



PCERII Funded Research

FINAL Report

**Earning Opportunities of Immigrants:
An Analysis of Urban Scale,
Industrial Structure, and Enclave Economy on Income Disparity**

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Executive Summary

Past research on immigrants' labour market performance mainly studies the effects of human capital and characteristics of work on earnings. The present project examines earning disparity between immigrants and native-born Canadians, taking into account the scale of the urban market, gender and race, and controlling for human capital, language ability and other labour market characteristics. A related question of the study is to examine immigrants who enter into self-employment to see if their earnings are comparable to immigrants in salaried employment.

The research method involves using the census microdata on individuals to develop models for estimating earning disparities between immigrants and native-born Canadians. The analysis compares the earnings among thirty-two comparative groups. The analysis first considers the gross (actual) earning differences among the 32 groups, and then calculates the net earning differences when variations in individual characteristics are taken into account. Net earning differences are calculated after adjusting for differences in individual attributes and market features that pertain to unemployment rate and the relative immigrant population size. In addition to using census data, the project also used the Longitudinal Immigration Data Base (IMDB), 1980-95, to compare immigrants in self-employment to those in wage work with respect to their earnings.

The analysis of microdata from the 1996 Census indicates that immigrant men at different CMA levels earned more than native-born men of the same racial origin, and immigrant women earned either the same or more than their native-born counterparts of the same racial background and CMA level. However, the earning advantage of various immigrant groups over their native-born counterparts disappears once differences in human capital, experience and other work-related individual variations are taken into account. Substantial earning disparities between immigrants and native-born Canadians remain once variations in individual features and market characteristics pertaining to immigrant size and unemployment rate of CMA are also controlled. Comparisons of the immigrant groups of the same gender and racial origin at various CMA levels with their native-born counterparts indicate that the net earning disadvantage for immigrants vary, depending on gender and racial origin, but less so on the CMA level. In general, income disparities between immigrants and native-born Canadians of the same gender and racial origin are similar at all CMA levels, except for those in non-CMA areas. Within the various immigrant groups, immigrant women of visible minority origin at all CMA levels suffer

the greatest net earning disadvantage, in the magnitude of about \$6,100 to \$8,200 a year. Immigrant women not of visible minority origin suffer only marginally less, in the amount of about \$5,700 to \$6,800 a year depending on the CMA level. The income disadvantage for immigrant men of visible minority origin ranges from \$3,100 to \$7,100 a year at various CMA levels. In contrast, immigrant men not of visible minority origin suffer the smallest income disadvantage, from \$3,600 to \$5,700 a year. The analysis further indicates that many factors affect the earnings of immigrants and native-born Canadians. Beside human capital, experience, and work-related variations as identified in the literature, official language ability, the number of years immigrants are estimated to have spent in Canada, the size of the immigrant population and the unemployment rate of the local market are found to influence earnings. However, the fact that immigrants earned either the same or more than native-born Canadians, but suffer an income disadvantage once other variations have been controlled suggests that the earning opportunities are not the same for immigrant groups as for native-born Canadians in different urban markets of Canada.

The analysis of IMDB data shows that immigrants who landed in Canada between 1980 and 1995 earned less than their salaried counterparts, when comparisons are made within each landing cohort and among male or female immigrants separately. Furthermore, self-employed immigrants earned substantially less than salaried immigrants when differences in country of origin, educational level at landing, age at landing, and class of admission are controlled, and when a separate regression model is estimated for each cohort and for each gender group. The finding holds true for the separate analysis of male and female immigrants in the 1980, 1985 and 1990 entry cohorts. As well, an analysis of all immigrants in the 1995 tax year also confirms the fact that self-employed immigrants earned less than salaried workers, even adjusted for differences in other factors.

The findings suggest that interpreting earning disparities between immigrants and native-born Canadians mainly as a result of differences in human capital is tenuous and simplistic. At the very least, it is not just the level of human capital that matters, but racial, gender and nativity characteristics of holders of human capital also affect how such capital is evaluated or devaluated. In the case of immigrants in the Canadian labour market, how well they perform relative to the native-born population is also a function of how prepared Canadian society is to reward them in the same manner as native-born Canadians, irrespective of superficial differences

in gender, race and nativity. The analysis of immigrants in self-employment suggests that for immigrants who have been in Canada for 15 years or less, self-employment yields a lower economic return than salaried immigrants. The findings suggest that some immigrants choose self-employment probably as a means to overcome employment obstacles, and that economic policy to integrate immigrants should consider facilitating new immigrants to enter into self-employment, in addition to helping them to seek employment.

Research Report

Statement of the Research Problem

Past research on immigrants' labour market performance mainly studies the effects of human capital and characteristics of work on earnings. In particular, the economic contribution of immigrants is often measured by their earnings in that the closer they are to the earnings of native-born Canadians and the more quickly immigrants can bridge the income gap, the more immigrants are assumed to be endowed with human capital. The present project examines earning disparity between immigrants and native-born Canadians, taking into account the scale of the urban market, gender and race, and controlling for human capital, language ability and other labour market characteristics. Simply put, the research questions are: (1) Do immigrants in larger CMAs have a better earning opportunity as compared to native-born Canadians than immigrants in small CMAs? (2) In addition to human capital, what other structural and individual characteristics affect the earnings of immigrants?

A related question of the study is to examine immigrants who enter into self-employment to see if their earnings are comparable to immigrants in salaried employment. The literature has posed two opposing explanations as to why immigrants engage in self-employment. The first explanation suggests that immigrants engage in self-employment as a means of self-preservation because of employment obstacles. The second one argues that the growth of immigrant enclaves creates new opportunities for ethnic entrepreneurs who engage in business undertakings because of the lucrative economic returns of immigrant businesses. The first position would suggest that the earnings of self-employed immigrants would not be as good as that of salaried immigrants since self-employment is the last choice. Conversely, the second position implies that the earnings of self-employed immigrants should be as good as, if not better than, salaried immigrants, since immigrant entrepreneurs are believed to be attracted to the financial rewards of ethnic businesses. This aspect of the study is to compare immigrants in self-employment with immigrants in wage work with respect to earnings.

Methodology

The research method involves using the census microdata on individuals to develop models for estimating earning disparities between immigrants and native-born Canadians. Initially, the

analysis was conducted using the 1991 Census as a test case, which has 809,654 individual records, of which 412,157 individuals were 15 years old and over and worked in 1990. Immigrants, or those born outside of Canada, accounted for 79,738 records. When the 1996 Census became available, the final analysis was conducted using this more updated census. The Public Use Microdata File on Individuals of the 1996 Census is a 2.8 per cent probability sample of the population. The file contains 792,448 records of individuals. The analysis was performed on 401,664 cases, which include immigrants and native-born Canadians, 15 years old and over who worked in 1995. Of those who participated in the labour force, 75,337 or 18.8 per cent were people born outside of Canada.

The dependent variable is "annual earnings from employment and self-employment", which is the sum of gross wages and salaries, and net self-employment income before paying individual income taxes. The independent variables measuring individual variations in human capital and work-related features include: years of schooling, experience estimated by subtracting from age the years of schooling and the six years before schooling began, experience squared, knowledge of the official languages, the number of weeks worked in 1995 (1 to 52), the nature of work in terms of whether the weeks worked were full-time or part-time, occupation (14 categories), and the industry of work (14 categories). In addition, a variable "years since landing in Canada" is used as a proxy of Canadian experience for immigrants. The variable is measured as the number of years since an immigrant has immigrated to Canada, and native-born Canadians are coded as 0. In addition, two other variables measuring the characteristics of the local market are used in the analysis; they pertain to the unemployment rate and the percentage of immigrant population in the CMA as calculated from the 1996 census microdata file.

The analysis compares the earnings among the thirty-two comparative groups. The analysis first considers the gross (actual) earning differences among the 32 groups, and then calculates the net earning differences when variations in individual characteristics are taken into account. Finally, in the full model, net earning differences are calculated after adjusting for differences in individual attributes and market features that pertain to unemployment rate and the relative immigrant population size.

Multiple Classification Analysis (Andrews et al., 1976) is used to analyze the gross and net differences in earnings among the 32 comparative groups. The statistical procedure is essentially a least squares solution which treats the dependent variable as a linear combination of a set of

categorical and interval variables. For each interval variable in the equation, Multiple Classification Analysis calculates the unstandardized multiple regression coefficient; for categorical variables, it produces a regression coefficient for each category and expresses it as a deviation from the grand mean of the dependent variable. The gross deviations measure the effects when variations in other independent variables have not been adjusted; the net deviations are effects when inter-group variations in other independent variables have been taken into account.

The statistical model used is as follows:

$$Y_j = \alpha + \sum (\beta_{ij}, \delta_{ij}, \phi_{ij})$$

where Y_j is the labour market related earnings of individual j , α is the grand mean of Y_j , β_{ij} , a list of dummy variables in which i varies from 1 to 32 measuring membership in the thirty-two comparative groups, δ_{ij} are variables that relate to individual human capital and work-related characteristics, and ϕ_{ij} are local labour market features, including the level of unemployment and the percentage of immigrant population. A better statistical fit is obtained by using the logarithm of earnings, $\log(Y_j)$, instead of earnings:

$$\log(Y_j) = \alpha + \sum (\beta_{ij}, \delta_{ij}, \phi_{ij})$$

In addition to using census data, the project also used the Longitudinal Immigration Data Base (IMDB), 1980-95, to compare immigrants in self-employment to those in wage work with respect to their earnings.

The Longitudinal Immigration Data Base (IMDB) was developed by Citizenship and Immigration Canada and Statistics Canada. The data file contains income tax information and data from immigrants' landing records for those who landed in Canada between 1980 to 1995, and who filed at least one income tax return during the same period. The IMDB file has data on 1.5 million of the 2.6 million immigrants who landed in Canada between 1980 and 1995, covering about 69 per cent of all immigrants between the working ages of 20 to 64. The data are available in aggregated forms which show various types of mean earnings of immigrants, such as employment and self-employment earnings, in given groups as defined by such attributes as age, gender, educational qualification, and class of admission.

The Longitudinal Immigration Data Base contains data on self-employment earnings and employment earnings, with which immigrants can be classified as having or not having received income from these sources in a given tax year. Furthermore, immigrants who received income

from either source in a given tax year can be considered as having participated in the Canadian labour market. For those immigrants who participated in the Canadian labour market, they can be further classified as having or not having received self-employment earnings in a given tax year, which further indicates whether they have engaged or not engaged in self-employment activities.

The present analysis relies upon the “income source” method to measure self-employment. The following explanation shows how an operational definition of self-employment can be developed from the IMDB. Operationally, the Longitudinal Immigration Data Base defines immigrants as having engaged in self-employment activities in a given tax year if they reported in that year a gross earning from the sum of the following five sources which is greater than \$2: (1) gross business income; (2) gross professional income; (3) gross commission income; (4) gross farming income; and (5) gross fishing income (Citizenship and Immigration Canada, 1998). Although positive gross self-employment income is used as a basis for selecting immigrants with self-employment income in a given year, it is their net self-employment income, that is, earnings after expenses are deducted but before personal income taxes are calculated, that is reported in the aggregate data released. Thus, self-employed immigrants can be defined as those who have gross self-employment income in a given tax year, as opposed to those not self-employed who do not receive any income from self-employment in the same period.

All aggregate tables in the data file, known as Compendium Tables, have information on landing year, tax year, age, gender, and province of destination or residence, as well as one additional variable such as education at landing, class of admission, country of origin, and language ability (Citizenship and Immigration Canada, 1998). In order to have multiple variables included in the same data matrix, a custom table was prepared to include landing year, tax year, age at landing, gender, class of admission, country of origin, and education at landing. For each of these cross-classifications, data on mean employment earnings, mean net self-employment earnings, mean total labour market earnings (employment plus net self-employment earnings), as well as the number of immigrants with self-employment and without self-employment earnings are included. All data provided are in nominal or ordinal variables. For the purpose of this analysis, only immigrants whose age was 15 years old and over when they landed in Canada are included, since the primary focus is on those who participated in the labour market.

The present analysis first uses descriptive statistics to show how immigrants' propensity to self-employment changes by entry cohort and tax year, and how labour market earnings for self-employed immigrants varied by entry cohort and tax year relative to that of salaried immigrants. Earning functions are then estimated for each tax year for the 1980, 1985, and 1990 entry cohorts, separately for male and female, to see how employment and self-employment status affects labour market earnings while controlling for other variations. The regression equations are specified as a linear combination of "self-employment status" (2 groups), "country or region of last permanent residence" (13 groups), "educational level at landing" (3 groups), "age at landing" (4 groups) and "class of admission" (5 groups). The intercept is set at the level of the grand mean for earnings such that the unstandardized regression coefficients can be interpreted as gross or net deviations from the grand mean, depending on whether other variables in the equation are controlled or not (Andrews et al., 1976). Finally, an earning function is estimated for the 1995 tax year, separately for male and female and for each country or region of origin. In addition to the independent variables identified, this function also includes an interval variable which measures the number of years in Canada, and a categorical variable which measures the entry cohort effects for immigrants who came in during the three periods: 1980-84, 1985-89, 1990-94. The coefficient associated with the variable "number of years in Canada" measures the change in labour market earnings for every incremental year in Canada, and the coefficients for the three entry periods capture the different economic conditions in Canada at the time immigrants landed and entered the labour market.

Analysis and Findings

The analysis of microdata from the 1996 Census indicates that immigrant men at different CMA levels earned more than native-born men of the same racial origin, and immigrant women earned either the same or more than their native-born counterparts of the same racial background and CMA level. However, the earning advantage of various immigrant groups over their native-born counterparts disappears once differences in human capital, experience and other work-related individual variations are taken into account. Substantial earning disparities between immigrants and native-born Canadians remain once variations in individual features and market characteristics pertaining to immigrant size and unemployment rate of CMA are also controlled.

Comparisons of the immigrant groups of the same gender and racial origin at various CMA levels with their native-born counterparts indicate that the net earning disadvantage for immigrants vary, depending on gender and racial origin, but less so on the CMA level. In general, income disparities between immigrants and native-born Canadians of the same gender and racial origin are similar at all CMA levels, except for those in non-CMA areas. The noted exception is for immigrant men not of visible minority origin, whose income disadvantage as compared with their native-born counterparts increases in large CMAs. Within the various immigrant groups, immigrant women of visible minority origin at all CMA levels suffer the greatest net earning disadvantage, in the magnitude of about \$6,100 to \$8,200 a year. Immigrant women not of visible minority origin suffer only marginally less, in the amount of about \$5,700 to \$6,800 a year depending on the CMA level. The income disadvantage for immigrant men of visible minority origin ranges from \$3,100 to \$7,100 a year at various CMA levels. In contrast, immigrant men not of visible minority origin suffer the smallest income disadvantage, from \$3,600 to \$5,700 a year.

When immigrants' earnings are measured against the earnings of native-born men not of visible minority origin at each CMA level, the earning disadvantage of various immigrant groups increases in larger CMAs in that they earned a smaller percentage of the earnings of the reference group. As before, immigrant men not of visible minority origin suffer the least, followed by immigrant men of visible minority origin. Immigrant women, irrespective of racial origin, suffer the most.

The analysis further indicates that many factors affect the earnings of immigrants and native-born Canadians. Beside human capital, experience, and work-related variations as identified in the literature, official language ability, the number of years immigrants are estimated to have spent in Canada, the size of the immigrant population and the unemployment rate of the local market are found to influence earnings. However, the fact that immigrants earned either the same or more than native-born Canadians, but suffer an income disadvantage once other variations have been controlled suggests that the earning opportunities are not the same for immigrant groups as for native-born Canadians in different urban markets of Canada.

Gender and racial origin interact with immigrant status to produce complex interactive effects on earnings. Immigrant women, especially those of visible minority origin, suffer the most income disadvantage as compared with other immigrant groups, although immigrant

women not of visible minority only suffer marginally less. These findings are persistent at all CMA levels, and they suggest that even though larger immigrant communities and lower unemployment rates in larger urban markets do increase the earnings of immigrant women, they remain at the bottom of the income hierarchy among all immigrant and native-born groups. Thus, being female and being immigrant seem to produce a double penalty in net earnings for immigrant women, although the additional effect of racial origin appears to be less apparent at this low level of earnings. Immigrant men of visible minority origin earned less than native-born men of the same origin, as well as less than immigrant men not of visible origin at all CMA levels. The disparities show that being non-white and being immigrant disadvantage immigrant men of visible minority origin. In contrast, immigrant men not of visible minority origin had earning levels closest to that of native-born men at all CMA level, indicating that this group suffers net income disadvantage arising from immigrant status, but not gender or race.

Finally, the relative earning opportunities of immigrants are generally similar in different CMA levels and slightly better in non-CMAs, when comparisons are made with their native-born counterparts of the same gender and racial origin. However, compared with the earnings of native-born men not of visible minority origin at each CMA level, the relative earning opportunities of various immigrant groups are better in smaller CMAs than in larger ones.

The analysis of IMDB data shows that immigrants who landed in Canada between 1980 and 1995 earned less than their salaried counterparts, when comparisons are made within each landing cohort and among male or female immigrants separately. Furthermore, self-employed immigrants earned substantially less than salaried immigrants when differences in country of origin, educational level at landing, age at landing, and class of admission are controlled, and when a separate regression model is estimated for each cohort and for each gender group. This finding suggests that the smaller original (actual) earning disparity between self-employed immigrants and salaried immigrants is due to differences in other characteristics, such as a tendency for the self-employed to be better educated. But when these advantages are removed under statistical control, self-employed immigrants' earnings dropped even lower relative to the earnings of salaried workers.

The finding holds true for the separate analysis of male and female immigrants in the 1980, 1985 and 1990 entry cohorts. As well, an analysis of all immigrants in the 1995 tax year also confirms the fact that self-employed immigrants earned less than salaried workers, even adjusted

for differences in other factors.

In view of such persistent findings, it would be logical to conclude that new immigrants to Canada probably do not enter self-employment because of its relatively more lucrative remuneration than employment. Rather, the evidence would suggest the likelihood that new immigrants probably encounter employment obstacles in the labour market and turn to self-employment as an alternative for self-preservation. Over time, self-employed immigrants and salaried immigrants improve their earnings, but the fact that salaried immigrants are able to raise their earnings more than self-employed immigrants further suggests that employment for immigrants is financially more lucrative than self-employment.

The present findings differ from that based on census data which show that self-employed immigrants earned more than salaried immigrants. Several factors may account for this discrepancy. First, the returns of self-employment for new immigrants may be very different from that for all immigrants, since new immigrants are generally less willing to enter into businesses associated with higher risks and potentially higher returns. Thus, the relatively low return of self-employment for new immigrants may be a function of the type of business they tend to be self-employed. Second, self-employment most likely yields lower returns in the initial years when the self-employed enterprise is in the formative stage, but the returns improves over time as the business expands. Third, analyses of census data typically classify self-employment based on self-reported labour market activities, and such an approach tends to treat those who use self-employment to supplement employment earnings as salaried workers rather than self-employers as in the present study. Despite these differences, the present analysis suggests that new immigrants probably face a very different set of labour market conditions than old-timers, and in the course of adopting to these conditions, an increasingly large proportion of new immigrants resorts to self-employment probably as a means to overcome employment obstacles.

Policy Implications

The findings strongly suggest that interpreting earning disparities between immigrants and native-born Canadians mainly as a result of differences in human capital is tenuous and simplistic. At the very least, it is not just the level of human capital that matters, but racial, gender and nativity characteristics of holders of human capital also affect how such capital is

evaluated or devaluated. In short, if the work world undervalues or overvalues the human capital of its holders on the basis of their racial, gender and nativity characteristics, then the penalties and rewards associated with such evaluation should be interpreted as features of the labour market, and not results of individual efforts. In the case of immigrants in the Canadian labour market, how well they perform relative to the native-born population is not only a function of immigrants' human capital, but also a function of how prepared Canadian society is to reward them in the same manner as native-born Canadians, irrespective of superficial differences in gender, race and nativity.

The analysis of immigrants in self-employment suggests that for immigrants who have been in Canada for 15 years or less, self-employment yields a lower economic return than salaried immigrants. The findings suggest that some immigrants choose self-employment probably as a means to overcome employment obstacles, and that economic policy to integrate immigrants should consider facilitating new immigrants to enter into self-employment, in addition to helping them to seek employment.

Dissemination

Preliminary results of research were presented at two conferences: (1) the Workshop of the Prairie Centre of Excellence for Research on Immigration and Integration, Regina, October 29-30, 1998; and (2) the Third National Metropolis Conference, Vancouver, Jan. 13-16, 1999. The final results of the research were published in an article, "Earning Disparities Between Immigrants and Native-born Canadians," which appeared in *Canadian Review of Sociology and Anthropology*, Vol. 37(3), pp. 289-311, 2000. The analysis of the census data also produced "spin-off" works which appeared in *Canadian Journal of Regional Science*. As well, research using IMDB resulted in an article entitled "Economic Returns of Immigrants' Self-employment," which appeared in *Canadian Journal of Sociology*, Vol. 25(1), pp. 1-34, 2000.

National/International Linkages

Although the project did not involve formal linkages with scholars elsewhere, the project was a continuation of a long-standing interest regarding the economic performance of immigrants. In

this respect, I was able to maintain regular contacts with national and international scholars regarding mutual interests on the topic. The project helped to strengthen academic contacts, and I was able to successfully organized two workshops involving national and international scholars to exchange papers on various aspects of immigrants' economic performance. These workshops were held at the Fourth International Metropolis Conference, Washington D.C., Dec. 7-11, 1999, and the Fifth International Metropolis Conference, Vancouver, Nov. 13-17, 2000.

Students' Participation in Project

Two M.A. students in sociology were hired on this project. One M.A. student is now completing her thesis on how educational credentials and labour market barriers affect immigrants' earnings.

Updated Abstract

The economic contribution of immigrants is often measured by their earnings in that the closer they are to the earnings of native-born Canadians and the more quickly immigrants can bridge the income gap, the more immigrants are assumed to be endowed with human capital. Using microdata of the 1996 census, this project compares immigrant groups with native-born Canadians of the same gender and racial origin at four levels of Census Metropolitan Area defined by population size. The findings indicate that immigrants of the same gender and racial origin earned either the same or more than their native-born counterparts. However, when variations in human capital, experience, and other individual differences in work-related characteristics and immigrant experience are taken into account, along with differences in urban scale, immigrant population size and unemployment rate, all immigrant groups earned less than their native-born counterparts. The magnitude of net earning disparities between immigrants and native-born Canadians varies, depending on gender, racial origin and less so on CMA level. The study suggests that many factors, including unequal opportunities, affect the earnings of immigrants, and that the assumption of immigrants' inferior human capital content inferred from earning disparities is tenuous at best.

With respect to immigrants in self-employment, research on ethnic business and immigrant entrepreneurship has posed two major questions. First, why are some immigrant groups more

inclined toward entrepreneurship and self-employment? Second, are those immigrants who engage in business better remunerated than salaried workers? These questions produce conflicting answers. On the one hand, blocked mobility in the open market is believed to be a key factor in driving immigrants into business and self-employment, and on the other hand, research on immigrant enclaves suggests that immigrants are drawn into the enclave economy because its returns are just as good as that in the open market. Using the Longitudinal Immigration Data Base, it is found that the returns of self-employment were lower than employment for new immigrants who entered Canada between 1980 to 1995, and that the income gap between these groups increased over time. Nevertheless, an increasingly larger proportion of new immigrants engaged in self-employment over time. These findings tend to support the notion that new immigrants in Canada probably choose self-employment as a means to overcome employment obstacles.

Publications

Li, Peter S.

- 1997 "Self-Employment Among Visible Minority Immigrants, White Immigrants, and Native-born Persons in Secondary and Tertiary Industries of Canada." *Canadian Journal of Regional Science* 20(1,2):103-118.
- 2000 "Economic Returns of Immigrants' Self-employment." *Canadian Journal of Sociology* 25(1):1-34.
- 2000 "Earning Disparities Between Immigrants and Native-born Canadians," *Canadian Review of Sociology and Anthropology* 37(3):289-311.