0	1
othprim	57882	20430404	0.0184648	0.134626	0	1
manufnd	57882	20430404	0.0628163	0.2426344	0	1
manufd	57882	20430404	0.061243	0.2397776	0	1
construct	57882	20430404	0.0424644	0.2016478	0	1
transcom	57882	20430404	0.0562178	0.2303438	0	1
tradewh	57882	20430404	0.0350239	0.1838418	0	1
traderet	57882	20430404	0.0960134	0.2946121	0	1
finanserv	57882	20430404	0.0400435	0.196063	0	1
commserv	57882	20430404	0.1417424	0.3487888	0	1
perserv	57882	20430404	0.0745439	0.2626563	0	1
busmisc	57882	20430404	0.0826139	0.2753002	0	1
pubadm	57882	20430404	0.0469446	0.2115221	0	1
nwork1	57882	20430404	0.136828	0.3436686	0	1
nvwork	57882	20430404	0.0826532	0.2753597	0	1
single	57882	20430404	0.306382	0.4609943	0	1
married	57882	20430404	0.6079112	0.4882205	0	1
female	57882	20430404	0.4982431	0.5000012	0	1
eligibnew	57882	20430404	0.6087436	0.4880358	0	1
weight	57882	20430404	576.6985	358.3179	14	2330

SPECIFICATION TESTING FOR MODEL2

(1) Testing the hypothesis that immigrants have the same probability of EI receipt than comparable native born

H_o: λ_i=0 for $\forall$ i= 1....7

H_1: $\lambda_1 \neq 0$, &/or $\lambda_2 \neq 0$, &/or $\lambda_3 \neq 0$, &/or $\lambda_4 \neq 0$, &/or $\lambda_5 \neq 0$, &/or $\lambda_6 \neq 0$, &/or $\lambda_7 \neq 0$

chi2(7)=1.50, Prob>chi2=0.9824

Inference: H_o is retained at the 1% significance level.

(2) Testing the proposition that the probability of EI receipt does not vary by province

H_o: β_i=0 for $\forall$ i= 1....4

H_1: $\beta_1 \neq 0$, &/or $\beta_2 \neq 0$, &/or $\beta_3 \neq 0$, &/or $\beta_4 \neq 0$

chi2(4)=404.01, Prob > chi2 = 0.0000

Inference: H_o is rejected at the 1% significance level

(3) Testing the proposition that the probability of EI receipt does not vary by city size

H_o: θ_i=0 for $\forall$ i= 1....3

H_1: $\theta_1 \neq 0$, &/or $\theta_2 \neq 0$, &/or $\theta_3 \neq 0$

chi2(4) = 75.13, Prob > chi2 =   0.0000

Inference: H_o is rejected at the 1% significance level

(5) Testing the proposition that education does not affect the probability of EI receipt

H_o: ϕ_i=0 for $\forall$ i= 1....6

H_1: $\phi_1 \neq 0$, &/or $\phi_2 \neq 0$, &/or $\phi_3 \neq 0$, &/or $\phi_4 \neq 0$, &/or $\phi_5 \neq 0$, &/or $\phi_6 \neq 0$

chi2(6) =37.43, Prob > chi2 =   0.0000

Inference: H_o is rejected at the 1% significance level

(6) Testing the proposition that an individual's mother tongue does not affect the probability of EI receipt

H_o: ψ_i=0 for $\forall$ i= 1...2

H_1: $\psi_1 \neq 0$, &/or $\psi_2 \neq 0$

chi2(2) =14.34, Prob > chi2 =0.0008

Inference: H_o is retained at the 1% significance level

(7) Testing the proposition that an individual's marital status does not affect the probability of EI receipt.

H_o: α_i=0 for $\forall$ i= 1....2

H_1: $\alpha_1 \neq 0$, &/or $\alpha_2 \neq 0$

chi2(2) =12.36, Prob > chi2 =   0.0021

Inference: H_o is rejected at the 1% significance level.

(8) Testing the proposition that employment status does not affect the probability of EI receipt

H_o: Φ_i=0 for $\forall$ i= 1....2

H_1: $\Phi_1 \neq 0$, &/or $\Phi_2 \neq 0$

chi2(2) = 398.92, Prob > chi2 =   0.0000

Inference: H_o is rejected at the 1% significance level

(9) Testing the proposition that the individual's industry of employment does not affect the probability of EI receipt

H_o: δ_i=0 for $\forall$ i= 1....14

H_1: $\delta_1 \neq 0$, &/or $\delta_2 \neq 0$, &/or $\delta_3 \neq 0$, &/or $\delta_4 \neq 0$, &/or $\delta_5 \neq 0$, &/or $\delta_6 \neq 0$, &/or $\delta_7 \neq 0$, &/or $\delta_8 \neq 0$, &/or $\delta_9 \neq 0$, &/or $\delta_{10} \neq 0$, &/or $\delta_{11} \neq 0$, &/or $\delta_{12} \neq 0$, &/or $\delta_{13} \neq 0$, &/or $\delta_{14} \neq 0$

chi2(14) = 1096.13, Prob > chi2 =   0.0000

Inference: H_o is rejected at the 1% significance level

(10) Testing the proposition that an individual's gender does not affect the probability of employment

H_o: $\varphi_1=0$

H_1: $\varphi_1 \neq 0$

chi2(1) = 4.91, Prob > chi2 =   0.0267

Inference: H_o is rejected at the 5% significance level

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(11) Testing the proposition that whether or not an individual meets the eligibility criteria affects the probability of EI receipt

H_o: $\theta=0$

H_1: $\theta \neq 0$

chi2(1) =116.18, Prob > chi2 =   0.0000

Inference: H_o is rejected at the 1% significance level

(12) Testing the proposition that spousal characteristics do not affect the probability of Social Assistance receipt

H_o: $\varphi_i=0$ for $\forall$ i= 1....9

H_1: $\varphi_1 \neq 0$, &/or $\varphi_2 \neq 0$, &/or $\varphi_3 \neq 0$, &/or $\varphi_4 \neq 0$, &/or $\varphi_5 \neq 0$, &/or $\varphi_6 \neq 0$, &/or $\varphi_7 \neq 0$, &/or $\varphi_8 \neq 0$, &/or $\varphi_9 \neq 0$

chi2(9)=41.21, Prob>chi2=0.0000

Inference: H_o is rejected at the 1% significance level

PREDICTED PROBABILITY OF EI RECEIPT

ei	dF/dx	Robust Std. Err.	z	P>|z|	x-bar
age	0.007913	0.0008117	9.64	0.00	37.8058
age2	-0.0001058	0.0000101	-10.35	0.00	1602.42
siz500*	-0.0248075	0.0034614	-7.03	0.00	0.504313
siz100*	-0.0222219	0.0027085	-7.55	0.00	0.156653
siz30*	-0.016113	0.0035553	-4.14	0.00	0.08166
siz2*	-0.0068265	0.0036457	-1.81	0.07	0.083229
atlantic*	0.0700531	0.0052789	16.2	0.00	0.07962
quebec*	0.0248455	0.006751	3.93	0.00	0.248486
prairie*	-0.0089689	0.0035789	-2.43	0.02	0.160018
bc*	0.0026689	0.0044908	0.6	0.55	0.129886
provmis*	-0.0197726	0.0154888	-1.11	0.27	0.004582
ed9*	-0.0120987	0.0055698	-2.04	0.04	0.116208
ed11_13g'	-0.0100557	0.0054969	-1.76	0.08	0.196464
ed11_13*	-0.016857	0.006002	-2.54	0.01	0.071632
edsps*	-0.0204876	0.0053692	-3.4	0.00	0.09963
edps*	-0.0048465	0.005456	-0.88	0.38	0.291585
edud*	-0.0231247	0.0052304	-3.95	0.00	0.150802
imm56p*	0.0032243	0.0140603	0.23	0.82	0.012148
imm56_65	0.0064635	0.0110736	0.6	0.55	0.020277
imm66_70	0.0053664	0.0118318	0.47	0.64	0.020609
imm71_75	0.0026381	0.0110825	0.24	0.81	0.02046
imm76_80	0.0016974	0.0116781	0.15	0.88	0.018331
imm81_85	0.006849	0.0139603	0.51	0.61	0.016482
imm86_97	0.0072115	0.008074	0.92	0.36	0.076072
english*	0.0054069	0.0052954	1.01	0.31	0.604592
french*	0.0242879	0.0075546	3.45	0.00	0.235042
emp*	-0.0007006	0.0057383	-0.12	0.90	0.677119
unemp*	0.141685	0.0105787	18.52	0.00	0.064195
othprim*	0.1404585	0.0183119	10.7	0.00	0.018465
manufnd*	0.0408194	0.0115373	4.14	0.00	0.062816
manufd*	0.0651586	0.0127941	6.3	0.00	0.061243
constr~t*	0.1169823	0.016182	9.77	0.00	0.042464
transcom*	0.0315664	0.0109283	3.29	0.00	0.056218
tradewh*	0.020132	0.0117716	1.88	0.06	0.035024
traderet*	0.0118996	0.0086715	1.45	0.15	0.096013
finans~v*	0.0053904	0.0102571	0.54	0.59	0.040044
commserv'	0.0222406	0.008765	2.75	0.01	0.141742
perserv*	0.0060583	0.0085605	0.73	0.47	0.074544
busmisc*	0.0285563	0.0102547	3.12	0.00	0.082614
pubadm*	-0.0034502	0.0084498	-0.4	0.69	0.046945
nwork1*	-0.0625252	0.0038405	-10.72	0.00	0.136828
nvwork*	-0.0815991	0.0020663	-14.15	0.00	0.082653
single*	-0.0114887	0.0055764	-2.01	0.05	0.306382
married*	0.0025395	0.0046238	0.55	0.58	0.607911
female*	0.0065384	0.0028444	2.3	0.02	0.498243
eligib*	-0.0601224	0.0060485	-10.77	0.00	0.608744

obs. P   0.0957014
pred. P   0.0663029 (at x-bar)

(*) dF/dx is for discrete change of dummy variable from 0 to 1
   z and P>|z| are the test of the underlying coefficient being 0

PREDICTED PROBABILITY OF EI RECEIPT

Number of obs = 57882
Wald chi2(46) =3239.53
Prob > chi2 = 0.0000
Pseudo R2   = 0.1416

ei	dF/dx	Robust Std. Err.	z	P>|z|	x
age	0.0078309	0.0008129	9.64	0.00	37.8058
age2	-0.0001047	0.0000101	-10.35	0.00	1602.42
siz500*	-0.0245509	0.0033873	-7.03	0.00	0.504313
siz100*	-0.021982	0.0026759	-7.55	0.00	0.156653
siz30*	-0.0159398	0.0035142	-4.14	0.00	0.08166
siz2*	-0.0067546	0.003605	-1.81	0.07	0.083229
atlantic*	0.0694203	0.0052149	16.2	0.00	0.07962
quebec*	0.024596	0.0066431	3.93	0.00	0.248486
prairie*	-0.0088744	0.0035491	-2.43	0.02	0.160018
bc*	0.0026413	0.0044459	0.6	0.55	0.129886
provmis*	-0.0195311	0.0153121	-1.11	0.27	0
ed9*	-0.0119701	0.0055123	-2.04	0.04	0.116208
ed11_13g*	-0.0099497	0.0054393	-1.76	0.08	0.196464
ed11_13*	-0.0166752	0.0059388	-2.54	0.01	0.071632
edsps*	-0.0202656	0.0053132	-3.4	0.00	0.09963
edps*	-0.0047959	0.0053979	-0.88	0.38	0.291585
edud*	-0.0228744	0.0051648	-3.95	0.00	0.150802
imm56p*	0.0031925	0.0139187	0.23	0.82	0
imm56_65*	0.0064068	0.0109674	0.6	0.55	0
imm66_70*	0.005318	0.011717	0.47	0.64	0
imm71_75*	0.0026125	0.0109707	0.24	0.81	0
imm76_80*	0.0016805	0.0115592	0.15	0.88	0
imm81_85*	0.0067876	0.0138247	0.51	0.61	0
imm86_97*	0.0071816	0.0080271	0.92	0.36	0
english*	0.0053507	0.0052081	1.01	0.31	0.604592
french*	0.0240441	0.0073918	3.45	0.00	0.235042
emp*	-0.0006934	0.0056786	-0.12	0.90	0.677119
unemp*	0.140566	0.0106235	18.52	0.00	0.064195
othprim*	0.1393662	0.0182429	10.7	0.00	0.018465
manufnd*	0.0404306	0.0114474	4.14	0.00	0.062816
manufd*	0.0645671	0.0127211	6.3	0.00	0.061243
constr~t*	0.1160239	0.0160969	9.77	0.00	0.042464
transcom*	0.0312603	0.0108315	3.29	0.00	0.056218
tradewh*	0.0199324	0.0116584	1.88	0.06	0.035024
traderet*	0.0117791	0.0085866	1.45	0.15	0.096013
finans~v*	0.0053352	0.0101537	0.54	0.59	0.040044
commserv*	0.0220188	0.0086844	2.75	0.01	0.141742
perserv*	0.0059962	0.008475	0.73	0.47	0.074544
busmisc*	0.0282768	0.0101644	3.12	0.00	0.082614
pubadm*	-0.0034141	0.0083609	-0.4	0.69	0.046945
nwork1*	-0.0617964	0.0038728	-10.72	0.00	0.136828
nvwork*	-0.0805844	0.002241	-14.15	0.00	0.082653
single*	-0.0113682	0.0055148	-2.01	0.05	0.306382
married*	0.0025131	0.004577	0.55	0.58	0.607911
female*	0.0064705	0.0028136	2.3	0.02	0.498243
eligib*	-0.0595269	0.0060564	-10.77	0.00	0.608744
obs. P	0.0957014				
pred. P	0.0663029 (at x-bar)				
pred. P	0.0654162 (at x)				

(*) dF/dx is for discrete change of dummy variable from 0 to 1
   z and P>|z| are the test of the underlying coefficient being 0