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Self-Employment & Income in Canadian Metropolitan Areas:
the Role of Language and Place of Birth

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Self-Employment & Income in Canadian Metropolitan Areas: the Role of Language and Place of Birth

By

Vladimir Mikadze

Thesis submitted to the Faculty of Graduate and Postdoctoral Studies
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Abstract

The thesis focuses on the factors that account for variations of salaries and self-employed income among individuals – both born in Canada and immigrants – residing in Toronto, Montréal, and Vancouver in 2001 based on the Canadian Census data.

The research addresses the influence of place of birth and linguistic profile on income. Other independent variables such as age, sex, schooling and occupation are included in the analysis.

The ultimate goal of the study is to highlight income differences among paid and self-employed workers (both incorporated and unincorporated) as well as to demonstrate that self-employment status can improve the financial performance of an individual.

Descriptive and general linear model types of analysis are employed. Both types of analysis demonstrate significant differences in income with respect to the different factors under study. My hypotheses addressing income differences among paid and self-employed workers and regarding the increased beneficial role of self-employment for certain groups of individuals are partially or generally confirmed.

The regression models for all three classes of worker reveal low R^2 values. Nevertheless, the contrast analysis in the regression models, as well as the descriptive analysis, demonstrates statistically significant differences between the mean income values of the different categories of variables and reference categories. This suggests that if the chosen variables explain just the main fluctuations in income variations and more precise results would require more details on individuals of the research approaches. The analysis is, however, meaningful at the level of major trends and influence of selected variables on income variations.

Résumé

La thèse porte sur les facteurs de variation des salaires et des revenus d'entrepreneurs des personnes nées au Canada aussi qu'à l'étranger, résidant à Toronto, Montréal et Vancouver en 2001. Elle s'appuie sur les données du dernier recensement de Statistique Canada.

La recherche s'intéresse à l'influence du lieu de naissance et du profil linguistique sur le revenu. D'autres variables indépendantes telles que l'âge, le sexe, le niveau d'éducation et l'occupation ont aussi été utilisées dans l'analyse.

Le but de l'étude est de mettre en lumière les différences de revenu entre les salariés et les entrepreneurs (incorporés et non-incorporés) ainsi que de démontrer que le statut d'entrepreneur peut améliorer la performance financière des individus.

L'analyse descriptive ainsi que la régression linéaire multiple ont été utilisées. Ces deux types d'analyse ont démontré que les différences de revenu étaient significatives en ce qui concerne l'effet des variables indépendantes considérées. L'hypothèse à savoir que les revenus entre les salariés et les entrepreneurs sont différents aussi que celle qui veut que le statut d'entrepreneur peut améliorer la performance financière chez certains groupes ont été confirmées.

Les modèles de régression construits pour chacune des trois classes de travailleur s'appuient sur des valeurs de R^2 relativement faibles. L'analyse de contraste aussi que l'analyse descriptive ont cependant révélé des différences statistiquement significatives entre les revenus moyens des différentes catégories de variables et celles de référence. Ce fait suggère que si les variables choisies expliquent les fluctuations principales du revenu, des résultats plus précis exigeraient un plus haut degré de personnalisation de la recherche. L'analyse n'en a pas moins la portée attendue, en ce qui concerne les grandes tendances et le rôle joué par les variables choisies sur la variation du revenu.

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Introduction

In the first half of the 19th century almost all firms were considered to be small, as the economic and social spaces of North America were discrete. Firms were much more oriented towards local markets[1]. However, the frenetic development of the railroads and telegraph lines, as well as breakthroughs in manufacturing technologies, led to the unification of the national markets. Many small firms could grow in size, distributing their products and services over vaster areas[2]. Although small business (as the most popular form of self-employment) did not disappear, it continued to decline in terms of its contribution to the national economy. At the same time, it still appeared to be more locally oriented, even in manufacturing, by developing market niches ignored by larger companies or by being intermediate suppliers for large companies[3]. In other words, at that point of economic and social development in North America, small business still belonged to the place where it operated. Its dependence on place made the business very responsive to the local social and economic features.

Considerable change occurred in the second part of the 20th century with the appearance of what was later called the "hi-tech sector". At this point, small firms proved that all the ideas of Max Weber, Karl Marx, and Joseph Schumpeter about a complete decline of small firms and their innovative functions were incorrect. Schumpeter believed that large companies would replace entrepreneurs by taking their functions to innovate on board[4]. Nevertheless, small firms seemed to be more innovative and flexible. Also, the internationalization of business and the simplification of access to the international markets for small companies in general led to the fact that more and more large companies started to organize their business by decentralizing the units and letting them to work in small business style[5].

Electronic transactions, the Internet, airline routes and decentralized worldwide production operations provide small firms with the opportunity to distribute their production all over the world and in the case of decentralized units of multinational corporations, to use

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[1] Blackford, M., *A History of Small Business in America*. Second Edition, The University of North Carolina Press, 2003., Chapter 1.
[2] Ibid., p.44.
[3] Ibid., p3.
[4] Schumpeter, J., *The Theory of Economic Development*, New York: Oxford University Press, 1963.
[5] Blackford, M., *A History of Small Business in America*. Second Edition, The University of North Carolina Press, 2003., Chapter 8.

the informational network of their companies[6]. In other words, small businesses has become much more globally oriented and dependant. At the same time, because of the above-mentioned structural reorganizations of large companies, the idea of what small business is has changed to a certain extent.

These changes, nevertheless, do not mean that small firms completely lost their interest in local markets and events or lost their connection with a place. What happened indeed could be explained as a change in interest towards local places. Richard Florida, in his work "The Economic Geography of Talent"[7], pays attention to the fact that in the era of high demand for high human capital, this capital becomes the most important factor of a business' location. Thus, well-educated workers become more active and significant actors in the economic and social life of the country. The same work also pays attention to the fact that the holders of high human capital prefer to live in diverse and open communities. Nowadays, with all the above-mentioned technological achievements, they can dictate conditions for the place of their living and working, as the digital revolution has changed the role of space (as railroads did it in the 19th century)[8].

Immigrants, as well as ethnic communities in general, have become an important part of a location choice in the modern economic and social landscape, as they bring social and economic diversity and creativity to areas and often occupy production niches that are ignored or undeveloped by large companies[9]. Small businesses organized both by ethnic and mainstream[10] communities allow small groups of people with specific professional or social interests to realize them, thus increasing the diversity. Immigrants used to settle down in the core parts of urban areas, which ensured them the necessary concentration of their population for the provision of mutual support. This choice of location was often extremely important for these areas, as it did not let the economic activity and growth attenuate[11]. Chinatowns in Toronto and Montréal are examples of such an inner-city ethnic activity. On the other hand, the present situation reveals that more immigrants flow to suburban areas, forming ethnic neighborhoods.

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[6] Ibid.
[7] Florida, R., "The Economic Geography of Talent", *Annals of the Association of American Geographers*, 92(4), 2002, pp.743 – 755.
[8] Kotkin, J., *The New Geography*, New York: Random House Trade Paperbacks, 2000, p.7.
[9] Ibid., p.25.
[10] A Host Society
[11] Kotkin, J., *The New Geography*, New York: Random House Trade Paperbacks, 2000, p.18.

Another important thing is that ethnic diversity is more and more accompanied by linguistic diversity when ethnic communities become their own entities, not just by their ethnic origin, but also by their linguistic environment. In some cases, like in Canada, the situation becomes even more complicated because of the bilingualism of the mainstream population.

In other words, entrepreneurship is still comprises the focus of many studies because of its role in the social and economic life of American and Canadian society. Here, most of the studies highlight the fact that the nature of entrepreneurship has become more and more social. There is more evidence from North America that people start their business not only when they want to bring a new idea into the world, but also when they believe that being self-employed will benefit them financially. In this the connection of entrepreneurship with ethnicity and immigration becomes very essential because these people often tend to be rather disadvantaged both socially and financially. The ethno-racial difference from the mainstream population as well as numerous cultural differences, linguistic ones in particular, contribute to these disadvantages, often forcing these people to integrate into their new society on their own. In this case, entrepreneurship is definitely one of the major instruments to overcome the gap, or at least make it smaller.

The main goal of this work is to explore whether entrepreneurship provides greater benefits to individuals and how these benefits differ in terms of individuals' ethnic and linguistic backgrounds. As such, several important assumptions about modern small business are made:

- It is still more innovative, flexible and adjusted to the local markets, where it covers various product niches left by larger companies or assists them.
- Regional (especially larger metropolitan areas) social and economic environments depend on a presence of entrepreneurial activity
- It significantly relies and depends on human capital of entrepreneurs, paid-workers, and inhabitants.
- In its connection with ethnic communities it becomes a very important indicator of the social and economic vitality of the community.
- Entrepreneurship is an instrument for ethnic communities to integrate socially and economically into the mainstream society.

This study examines the social rather than innovative role of self-employment. In other words, among the above-mentioned assumptions the last three are the main focus of the study because I believe this is the most important role of entrepreneurship in modern North America and Canada in particular.

The work consists of four chapters which represent four major steps of the study: theoretical approaches to entrepreneurship, methodology, the analysis, and general findings.

In the first chapter I will make an attempt to define entrepreneurship and provide an initial understanding of the role of and the connections between entrepreneurship and ethnicity in modern North America. This chapter is based on a literature review of the studies being done by various authors working in this field and consists of three sections. The first section sketches ideas and arguments which will be used in the paper. As long as there is debate about definitions of entrepreneurship, it is important to discuss them. In the second section I will address the main factors which influence entrepreneurship in its connection with ethnicity and immigration. Finally, the third section contains the description and substantiation of the hypotheses that will be examined in my study.

The second chapter will be dedicated to practical research issues related to the study. The first section will provide a literature review of the various studies which involve income and self-employment among native-born and immigrant populations. The importance of this section is that it will provide valuable information on the main issues which should be taken into account while conducting such a research. In the second section I present and discuss, relying on previous research, the variables I will use in my research. The third section will be dedicated to the description of methodology used in the analysis. The analysis will consist of two parts: the descriptive analysis and the regression analysis. The descriptive analysis is necessary in order to examine the distribution of the individuals by the research variables. This analysis will allow for an understanding of the main situations and tendencies of the hypotheses based on the influence of the major demographic, economic, and linguistic factors such as age, gender, place of birth, education, occupation, and language. The regression analysis is necessary for evaluation and a more focused examination of the contribution of the above-mentioned factors on income of paid and self-employed workers.

The third chapter is devoted to the discussion of the analysis. It consists of two sections. In the first section I present and discuss the results of the descriptive analysis and in the second section the results of the regression analysis are discussed.

Finally, in the fourth chapter I summarize the main findings of the study in light of the guiding hypotheses. This will be a synthesizing chapter that will connect theoretical and practical findings of other researchers about the role of various factors (as well as self-employment itself) regarding the financial performance of self-employed workers with the results of my study.

This study is highly relevant in the Canadian context because of the growing numerical and economic signifficance of immigrants and growing linguistic diversity in major metropolitan areas. These factors provide an interesting environment in which to explore whether or not entrepreneurship plays a significant and positive role in diminishing economic disadvantage among several different social groups.

Chapter 1. Entrepreneurship, Ethnicity, Immigration, and their Role in Modern North America. Theoretical Approaches

This chapter provides an initial understanding of the role of and the connections between entrepreneurship and ethnicity in modern North America. This chapter is based on a review of the studies being done by various researchers in this field. As such, the ultimate goal of this chapter is to provide a better theoretical understanding of this many-faceted area of study. Although my research is dedicated to a certain aspect of entrepreneurship in connection with financial performance, this chapter will incorporate a broader scope on entrepreneurship in relationship to ethnicity in order to gain a more holistic understanding of this area of research.

This chapter consists of three sections. The first section provides an initial idea of the notions which are going to be used in the paper. There are several ways of defining entrepreneurship and it is important to discuss them. The second section is dedicated to the discussion of the main factors which influence entrepreneurship in its connection with ethnicity and immigration. Finally, the third section discusses the hypotheses that will be examined in the study, as well as the substantiation of the hypotheses.

1.1. Defining Entrepreneurship and its Functions

One of the most wide-spread definitions of entrepreneurship in present use was introduced by Joseph Schumpeter in 1934. According to Schumpeter, "the carrying out of *new* combinations we call "enterprise" and "the individuals whose function is to carry them out we call "entrepreneurs""[12]. However, this definition includes mainly just an innovative component – the aspect of entrepreneurship which will be discussed further. Another, more robust definition, such as the one offered by "InvestWords" – an Internet financial glossary, asserts that entrepreneurship is "the assumption of risk and responsibility in designing and implementing a business strategy or starting a business"[13]. The latter definition focuses more on the additional difficulties of entrepreneurship as opposed to its innovative component.

[12] Schumpeter, J., *The Theory of Economic Development*, New York: Oxford University Press, 1963.
[13] http://www.investorwords.com

The classic perception of entrepreneurs is that they are innovators. The whole notion of entrepreneurship revolves around this idea. Nevertheless, there is considerable divergence over an exact definition of entrepreneurship. For long time, the major entrepreneurship theory has been "elitist"[14]. According to this theory, entrepreneurs are only considered as such if they are innovative. Some of the researchers seek to restrict the label "entrepreneur" to this innovative group. However, according to Light, who argues against this point of view, there are many different types of innovative activity. For example, it can be original activity or imitative activity; it can be frequent or rare. Finally, it can be a new invention, technological break-through, or "another Mexican restaurant"[15]. In terms of the new technological or strategic input, these gradations can make a difference and can be a cause for dispute. Nevertheless, from the market point of view, all of these variations play an important role and are considered to be entrepreneurship, as they predict and respond to the needs of the market and, moreover, the needs of society[16]. It can be seen as both innovative and risky, because an entrepreneur is completely responsible for the activity he or she undertakes in order to succeed in his or her predictions of the market needs.

The definition of entrepreneurship becomes even more multi-sided when examining the various conditions under which people become entrepreneurs. First of all, a number of studies demonstrate that foreign-born workers are usually more entrepreneurial than native-born ones[17]. In addition, several ethnic minorities produce rates of entrepreneurship appreciably higher than the foreign-born in general[18]. Cultural theory explains these disproportions by the fact that the international relocation of intact cultural traditions allows the groups which were entrepreneurial in their native countries to remain entrepreneurial in others[19]. Ethnic entrepreneurship is more expected than that of native-born inhabitants[20]. The predominant activity of ethnic communities is explained by the notion of *reactive ethnicity*[21]. Reactive ethnicity is a joint effect of the presenting culture and of the host society's social

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[14] Light, I., Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter's, 1995, p.2
[15] Ibid., p.2
[16] Ibid., p.1
[17] Langlois.A., Razin E., "Self-Employment among Ethnic Minorities in Canadian Metropolitan Areas", *Canadian Journal of Regional Science*, #XII:3, 1989.
[18] Langlois.A., Razin E., "Self-Employment among Ethnic Minorities in Canadian Metropolitan Areas", *Canadian Journal of Regional Science*, #XII:3, 1989.
[19] Light, I., Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter's, 1995, p.18.
[20] Ibid., p.19.
[21] Ibid., p.19.

structure. As such, reactive ethnicity arises in response to alien status in defense of the collective self-esteem of group members.

Another aspect of entrepreneurship – not necessarily ethnic although it is often the case for ethnic minorities and immigrants –is that self-employment is a solution to poverty[22]. Jones gives the definition of *survival entrepreneurs* as of those who selected entrepreneurship in preference to low-wage employment or underemployment. This definition includes two groups of entrepreneurs. *Value entrepreneurs* choose low return self-employment over low-wage jobs motivated by non-financial reasons: for example, women who combine homework with flexible self-employment. *Financially disadvantaged* individuals undertake self-employment because of the market disadvantage that allows them to earn higher returns on their human capital in self-employment[23].

Finally, immigrant and ethnic entrepreneurship, as well as survival entrepreneurship, differs significantly from that of native-born professionals, who turn to entrepreneurship after obtaining considerable professional experience as salaried workers and are about to use it on their own[24].

The economic and social significance of entrepreneurship are two components that play are equally important. If one turns to classic theory, he or she will find that the main developers of the theme of entrepreneurship (Max Weber, Karl Marx, and Joseph Schumpeter) were not greatly optimistic about its future. Max Weber, who linked entrepreneurship with protestant ideology, believed that the future belonged to large bureaucratic organizations. In the era of mature capitalism, entrepreneurship will no longer be needed, as there will be no need in its non-economic sources such as religious, ethnic, and cultural values[25]. Karl Marx predicted that big firms would absorb small competitors and, thus, entrepreneurship will disappear, as its nutrient medium will no longer exist[26]. Big companies would concentrate entrepreneurial functions in their own hands. Schumpeter had a similar opinion, believing that large companies would replace entrepreneurs by taking their

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[22] Ibid., p.205.
[23] Jones, Y., "Street Peddlers as Entrepreneurs: An Economic Adaptation to an Urban Area" *Urban Anthropology* #17, 1988, pp. 143-170.
[24] Auster, E., Aldrich, H., "Small Business Vulnerability, Ethnic Enclaves, and Ethnic Enterprise" Ch. 3 in *Ethnic Communities in Business*, edited by Robin Ward. *Cambridge University Press*, 1984.
[25] Weber, M., *The Protestant Ethic and Spirit of Capitalism*, New York: Scribner's, 1958.
[26] Marx, K., *Capital*, Moscow: Progress Publishers, 1965, p.763.

functions to innovate on board, and entrepreneurship would become just one of the sources of innovation[27].

However, although these predictions were in many ways true, there is still evidence of the continued profitability of small and medium size firms[28] as well as their existence. For example, it is confirmed by the fact that non-agricultural small businesses after its falling from 1948 till 1968, started to grow in percentage of self-employed[29]. Moreover, some of the researchers detected a general trend toward "more decentralized, small-scale forms of economic organization in advanced capitalist society"[30]. At the same time entrepreneurs stay more innovative than big incorporated business, especially when it concerns a new technological breakthrough[31].

These unpredicted tendencies of entrepreneurship are partly the result of two main functions of entrepreneurship, social and economic. The economic significance of entrepreneurship resides in its independent contribution to the economic development of its region or ethnic group[32]. Thus, the quality and abundance of the entrepreneurs available are important causes of economic growth and development. In terms of its social significance, the pool of entrepreneurs is formed by the social value and those social benefits (e.g., more independent or flexible lifestyle) which people expect from entrepreneurship even if they stay wage workers.

1.2. Entrepreneurship and its Connection with Ethnicity

Despite Weber's prediction, entrepreneurship still exists in advanced market economies. However, its role in the life of a society has shifted from predominantly economic activity to a social one. As it was described in the previous sub-chapter, there are several major catalysts for entrepreneurial activity. Two of them are closely connected with immigrants and ethnic minorities. Although the third one is less tied to these two social

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[27] Cited by Cauthorn, R., in *Contribution to a Theory of Entrepreneurship*, New York: Garland, 1989.
[28] Light, I., Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter, 1995, p.12.
[29] Ibid., p.13.
[30] Keeble, D., Wever, E., "Introduction" in *New Films and Regional Development in Europe*, edited by Keebel, D. and Weaver, E. Beckeman UK: Croom Helm, 1986, p.28.
[31] Stein, B., *Size, Efficiency, and Community Enterprise*, Cambridge, MA: Centre for Community Development, 1974, p.52.
[32] Knight, F., *Risk, Uncertainty, and Profit*, Boston: Houghton Mifflin, 1921.

groups, it is still very essential in their case, because most often immigrants and ethnic minorities as a whole tend to be economically disadvantaged. In the present world, entrepreneurship is, more than before, associated with certain social events. Thus it is necessary to explore this connection.

As was mentioned above, the entrepreneurial activity of ethnic communities is explained, in part, by the notion of reactive ethnicity. The main component of it involves the creation of an ethnic ideology of management based on the idea of solidarity. This ideology creates a paternalistic economy within ethnic communities, legitimating the right of co-ethnic employers to command their co-ethnic employees.

Solidarity is a very strong unofficial part of ethnic business because it creates a necessary business infrastructure within an ethnic community. First, ethnic networks carry business related information. Second, social networks encourage mutual aid among business owners. Complex social networks encourage ethnic representatives to trust one another in business. Ethnic and immigrant self-employers often maintain a transactional environment that minimizes costs within the community. In effect, ethnic entrepreneurs convert ethnic difference and social marginality into an economic resource[33]. All these characteristics are favorable to immigrant firms successful competition in the general economy. It is quite important to trace the role of a community in establishing a business. At some point, which could be probably measured by the number of people within a community and the density of their mutual linkage, a community ceases to be just a group of people united by common cultural, religious, and linguistic traditions. Its "critical" mass allows it to develop its internal market as well as inegrate into mainstream society, offering a particular service or product. Basically, it becomes a social organization with its own structure and role in the society. Such a community becomes a very important social and economic object within the mainstream social and economic environment. It becomes a significant, solid part of the economic and political life of the country, appearing as an independent player[34]. On the other hand, such a community becomes a central infrastructural element in the economic and social lives of the people who constitute this community or are related to it, because it

[33] Light, I., Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter, 1995, p.24.

[34] Korean community in Los Angeles has several very distinct business functions which define its place in the surrounding environment. Besides, in trade transactions with South Korea the representatives of the community receive considerable discounts.

provides them with various kinds of information, as well as financial, cultural, religious, and linguistic support.

Newcomers, when they arrive in a new country, often tend to concentrate within their communities, which provide them with all necessary information about the labor market in the country and within the community. Sometimes these network contacts replace a number of official social institutions meant to provide these services. In the case of preferring self-employment to a professional occupation or looking for a new type of work in the labor market, this community will provide newcomers with financial support and all the business-related information they will need, replacing mainstream financial institutions.

For those who prefer to open businesses within the community it becomes a valuable economic milieu that has its own producers, customers, market, and rules. Thus, it is possible to extract a number of factors that can affect these economic parameters. These factors are:

- recognition (if the community is recognized outside its limits it can influence the number of customers);
- social structure (communities with strong traditions of mutual support and with a less segregated social structure are more likely to be entrepreneurial);
- size (the size of a community can strongly affect its financial and social performance);
- prosperity (this factor is related to customers within a community, because they determine the volume of consumption and, thus, determine entrepreneurship development possibilities);
- saturation (a community saturated with small business enterprises offers fewer possibilities to newcomers, forcing them either to become salaried workers or to open their business outside the community).

By choosing self-employment, community representatives can stay within the community, carry on their business outside the community, or run businesses both outside and within the community. However, in all of these cases, their linkage with the community still will be significant.

An important issue closely connected to ethnic communities is that ethnic entrepreneurship is predominantly a characteristic of larger metropolitan areas. A number of studies demonstrate that immigrants in Canada tend to concentrate in larger CMAs for two

major reasons[35]. Larger CMAs provide better economic and social possibilities. These areas have established ethnic communities which, as discussed above, are a strong magnet for newcomers.

Numerous studies demonstrate that in Canada the majority (more than 60%) of the immigrants settle down in three major Canadian CMAs: Toronto, Montréal, and Vancouver (see **Map 1.1**), while only 30% of the Canadian-born population reside in these cities[36]. Bourne and Flowers indirectly confirm these results by arguing that the proportion of immigrants has a positive correlation with the size of a city[37]. They also confirm that "immigration is predominantly a metropolitan phenomenon, and is especially concentrated in the largest metropolitan areas"[38].

Toronto is the largest Canadian metropolitan area with a population of 4.6 million people (2001, Statistics Canada) and an immigrant population of 2 million people. Since the 1960s it has surpassed Montréal, which used to be the industrial and financial capital of Canada, both in terms of population and economic significance. As a result, since 1971 Toronto has been the most important immigrant reception area, accepting more than one-third of all the immigrants[39] to Canada.

Vancouver is the fastest-growing western metropolitan area in Canada with a population of 2 million people and an immigrant population of 0.7 million people. To a lesser extent, it has the same role as Toronto as a financial, social and economic hub of Western Canada. Hiebert and Ley[40] define Toronto and Vancouver as "gateways between national societies and the world systems". However, the contribution of Vancouver is quite different because it is more regional in terms of the ethnic background of the immigrants, being attractive to those from Southern and Eastern Asia. Also, it differs in terms of socio-

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[35] MacDonalds, J., "Toronto and Vancouver Bound: The Location Choice of New Canadian Immigrants", *Canadian Journal of Urban Research*, Vol. 13(1), 2004.
- Bourne, L., Flowers, M., *Changing Urban Places: Mobility, Migration and Immigration in Canada*, University of Toronto: Centre for Urban and Community Studies, 1999, p.14.
- Langlois.A., Razin E., "Self-Employment among French Canadians", *Canadian Journal of Regional Science*, Vol. 12(3) 1989.

[36] MacDonalds, J., "Toronto and Vancouver Bound: The Location Choice of New Canadian Immigrants", *Canadian Journal of Urban Research*, Vol. 13(1), 2004.

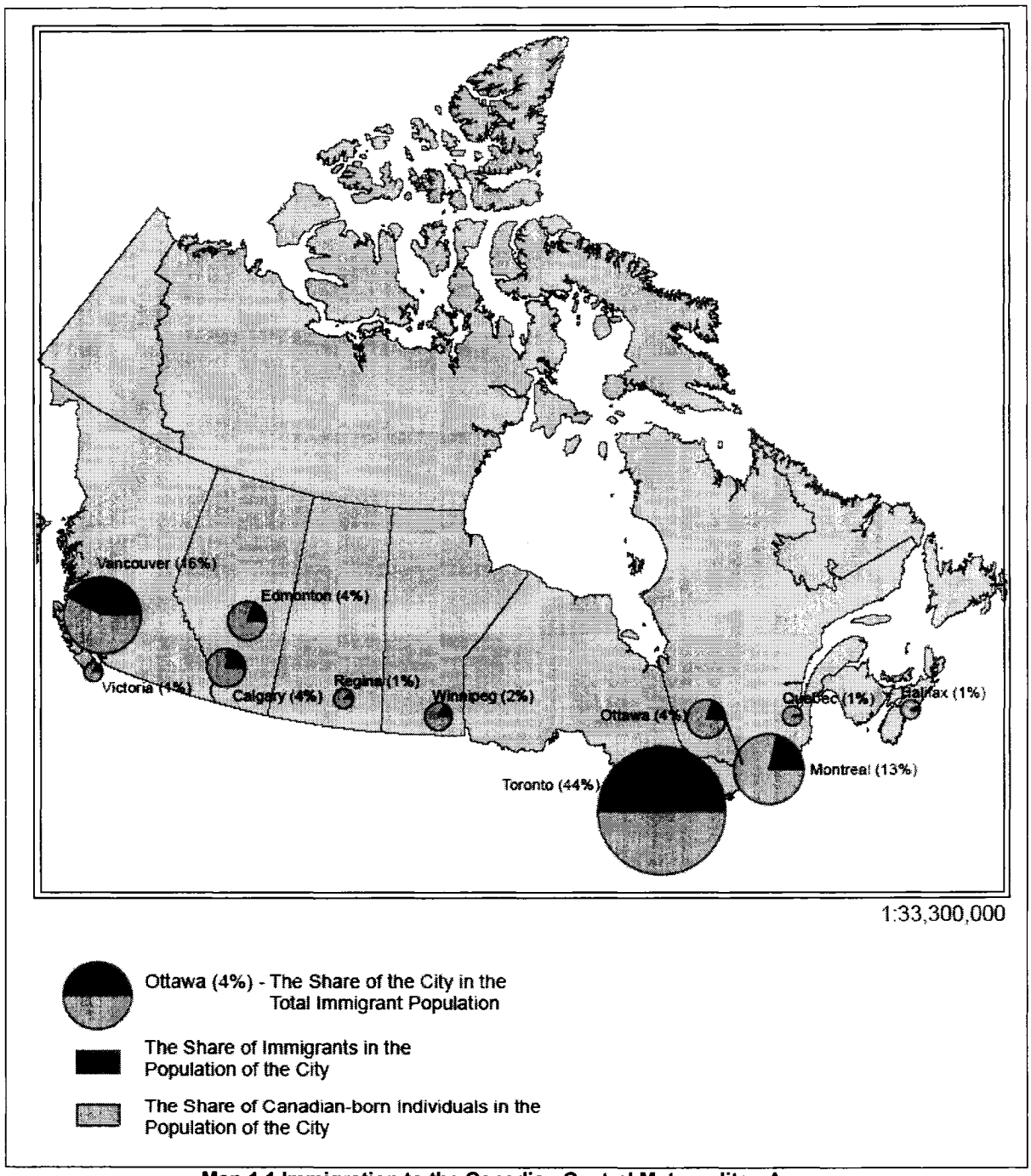
[37] Bourne, L., Flowers, M., *Changing Urban Places: Mobility, Migration and Immigration in Canada*, University of Toronto: Centre for Urban and Community Studies, 1999, p.14.

[38] Ibid., p.17.

[39] Citizenship and Immigration Canada

[40] Hiebert, D., Ley, D., "Research on Immigration and Integration in the Metropolis", Working Paper Series, No. 03-15, 2003, p.3.

economic characteristics of immigrants as a substantial number of economic or business migrants with high education and sizeable financial assets settled in Vancouver[41].



Map 1.1 Immigration to the Canadian Central Metropolitan Areas.
Source: Canadian Census (PUMF, Individuals), 2001.

[41] Ibid.

Montréal is a most unique locale of immigrant settlement in Canada. It is the second largest metropolitan area with a population of 3.4 million people and an immigrant population of 0.6 million people. Although it was surpassed by Toronto in the 1960s, it is still a very important Canadian metropolitan area with a strong regional influence. A specific characteristic of Montréal is that it is the main urban center of French-speaking Canada, although the influence of the English language remains impoortant. In addition, since the 1960s, the share of immigrants in Montréal's population has increased[42], bringing even greater linguistic diversity.

Canadian society is influenced by three major language groups: English, French and an increasing influence of other languages brought by numerous immigrants. The linguistic diversity is partially a reflection of people's background. However, it might have a noticeable independent role in individuals' financial performance. In light of these suggestions, it is necessary to mention the differences in entrepreneurial behavior among French Canadians in and outside Québec.

As Langlois and Razin argue, for French-Canadians, preservation of their cultural identity through entrepreneurship was more important than a socio-economic advancement[43] outside Québec. French-speaking Canadians represent an unusual example because they cannot be considered an immigrant minority group. Nevertheless, they represent a minority in North America and their entrepreneurial behaviour outside Québec is remarkably similar to that of other ethnic groups. Traditionally, Francophones have strong roots in farming, fishing, and lumber industries mainly within Québec and the eastern Maritime provinces[44]. However, changing social and economic circumstances have encouraged more French Canadians to settle in other provinces. The research conducted by Langlois and Razin demonstrates that Francophones are most entrepreneurial in regions where they represent a small minority.[45] It also demonstrated a negative relationship between the size of a community and its entrepreneurial activity. Besides this, those communities that are assimilated most quickly demonstrate higher levels of entrepreneurial activity[46]. In other words, it is possible to suggest that survival entrepreneurship is not only a response to

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[42] Ibid., p.48.
[43] Langlois.A., Razin E., "Immigrant and Ethnic Entrepreneurs in Canadian and American Metropolitan Areas – A Comparative Perspective" *Ethnic and racial Studies*, #18, 1995, p. 582.
[44] Arnopuloulos, S., *Voices from French Ontario, Kingston, and Montréal, McGill-Queen's University Press*, 1982.
[45] Langlois.A., Razin E., "Self-Employment among French Canadians", *Canadian Issues*, #XVIII, 1996, p.590.
[46] Ibid., p.593.

poverty or an alien milieu, but also a social response to assimilation when entrepreneurship is considered to be the only way to stay independent from the mainstream social environment. At the same time, in Québec, French Canadians tend to have a much lower propensity towards self-employment, although historically the rise of Francophone entrepreneurship in Canada started from Quebec[47]. Another interesting feature of French-speaking Canadians, identified by a number of studies[48] demonstrates lower socio-economic status relative to English-speakers, due mainly to their lower level of education.

Studying a larger set of examples of the relationship between ethnic communities and entrepreneurship, one can see that despite all the differences, all these examples obey several regularities which will be examined here with further case examples. Historical and cultural (imposed by a national identity) factors can seriously affect the entrepreneurial activity of various minorities. Waldinger, Aldrich, and Ward describe a very good example of this in the U.S.A. They contend that opportunities for entrepreneurship among African Americans were better in the South than in the North of the United States in the 19th century. Manual labour in the southern states was in greater demand than in the north because southern whites disdained this type of labour[49]. Artisans constituted "more than two-thirds of the New Orleans free black population"[50]. Conversely, in 1860 "just over 5% of the free blacks living in New-York were engaged in artisan trades"[51]. Further segregation from white population led to poverty among black customers and, hence, to the attenuation of entrepreneurial activity within black communities[52]. However, according to Light, there is also another explanation of the lack of entrepreneurial activity within these communities. He contends that "black communities were too driven by individualism, competition, and status differences (between northern and southern, middle class and lower class) to overcome barriers to business entry"[53]. Consequently, cultural and historical factors created conditions affecting not only inner social structure, but also geographical differences, both of which determined the level of entrepreneurial activity among Afro-Americans.

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[47] Langlois.A., Razin E., "Self-Employment among French Canadians", *Canadian Issues*, #XVIII, 1996, p.590.
[48] Emond, L., Le Brun, D., and Thiffaut W., *Self-Portrait, the Working World of Franco-Ontariens*, Ottawa: Association Canadienne-Française de l'Ontario, 1986.
[49] Waldinger, R., Aldrich, H., Ward, R., "*Trends in Ethnic Business in the United States*", *Sage Series on Race and Ethnic Relations*, #1
[50] Curry, L. "*The Free Black in Urban America*" Chicago: University of Chicago Press, 1981, p.260.
[51] Ibid., p.260.
[52] Zunz, O., "*The Changing Face of Inequality*", Chicago: University of Chicago Press, 1982.
[53] Waldinger, R., Aldrich, H., Ward, R., "*Trends in Ethnic Business in the United States*», *Sage Series on Race and Ethnic Relations*, #1, p.63.

Asians represent the opposite example of the ethnic activity. The growth of Chinese and Korean businesses in the USA was "facilitated by the social organization of these communities which expedited resource mobilization"[54]. This resource mobilization included not only mutual help and information, but also rotating credit associations that were used to distribute money to those who needed financial support for starting a new business. In a way, these financial systems are an important example of Chinese and Korean overtaking entrepreneurial activity. The interest in oriental cuisine led to the fact that Chinese and Korean enterprises developed not just in large cities with their traditional orientation in community customers and specialization in laundry, restaurants, and garment industries, but also in suburban areas, represented by restaurants[55].

An alien environment demonstrates a distinct influence on each ethnic group or person. In certain cases people are willing to stay within a community because an outside environment is completely unfamiliar to them, and in other cases the difference of the environment is less significant (the level of education, the knowledge of the language and cultural traditions significantly affect it). For example, German and Dutch immigrants are more likely to be entrepreneurial within suburban territories because they are more ready to establish business relationships with the native-born population[56]. This is explained by their cultural similarity in relation to mainstream North Americans.

Nevertheless, the presence of an alien milieu encourages more self-reliance and independence. Finally, there are a number of factors whose influence is not as obvious. These factors are historical, linguistic, educational, and cultural. These factors reveal their influence indirectly, through the previous two factors. Altogether, these factors determine and describe the relationship between ethnicity and entrepreneurship to quite a large extent, as well as describe the reasons for differences in entrepreneurial activity among various ethnic groups.

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[54] Ibid., p.67.

[55] Waldinger, R., Aldrich, H., Ward, R., "*Trends in Ethnic Business in the United States*», *Sage Series on Race and Ethnic Relations*, #1, p.69.

[56] Langlois.A., Razin E., "*Self-Employment among Ethnic Minorities in Canadian Metropolitan Areas*", *Canadian Journal of Regional Science*, #XII:3, 1989.

The Capital Perspective on Ethnicity and Entrepreneurship

Another theoretical approach to entrepreneurship gives attention to its effect on capital building. This approach operates with several concepts of capital which are quite essential for understanding of another way to explore the relationship of entrepreneurship and ethnicity. There are four main concepts or forms of capital: human, cultural, social, and financial[57].

Human capital is defined as "the knowledge, skills, competences and other attributes embodied in individuals that are relevant to economic activity"[58]. This concept is employed by the researchers who study the influence of knowledge, skills, and life experience of individuals on their economic performance. The exploration of this relationship is a part of my study.

Cultural capital was defined by Bourdieu as "competence in a society's high-status culture", where "high-status culture" emphasizes art, music, dance, literature, but it also includes furniture, architecture, cuisine, and fashion[59]. Cultural capital focuses on the way power structures are reproduced[60]. In short, it means that someone's employment possibilities can highly depend on the dress style, because in that environment some certain type of fashion represents an affiliation with that particular social layer.

Social capital, according to Schuller, is defined by many writers as "networks, norms and trust, and the way these allow agents and institutions to be more effective in achieving common objectives"[61]. Thus, social capital "is generally understood as a matter of relationships, as a property of groups rather than the property of individuals"[62].

Discussing these three main types of capital, Schuller does not include financial capital which is also recognized by many researchers. *Financial capital* can be defined as a cumulative notion uniting previous three capitals, deriving from them, and being a main goal to obtain through the other capitals.

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[57] Schuller, T., "*The Complementary Roles of Human and Social Capital*», p.90
[58] OECD, "*Human Capital Investment: An international Comparison*», *Organization for Economic Cooperation and Development*, Paris, 1998, p.9.
[59] Bourdieu, P., "Avenir de Classe et Causalite du Probable», *Revenue Rancaise de Sociologie*, #15, 1974, p8.
[60] Schuller, T., *The Complementary Roles of Human and Social Capital*, p.91
[61] Ibid., p.91
[62] Ibid., p.91

From an entrepreneurship point of view, "much evidence shows that among all ethno-racial groups and categories, human capital increases rates of entrepreneurship"[63]. At the same time, for ethnic groups in North America social capital plays an extremely important role in their survival strategies and entrepreneurial activity. This social capital is based on the strong ideology of solidarity[64]. This ideology also helps the members of ethnic communities to transfer their cultural capital into financial capital in an alien cultural environment, as "members of ... ethnic communities have the ability to market their ethnic skills in order to obtain economic rewards"[65].

In comparison with class representatives, ethnic groups' representatives might start their businesses under very different conditions. The main goal of class representatives is to maintain and pass their financial and human capital through inherited social and cultural capital. Meantime, cultural capital can be absorbed by a learner, while social capital is always external and it can be either inherited or acquired. In other words, a person is more likely to become an entrepreneur if their parents are/ were entrepreneurs, and he or she inherited their entrepreneurial way of life (cultural capital) and business connections (social capital)[66].

Immigrants come to the country with only their human capital, often no financial and social types of capital, and partially valid cultural capital. They have very different premises of starting their business. As it was illustrated in the previous chapter, entrepreneurship becomes a main source for them to survive and create new financial capital. Their solidarity becomes their social capital, while their human capital and partially cultural capital are included into the entrepreneurial activity. Of course, entrepreneurship is just one of the ways, but it often becomes the main source of finance. The algorithm is simple: in order to gain an absent financial capital, newcomers use their human capital to conduct survival business activities, cultural capital as a part of human capital and ethnicity as a necessary business

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[63] Light, I., Rosenstein, C., "Bates, Race, Self-Employment, and Upward Mobility", *Ethnicity and Entrepreneurship*, #30, pp.130-131.
[64] Light, I., Rosenstein, C., *Race, Ethnicity and Entrepreneurship in Urban America*, New York: Aldine De Gruyter, 1995, p.19.
[65] Gold, S., Phillips, B., *Mobility and Continuity among Eastern European Jews*, Belmont: Wadsworth, 1996, pp.182-194.
[66] Light, I., Gold, S., *Ethnic Economies*, San Diego: Academic Press, 2000, p.95.

infrastructure (social capital) and partially as cultural capital[67] in cases when it is called for (e.g., Chinese or Japanese cuisine).

This algorithm is confirmed by the fact that the "rate of self-employment declines with each additional generation in the United States, largely because the migrants' American-born offspring find satisfactory positions in the existing economy"[68]. Once some initial financial capital is collected it is invested in the human capital of children with new cultural capital and inherited social and financial capital. From this point, one can start speaking either about classes' or ethnic groups' members who no longer rely on survival entrepreneurship. Later, other ethnic groups can replace earlier ones. This process is called *ethnic succession*[69].

The above theoretical approach can be reviewed in light of particular examples. As it was mentioned earlier, the black communities in the USA were not very successful in entrepreneurial activity. However, in terms of the capital approach, one can also add that these communities did not succeed because they were not able to construct necessary social networks within their communities. In addition, because of the severe segregation, based on racism, they were not able to develop cultural and human types of capital comparable to that of whites. It was a vicious circle where they did not have financial capital to invest in human capital and, in turn, human capital to obtain financial capital with it.

Another example – Koreans and Chinese – demonstrates the complete opposite situation. These immigrants were able to create a vital social capital with strong financial component (rotating credit associations) and use it in order to promote their human capital and cultural capital (e.g., the fashion for oriental cuisine). They were able to gain financial capital which allowed their America-born children to be much less dependent on ethnic resources. Unquestionably, the later period of their ethnic activity formation cannot be underestimated.

French Canadians outside Québec form a unique example that demonstrates a distillation of the different forms of capital in relation to entrepreneurship. One of the main reasons for French Canadians outside Québec to start their businesses (even when they did

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[67] As American WASP maintain exclusive attitude to each other established through a network of exclusive clubs and particular subculture, ethnic employers make hiring decisions on the basis of racial and ethnic preferences. Ibid., pp.109-119.

[68] Goldscheider, C., Kobrin, F., "Ethnic Continuity and the Process of Self-Employment", *Ethnicity*, #7, 1980, pp.256-278.

[69] Light, I., Gold, S., *Ethnic Economies*, San Diego: Academic Press, 2000, p.114.

not experience any difficulties with the English language) was an absence of social capital which prevented them from complete integration into the local environment.

There are other examples of how various ethnic groups create their ethnic resources and use them. For example, about 20 percent of Latinos who live in the U.S. "abandoned Catholicism in favor of evangelical Christianity ... Thus, through religious conversion members are equipping themselves with ethnic resources previously unavailable within their groups"[70]. In other words, this is a clear attempt to adjust their cultural capital and create social capital more relevant to their new environment.

Cultural capital might play more important role than human capital in certain situations. Arabs and Iranians in the United States have higher levels of education (i.e. human capital) than the Jewish community. Nevertheless, American Jews are more familiar with Western-style social norms and they have strong and old entrepreneurial roots. They have higher incomes than Arabs and Iranians, who are much less familiar with western society and who are more often ""traumatized exiles" rather than voluntary immigrants"[71].

The other example of ethnic resources (social and cultural types of capital) in work is the Armenian garbage business in California. Armenians "who became involved in the garbage industry early this century now own economically vital landfills and run law and engineering firms that specialize in environmental concerns" [72]. Once established, business has developed through inherited social capital and financial capital of this ethnic group. Remarkably, recent co-ethnic newcomers "continue to hold non-professional jobs in the waste industry"[73]. One can explain it by the fact that newcomers do not have locally established human, social and obviously financial capital.

In short, all these examples demonstrate that ethnic groups try to attain financial prosperity through ethnic communities as their social capital and entrepreneurship as a realization of their human capital. In this sense the notion of human capital is the most important of all forms of capital. As discussed above, human capital can be interpreted as a professional, personal experience which can influence an individual's productivity. Statistics and a considerable number of studies, which will be discussed in the following chapter,

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[70] Ibid., p.106.
[71] Ibid., p.111.
[72] Ibid., p.113.
[73] Ibid., p.113.

usually work with two major indicators of human capital: the highest level of schooling and an individual's occupation or industry.

Although not all of the types of capital will be explored in my study, this approach is very essential for the discussion. It incorporates human capital – the concept which plays an important role in my research due to its strong involvement in both concepts: immigration (ethnicity) and entrepreneurship.

1.3. The Hypotheses of the Study

In conclusion, I would like to summarize the main findings of the chapter. This chapter demonstrated that self-employment is a complex notion that has various aspects, both economic and social. More than anything, entrepreneurship is a social instrument of economic prosperity because it is the activity that is independent of an individual's professional or educational experience. At the same time, it can also be a response to economic or social disadvantage. As long as ethnic communities often consisting of immigrants are disadvantaged both socially and economically, their connection with self-employment will not be casual. Self-employment becomes a strong instrument of these communities.

In light of this statement, ethnic communities are the next very important dimension that has to be studied in order to have a complete understanding of ethnic self-employment. These communities are organized and provide many functions of mainstream social and financial institutions. If they are recognized by a host society, this recognition can bring additional economic advantags. However, even if they are not fully recognized they still might offer some possibilities for co-ethnics, both employers and employees.

Being a structured organization, an ethnic community can be described with a number of indicators such as size, saturation[74], etc. However, there is another type of approach – a capital approach – which can describe ethnic communities and their economic activity. This approach pays attention to different types of capital, with a specific focus on human capital. Measured as a level of education and/or occupation, human capital plays a very significant role in studies of self-employment, because for immigrants often it is the only type of capital they have once they have arrived to a new country.

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[74] See page 19

Ethnic communities as well as immigrants tend to concentrate in large metropolitan areas. In Canada, the role of Toronto, Montréal, and Vancouver becomes essential in the case of a study on entrepreneurship. The Canadian reality brings up another very important aspect – language. As discussed, cultural identity is very important in explaining income disparities among various ethnic groups. In Canada, linguistic diversity adds one more dimension to this issue.

I would now like to finish this chapter by outlining the hypotheses I shall explore in my research. In this study I intend to examine the dependence of income on various forms of economic activity (i.e. self-employment and paid-employment) accompanied by belonging to different ethnic and nativity groups, suggesting that self-employed workers enjoy higher incomes. I intend to explore the influence of human capital on income. The focus of the hypotheses can be defined as follows:

1. *In general, entrepreneurs might enjoy higher incomes than paid workers.*

This hypothesis is stipulated by the discussion that entrepreneurship can be either a result of an alternative lifestyle choise or an emergency/ disadvantaged choice.

2. *Individuals of different ethnic backgrounds will have different levels of income. Those who are culturally closer to the mainstream (host) population might enjoy higher incomes than other immigrants. At the same time, individuals from the mainstream population will have the highest incomes.*

This hypothesis is stipulated by the discussion that cultural differences do influence economic activity. Various ethnic communities have different social relationships within the communities as well as with mainstream societies. These differences were demonstrated by the examples of Chinese, Korean, and black communities in the United States. Finally, impacting the speed of integration into a new society, these differences also affect the levels of income. If the host society has very different cultural values, the values of newcomers might not be accepted, which will complicate their social and economic integration. The example of the income differences between Arabs/ Iranians and Jews is one such case.

3. *Both paid and self-employed workers with higher levels of human capital enjoy higher incomes. Among immigrants, paid workers tend to concentrate in blue-collar positions and have lower incomes. Self-employed immigrants are less*

concentrated in blue-collar positions and have higher incomes than their paid counterparts.

This hypothesis is stipulated by the discussion that human capital is very important in terms of attaining financial prosperity. At the same time, immigrants who prefer to be paid workers often have to turn to the blue-collar, low-paying labour market because of various obstacles in the way of social integration. However, in self-employment they have more possibilities for self-realization because self-employment is less standardized and imposes fewer firm requirements.

4. *The knowledge of at least one of Canada's official languages among immigrants significantly improves their economic performance. At the same time, those who do not know either of the official languages will enjoy better performance if they are self-employed.*

This hypothesis is stipulated by the evidence that language is an essential factor in terms of the integration into a new society. As such, this component will define the level of disadvantage. However, the most disadvantaged individuals who turn to self-employment would probably find more possibilities within their ethnic community.

5. *French-speaking workers, both paid and self-employed, have lower incomes than their English-speaking counterparts. In light of this suggestion, Montréal might differ from Toronto and Vancouver in terms of overall income levels.*

The discussion on French-speaking workers suggests that there might be a gap in incomes relative to English-speaking workers, which was discussed in Chapter 1.2. This suggestion will be examined.

The above-mentioned hypotheses do not reflect all aspects of entrepreneurship and, in particular, ethnic entrepreneurship. However, they represent the issues which need to be addressed when studying self-employment in Canada.

Conclusion

This thesis focuses on the relationship between income and entrepreneurship as influenced by a number of factors, such as ethnicity, language, and human capital. As

mentioned above, entrepreneurship is a very flexible activity, depending on the motives of individuals. It can be caused both by economic and social challenges as well as by the desire to have a more flexible and independent lifestyle. Different people and groups turn to self-employment to improve their economic positions. Nevertheless, they do not all attain the same results. Various ethnic groups demonstrate unequal results. The necessity to convert human capital into financial capital imposes strong requirements on the level of education. The language diversity in Canada brings up an additional dimension of possible income inequality. This chapter was dedicated to the theoretical exploration of the connections among income, entrepreneurship, ethnicity, human capital, and language. The following chapter examines studies and approaches to explore these connections.

Chapter 2. Literature Review, Research Data and the Methodology Description

At the end of the previous chapter – after the theoretical issues of self-employment were discussed – I presented the main hypotheses that I intend to examine in my study. Briefly, they question the relationship of ethnic, linguistic, and human capital characteristics of individuals to their financial performance, as well as the influence of entrepreneurship on this relationship. The second chapter is a practical introduction to the research. The focus of the chapter is the formulation of the variables and methodology which will be used in the analysis. In order to do this, it is necessary to outline the data sources and the variables suitable for examining the hypotheses through review of similar studies.

This chapter consists of three sections. The first focuses on the literature review of the studies related to the hypotheses. In this section I discuss a number of studies in terms of their variables, methodology, and findings. The second section is dedicated to the justification of the data source used here, as well as the choice of the variables and the transformations applied to them. As such, this section frequently makes reference to the preceding one and relies upon the findings in the first section. Finally, the third section discusses the methodology and the software which will be used in the analysis. In this section I describe and justify the main steps that I consider necessary for such an analysis.

2.1. Literature Review: Various Methodological Approaches towards the Relationship of Income and Self-Employment with Ethnicity, Immigrant Status, and Education.

Incorporated and Unincorporated Self-employment

Many studies focus on the relationship of income and self-employment to immigration, ethnicity and education. I begin by examining different forms of self-employment, as there is certain evidence that the form of self-employment does matter.

One of the most consistent findings suggests that immigrants turn to self-employment due to barriers in the general labour market as well as differences in cultural values[75]. At the same time, immigrant (and, more broadly, ethnic) communities offer protected markets[76]. Thirty years ago, Stanworth and Curran asserted that "entrepreneurship is largely a function of social marginality"[77] for immigrants and ethnic minorities. Langlois and Razin argue that immigrants are usually more entrepreneurial than native-born individuals.[78] This higher propensity towards self-employment, however, does not necessarily mean better results. Auster and Aldrich point out one factor differentiating self-employment of ethnic minorities from that of the mainstream population: mainstream individuals turn to entrepreneurship after obtaining considerable professional experience as salaried workers, which they exploit in working on their own[79].

Self-employment can be an emergency choice for the mainstream population as well. Light and Roach mention that the number of self-employed workers rises once "job opportunities sink"[80]. Examining employment trends in Los Angeles, they note that due to job exportation and rising unemployment rates "in some of the regions self-employment developed because some households started a business when wages stopped or simply failed to keep pace with living costs between 1970 and 1990"[81]. However, does this mean that self-employment is the emergency remedy from being pushed out into the streets or does it provide a decent income and a possibility of upward economic mobility?

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[75] Bonacich, E. and Modell, J., *The Economic Basic of Ethnic Solidarity*, Berkeley and Los Angeles: University of California Press, 1980.
Light, I. and Bonacich, E., *Immigrant Entrepreneurs*, Berkeley and Los Angeles: University of California Press, 1988.
Light, I. and Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter, 1995.
Li P., *The Chinese in Canada. Second Edition*, Toronto: Oxford University Press, 1998.
Waldinger R., et al., *Ethnic Entrepreneurs: Immigrant Business in Industrial Societies*, Newbury Park, CA: Sage, 1990.

[76] Portes, A. and Zhou, M., "Self-Employment and the Earnings of Immigrants", *American Sociological Review*, 61:219-230, 1996.
Langlois, A. and Rasin, E., "Self-Employment Among French Canadians: The Role of the Regional Milieu", *Ethnic and Racial Studies*, 18:581-604, 1995.
Langlois, A. and Rasin, E., "Self-Employment Among Ethnic Minorities in Canadian Metropolitan Areas", *Canadian Journal of Regional Science*, 12:335-354, 1995.
Razin, E. and Langlois, A., "Metropolitan Characteristics and Entrepreneurship among Immigrants and Ethnic Groups in Canada", International *Migration Review*, 30:703-727, 1996.
Sanders, J. and Nee, V., "Immigrant Self-Employment: The Family as Social Capital and the Value of Human Capital", *American Sociological Review*, 61:231-249, 1996.

[77] Stanworth, M. and Curran, J., *Management, Motivation and the Smaller Business*, Epping, UK: Gower, 1973.

[78] Langlois.A., Razin E., "Self-Employment among Ethnic Minorities in Canadian Metropolitan Areas", *Canadian Journal of Regional Science*, #XII:3, 1989.

[79] Auster, E., Aldrich, H., "Small Business Vulnerability, Ethnic Enclaves, and Ethnic Entreprise" Ch. 3 in *Ethnic Communities in Business*, edited by Robin Ward. *Cambridge University Press*, 1984.

[80] Light, I. And Roach, E., "Self-Employment: Mobility Ladder or Economic Lifeboat?", in *Ethnic Los Angeles* edited by Waldinger, R., Russell Sage Foundation, pp.193-213, 1996.

[81] Ibid., p.194.

In order to answer this question it is necessary to understand that self-employment consists of two major types. Light and Roach insist on differentiating those who chose self-employment "as a means of economic ascent", from "struggling people [who] are undertaking self-employment to survive hard times"[82]. They reveal an important aspect of any income research on self-employment – this form of labourforce must be disaggregated. There must be a division of two quite different streams based on different motives and which provide different levels of income. In other words, "incorporated self-employment epitomizes sheer economic success ... whereas unincorporated self-employment may represent only tiny Mom-and-Pop store that keeps a struggling family off welfare"[83]. Incorporated self-employment represents quite a different mind-set from that of unincorporated self-employment. The difference between incorporated and unincorporated self-employment is not just a matter of a legal formula. To a greater extent it represents the boundary beyond which a spontaneous and often emergency decision transforms into a sustainable economic activity, when proprietorship, or a very small firm, turns into incorporated business. Of course, it does not mean that all unincorporated small businesses are struggling, while incorporated ones are flourishing.

The above-discussed differences are not sufficient. The literature provides us with other examples of self-employment identification. Light and Rosenstein[84] identify two ways of measuring self-employment: either by respondents' self-identification or by income source. Another important issue to consider is whether to include only those who claim to be exclusively self-employed or also those who are self-employed part-time. Light and Roach in their research on the economic mobility of ethnic groups in Los Angeles restricted their research to full time work (35 hours or more vs. less then 35 hours a week) only, because even a simple descriptive analysis of data shows that part-time and full-time workers differ significantly in terms of income, especially if they are self-employed[85]. As well as Light and Roach, Frenette in his research on earnings of self-employed immigrants in Canada[86] also separates full-time workers from part-time ones, and focuses only on full-time workers (30

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[82] Ibid., p.194.
[83] Ibid., p.196.
[84] Light, I. and Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter, 1995.
[85] Light, I. And Roach, E., "Self-Employment: Mobility Ladder or Economic Lifeboat?", in *"Ethnic Los Angeles"* edited by Waldinger, R., Russell Sage Foundation, pp.193-213, 1996.
[86] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002.

hours a week or at least 40 weeks in the previous year according to Census variables). He justifies this choice by pointing out the necessity of focusing on the workers with strong attachment to the labour force. Fairlie also uses this argument in his research on the economic mobility of self-employed blacks and Hispanics in the US[87]. Fairlie used National Longitudinal Survey of Youth (NLSY) data sample for men and women from 1979 to 1994 and also excluded those workers who reported of working fewer than 300 hours in the previous calendar year.

Income

Income has been the focus of many studies on self-employment. Portes and Zhou[88], in their research on economic mobility among immigrant and domestic minorities in the U.S., use median and mean family incomes. Oliver and Shapiro[89] conducted research where they explored the connection between income and education. They used 1984 Survey of Income and Program Participation data to compare median income with various levels of education among American households. Light and Roach[90] also used mean income in order to see the differences in performance among various ethno-racial groups as well as among classes of worker. Maxim[91], who analyzed the dependence between income and such variables as language, education, marital status, industries (Canadian census data) for males of age 16 – 64 among foreign-born and native-born self-employed workers in 1986, also used median income. However, along with the median income he also used mean log total income. Distinct from this study, Frenette uses log net self-employed income as the dependent variable[92].

Basically, almost all the studies I examined operate with either median income or mean and median income. This propensity towards median income is expected, given that median income is less skewed than raw mean income in case of an abnormal distribution. On the

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[87] Fairlie, R., "Does Business Ownership Provide a Source of Upward Mobility for Blacks and Hispanics?", in "*Public Policy and the Economics of Entrepreneurship*" edited by Holtz-Eakin, D. and Rosen, H., Cambridge, MS: The MIT Press, pp.153-181, 2004.

[88] Portes, A. and Zhou, M., "Self-Employment and the Earnings of Immigrants", *American Sociological Review*, 61:219-230, 1996.

[89] Oliver, M. and Shapiro, T., "Wealth of a Nation: A reassessment of Asset Inequality in America Shows At Least One Third of Households Are Asset-poor", *The American Journal of Economics and Sociology*, 49:129-151, 1990.

[90] Light, I. And Roach, E., "Self-Employment: Mobility Ladder or Economic Lifeboat?", in *Ethnic Los Angeles* edited by Waldinger, R., Russell Sage Foundation, pp.193-213, 1996.

[91] Maxim, P., "Immigrants, Visible Minorities, and Self-Employment", *Demography*, 29:181-198, 1992.

[92] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002.

other hand, none of the reviewed studies used income ranges, except those undertaken by Statistics Canada. This is also to be expected, as any income classification is quite disputable due to the fact that income depends on a number of components that are both social and economic. It is quite difficult to create ranges which would suit all groups of individuals being studied.

Regarding the system of the income ranges offered by Statistics Canada, it is based on two levels defining the position of a household above or under the poverty line which is calculated as 37.5% (the "normal" level of spending) plus an additional 20% of the household's income spent on food, shelter, and clothes[93]. This system is widely used and is easy to understand. However, the obvious disadvantage of it is that there are just two levels of income.

Ethnic and Racial Origin, Place of Birth, and Nativity

Regarding individuals' grouping, ethno-racial identity appears to be another important aspect of research on self-employment and income, as there is strong evidence of unequal distribution of earnings among various ethno-racial groups. Light and Roach[94] in their research on self-employment incomes among whites, blacks, Hispanics, and Asians in Los Angeles compare mean earnings of these ethno-racial groups for 1970, 1980, and 1990. The goal of their research is to compare incomes within each group and between the years. For the latter purpose they use a special index that was calculated as 1990/1970*100 (the percentage expression of the ratio of 1990 income toward 1970 income)[95]. In other words, one can see if self-employment income grows faster or slower than salaries. The estimations demonstrated that among incorporated self-employed workers the index was almost always higher than among private and government employees. At the same time, the incomes of all classes of worker within each ethno-racial group significantly differ from those of their counterparts in the other groups.

[93] Ross, D., Shillington, R., & Lochhead C., *The Canadian fact book on poverty*, Ottawa: Canadian Council on Social Development, 1994.
[94] Ibid.
[95] Ibid.

Fairlie used the National Longitudinal Survey of Youth (NLSY) data set for men and women from 1979 to 1994[96]. A descriptive analysis (mean, median, standard deviation) was undertaken for three ethno-racial groups as well as separately for men and women in each group. Even at this more general level it is clearly visible that ethnicity is an important factor, because the income means vary significantly among the ethno-racial groups (from Whites to Blacks).

Another way to divide individuals into relatively homogeneous groups is the separation by place of birth, country of last permanent residence or nativity. Li, in his research on immigrants' propensity towards self-employment in Canada[97] based on Longitudinal Immigration Data Base (1980-95) found that immigrants from Western Europe, Eastern Europe, Western Asia and the United States "were more likely to engage in self-employment one year after landing" than those from the other regions[98].

The influence of place of birth is also confirmed by the study of Evans on the propensity of immigrants from various European and Asian regions to become self-employed in Australia[99]. His logistic regression analysis demonstrates that immigrants from Northwestern Europe and Mediterranean regions have a higher probability of becoming self-employed than those from Eastern Europe and Asia.

Light and Roach[100] compare self-employment bonuses (the income advantage of self-employment over wage or salary employment) of native-born and foreign-born self-employed males of Latin American, Chinese, Korean, Armenian, and Russian origin aged 25-64 years old. Unfortunately, they do not divide the sample into incorporated and unincorporated entrepreneurs. However, even here, native-born owners have higher bonuses[101] than foreign-born ones. That means that the division into foreign-born and native-born categories as well as the division into ethno-racial groups can also be necessary for creating essentially homogeneous groups in terms of income.

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[96] Fairlie, R., "Does Business Ownership Provide a Source of Upward Mobility for Blacks and Hispanics?", in *Public Policy and the Economics of Entrepreneurship* edited by Holtz-Eakin, D. and Rosen, H., Cambridge, MS: The MIT Press, pp.153-181, 2004.

[97] Li, P., "*Immigrants' Propensity to Self-Employment: Evidence from Canada*", International Migration Revew, 35:1106-1128, 2001.

[98] Ibid., p.1119.

[99] Evans, M.D.R., "Immigrant Entrepreneurship: Effects of Ethnic Market Size and Isolated Labor Pool", *American Sociological Review*, Vol. 54, pp.950-962, 1989.

[100] Light, I. And Roach, E., "Self-Employment: Mobility Ladder or Economic Lifeboat?", in "*Ethnic Los Angeles*" edited by Waldinger, R., Russell Sage Foundation, pp.193-213, 1996.

[101] Ibid., p.203.

Duration of living in the country

Li's above-mentioned work is very important because it incorporates another key aspect of research – the level of integration into a new society. The significance of this parameter is highly exploited in Frenette's[102] study of self-employed immigrants' earnings in Canada. For his research he used 1981 – 1996 Census data for the reason that it allowed him to separate immigrants from native-born, self-employed from paid workers, and paid earnings from net self-employment income. Frenette divided immigrants into several cohorts in order to exclude the influence of different groups of immigrants entering the country over time into the analysis. The cohorts were defined by the 5-year lags between censuses. The division into cohorts also reduced the distorting influence of assimilation which represents the level of integration into new society[103]. Comparing the mean net self-employment income for various cohorts (precisely 1976-80, 1981-85, 1986-90, 1991-95) with each other and native-born self-employed workers income in 1996 dollars for 1980, 1985, 1990, and 1995, he reveals that those who entered the country in 1980 were making more money in 1995 than they made in 1980 and more than native-born entrepreneurs in 1995. However, he also finds that although "all cohorts show some assimilation in terms of earnings, this seems to have declined with more recent cohorts"[104]. Frenette also found that the propensity towards self-employment among immigrants increases with the time spent in the country and eventually it exceeds the propensity of native-born self-employed workers.

Li in his research on the propensity of immigrants to engage in self-employment also confirms this approach: "The data[105] clearly show that the extensity of self-employment among cohorts of immigrants is a function of their duration in Canada after arrival..."[106]. In that case, it means that those who spend more time in Canada have a higher tendency of becoming self-employment.

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[102] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002.
[103] Ibid., p.3.
[104] Ibid., p.8.
[105] The Longitudinal Immigration Data Base (IMDB), developed by Citizenship and Immigration Canada and Statistics Canada.
[106] Li, P., "Immigrants' Propensity to Self-Employment: Evidence from Canada", *International Migration Review*, 35:1106-1128, 2001, p.1111.

Education

Level of education is another very important variable affecting individual incomes as well as type of employment preferences. Peter Li's research[107] demonstrates that the odds that immigrants will opt for self-employment are higher if they have a higher degree of education. This may reflect the higher expectations of more educated immigrants because they prefer more prestigious self-employment to that offered in the low-wage general labour market.

Sanders and Nee[108] also found a connection between human capital level and propensity towards self-employment. They studied several ethnic groups such as Koreans, Chinese, Mexicans, Indians and others in New York and Los Angeles in 1980. The findings of the analysis demonstrate two interesting patterns: there was strong evidence of the human capital influence on women and, to a lower extent, on men. The odds of self-employment were approximately 50% greater in case of a high school or college educated individuals relative to those with less than a high school diploma. The similar positive relationship was found among all ethnic groups, which led the authors to suggest the universal influence of human capital on self-employment propensity[109].

In the case of income, Welch[110] examined American farmers and found that college graduates increased their earnings by more than 50% relative to those who had completed only high school. Oliver and Shapiro[111] used 1984 Survey of Income and Program Participation data to compare median income with various levels of education among American households. The results correspond with those previously discussed: more education usually leads to higher incomes.

Frenette[112] achieved the same results studying various time cohorts of immigrants in Canada. The regression model coefficients are also clear: better educated immigrants receive higher incomes. However, working with Census data from 1981 to 1996 he finds that with time this connection weakens. This can be caused by the assimilation effect, which means

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[107] Li, P., "Immigrants' Propensity to Self-Employment: Evidence from Canada", *International Migration Review*, 35:1106-1128, 2001.
[108] Sanders, J. and Nee, V., "Immigrant Self-Employment: The Family as Social Capital and the Value of Human Capital", *American Sociological Review*, 61:231-249, 1996.
[109] Ibid., p.242.
[110] Welch, F., "The Role of Investment in Human Capital in Agriculture" in *Distortions of Agricultural Incentives*, edited by Schultz, T., Bloomington, IN: Indiana University Press, pp.259-281, 1978.
[111] Oliver, M. and Shapiro, T., "Wealth of a Nation: A reassessment of Asset Inequality in America Shows At Least One Third of Households Are Asset-poor", *The American Journal of Economics and Sociology*, 49:129-151, 1990.
[112] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002.

that with increasing integration into society the requirements for higher incomes become less demanding.

Industries

A number of researchers also consider the distribution of earnings of self-employed individuals within various types of industries. In his study of earnings Frenette looked at the distribution (percentage) across industries among self-employed workers both immigrants and native-born ones in Canada from 1981 to 1996. This descriptive analysis focused on employment structures. This analysis demonstrated that from 1981 to 1996 the share of recent immigrants in primary industries fell from 16% to 4.2%. At the same time, their shares in distributive services and business services increased from 10.5% to 18.8% and from 10.5% to 16.3% respectively[113]. The share of native-born workers in primary industries fell as well, but not as drastically (33.1% to 19.3%). Their share in business services did not differ from that of the foreign-born, while in distributive services they constituted 11.7% in 1996. Despite the changes, it is possible to note that occupational transformations among foreign-born workers still differed considerably from those of their native-born counterparts, although part of these changes could have been caused by a greater concentration of immigrants in urban areas.

This difference was also confirmed by Maxim[114] who analyzed the dependence between median income and such variables as language, education, marital status, industries (the Canadian census data) for males of age 16 – 64. He found that native-born self-employed workers have higher shares in agriculture while foreign-born self-employed workers were mainly employed in primary industries and trades, which corresponds with Frenette's findings for that period of time.

Gender

Gender is another very important limiting variable that is used by many researchers. Light and Roach[115] calculated income indexes for males and females in different ethno-racial and place of birth groups. The findings of the analysis reveal that income growth for women

[113] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002, p.9.
[114] Maxim, P., "Immigrants, Visible Minorities, and Self-Employment", *Demography*, 29:181-198, 1992.
[115] Light, I. And Roach, E., "Self-Employment: Mobility Ladder or Economic Lifeboat?", in *Ethnic Los Angeles* edited by Waldinger, R., Russell Sage Foundation, pp.193-213, 1996.

is much higher than for men in almost every ethno-racial and place of birth group (1970 – 1990). That does not mean, of course, that women earn more money. Rather it suggests that even though their incomes increase, women earn less money and, thus, have much more room for growth[116].

Li's research on immigrant propensity towards self-employment in Canada also examines the effect of gender[117]. Looking at the period of landing, age at landing, education at landing, class of admission, and country of last permanent residence variables, he finds that women are much less likely to be involved in self-employment than men if they come from Eastern Europe, while the results for women from Western Europe are closer to those of men. Another interesting variable is the age at landing, which demonstrates that women over 50 are much more likely to become self-employed, while for men this probability is less in this age group relative to women.

Spatial dimension

The final parameter I would like to address is the spatial dimension of my research. The studies discussed in this section refer to all hierarchical levels of spatial organization: metropolitan areas, provinces, and states. It is essential to determine which of these approaches would be most suitable for my research.

Frenette[118] (study of the earnings of self-employed immigrants in Canada, Canadian Census 1981 -1996) and Maxim[119] (study of the dependence between median income and self-employed males of age 16 – 64 in Canada in 1986, Canadian Census) use the provincial scale. This approach brings many questions, because they merge urban and rural areas, which are quite different socially and economically.

Langlois and Razin in their research on propensity toward entrepreneurship among immigrants and ethnic groups in Canada[120] (Canadian Census, 1991) used a much more detailed spatial approach. The study examined Canadian CMAs, which were divided into groups: Maritime CMAs, Québec CMAs, Ontario CMAs (Northern and Southern), Prairie CMAs, and others. Toronto, Montréal, Vancouver, and Ottawa constituted their own groups.

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[116] Ibid., p.205.
[117] Li, P., "Immigrants' Propensity to Self-Employment: Evidence from Canada", *International Migration Review*, 35:1106-1128, 2001
[118] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002.
[119] Maxim, P., "Immigrants, Visible Minorities, and Self-Employment", *Demography*, 29:181-198, 1992.
[120] Razin, E. and Langlois, A., "Metropolitan Characteristics and Entrepreneurship among Immigrants and Ethnic Groups in Canada", *International Migration Review*, 30:703-727, 1996.

The study was focused on the influence of the metropolitan area on self-employment among immigrants. Such an approach provides much more solid results on the performance of the ethnic groups they explored, as it excludes possible data distortion caused by including urban areas from different hierarchical levels into one group.

Light and Roach in their research on the economic mobility of ethnic groups[121] focused on one metropolitan area – Los Angeles (National Longitudinal Survey of Youth, 1979-1994). In this case their choice of dimension was stipulated by the interest in the ethnic groups from Pacific region and Central and Latin America. These groups are strongly concentrated in Los Angeles.

Sanders and Nee[122] in their study on immigrant self-employment among Asian and Hispanic immigrants (U.S. Bureau of the Census, 1983) used data from New York and Los Angeles. They explained their choice of location by highlighting the fact that the ethnic groups they studied such as Koreans, Chinese, Mexicans, and Indians reside primarily in these metropolitan areas. The data for both locations was merged into one dataset, because the designated groups were distributed unevenly between the CMAs: Asians were highly represented in New York, Hispanics more so in Los Angeles.

In my study I will focus on self-employment characteristics among immigrants and Canadian-born workers. Therefore, of the above-discussed approaches, the latter is the most suitable because immigrants tend to concentrate in large metropolitan areas in Canada. Although the spatial approach used by Langlois and Razin is more interesting in terms of the inter-metropolitan information on the propensity toward self-employment, I cannot apply this approach to my research because of the limited size of my dataset. As such, I feel it best to focus on the major CMAs: Toronto, Montréal, and Vancouver.

In conclusion, the importance of dividing self-employed workers into two groups is inescapable given the differences in the performance between incorporated and unincorporated self-employed workers. The next important finding is the necessity of dividing individuals into more homogenous ethno-racial or nativity groups, because of the

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[121] Light, I. And Roach, E., "Self-Employment: Mobility Ladder or Economic Lifeboat?", in *Ethnic Los Angeles* edited by Waldinger, R., Russell Sage Foundation, pp.193-213, 1996.

[122] Sanders, J. and Nee, V., "*Immigrant Self-Employment: The Family as Social Capital and the Value of Human Capital*", American Sociological Review, 61:231-249, 1996.

significant differences in the economic performance for each group. In the case of immigrants, it is necessary to separate them from a native-born population for the same reasons. It is important to be aware of impact caused by the duration of their living in the country and the circumstances of their arrival in the host country.

Another necessary task is the definition of the population being analyzed. Excluding part-time workers and individuals under 15 and above 65 years old is a crucial step for my study because I am not interested in workers who are only partially attached to the labour force and do not reflect the actual financial capacity of their activity. Finally, the choice of the spatial scale is very influential for studies that focus on immigrants who tend to concentrate in major metropolitan areas.

2.2. The Description of the Variables Used in the Research

Major Sources of Data

Canadian governmental institutions offer two major databases which incorporate both immigrants and their incomes. The first of them – the Longitudinal Immigration Database (IMDB) – is best known for research examining the economic performance of immigrants and their propensity towards self-employment over time (*see Section 2.1*). The database contains the information on more than 2 million immigrants who have landed in Canada since 1980; and is updated with tax information annually. The database contains information on their age, sex, category, occupation, education, language, country of origin, taxation, income status, employment and self-employment income as well as other types of income, place of destination (see **Appendix 2.2.1**) [123].

The second major database is the Canadian Census. Canadian Census data has been used by various researchers for studies on the propensity toward self-employment and self-employed workers' income (*see Section 2.1*). However, it is less specialized than the IMDB. Since 1956 the census has been conducted every five years nationwide. Before that, since 1851, it was held every 10 years[124]. Canadian Census contains demographic, economic, and social information on individuals. The database includes variables describing respondents by age, sex, household social constitution, immigrant status, type of dwelling, transportation

[123] Citizenship and Immigration Canada, "*The Longitudinal Immigration Database (IMDB). An Introduction*", 1997.
[124] Statistic s Canada, "*2001 Census Handbook*", 2001, p.4

mode, occupation, education, language, country of origin, income status, employment and self-employment income as well as other types of income, geography of living and many other parameters (see **Appendix 2.2.2**). The Census data is available as a Census Public Use Microdata File (PUMF) on Individuals. It contains 2.7% (801.1 thousand individuals) data sample of the original number of respondents.

Comparing these databases in light of the study's goals reveals advantages and disadvantages in both of them. Unquestionably, the first database is much more specialized because of its focus on immigrants. It contains a large sample and, most importantly, it allows one to track the same people over time. As such, this database is an indispensable instrument in the case of research on immigrants' propensity toward self-employment and their socio-economic mobility.

The Canadian Census, on the other hand, does not provide the possibility of tracking the same individuals. It also contains the data with five-year time gaps. The sample is much smaller, especially, regarding immigrants, but the sample contains information on the entire Canadian population. The smaller sample creates significant problems in terms of studying self-employment because the total number of self-employed immigrants is small outside of the major metropolitan areas.

Nevertheless, the Canadian Census has certain important advantages. The fact that it contains information not just on immigrants is extremely crucial for my research, because it allows me to compare the mainstream population with ethnic minorities, which is a fundamental part of my study. Second of all, it provides precise information about individuals' place of residence: both provinces and CMAs (see **Appendix 2.2.1**). Another important issue is the ability to explore language at home and at work separately. As long as the mainstream population in Canada speaks two languages and the presence of non-official languages is noticeable, it is very important to examine the influence of language on workers' financial performance.

Although this is not a complete list of advantages and disadvantages of the two databases, keeping the above-mentioned differences in mind, it stands to reason that the Canadian Census data is highly suited to my study.

Census Metropolitan Areas

As discussed in the previous section of this chapter, large metropolitan areas are the most reasonable research scale for the given data limitations.

As it is shown in the **Appendix 2.2.3**, Toronto, Montréal, and Vancouver – the three largest Canadian cities – have the highest numbers and/or shares of immigrants in at least two groups of metropolitan areas out of three. In terms of z-score classification, they were excluded into a separate group as obvious over-influential cases with scores exceeding one or two standard deviations from the mean, thus demonstrating their exceptional role in accommodating immigrants in Canada. Finally, only these three CMAs, when merged, provide a sufficient number of immigrants for the examination. The dataset for these three CMAs contains, overall, 270,306 respondents.

Limiting Variables

The variables I am going to employ in my study can be classified in two ways: limiting variables and research variables. Age is the first limiting variable in my study. The limits were defined by the standards used by Human Resources Canada and Statistics Canada. Statistics Canada and Human Resources Canada define the lowest (legal) age threshold for full labour force participation as 15 years old[125]. Human Resources Canada, regarding the Old Age Security Program, defines the threshold for insured minimum income payments for seniors at the age of 65 and over with a "normal" retirement age of 65[126]. Age 65, hence, represents the possibility of leaving a job still having income. At the same time, in 2001 by the age of 61 more than 50% of workers retired from their jobs[127]. Thus, age 65 is the threshold at which the majority of the respondents leave their class of work. The application of the age limitations as well as the spatial ones decreased the dataset to 186,980 respondents.

The second limiting variable is the "Part-Time/ Full-Time Worker" indicator. Only those who were recognized as full-time workers ("Full-Time or Part-Time workers in 2000", see **Appendix 2.2.2**, Field 109) were left in the data set. As discussed in the previous section (see Light & Roach, Frenette, Fairlie), this decision is influenced by the necessity of

[125] Human Resources Canada, "*http://www.economiecanadienne.gc.ca/english/economy/labour.html#definition*", extracted on 20.05.2006
[126] Human Resources Canada, "*http://www.hrsdc.gc.ca/en/lp/spila/wlb/aw/26retirement_legislative.shtml*", extracted on 20.05.2005
[127] Wannell, T., "Retirement "Hot Spots"", *Labour and Household Analysis Division*, Statistics Canada, October 2002

operating with the individuals who are fully attached to the workforce and, most important, to a certain class of worker. This operation reduces the dataset to 118,986 individuals.

Finally, "Year of immigration" is the third limiting variable. As it was discussed in Section 2.1 (see Li, Frenette), immigrant cohorts (based on the time of immigration) can significantly differ in terms of their economic performance. In 1976 the major change in the Canadian immigration policy was introduced by the Immigration Act. In 1980 an additional "business" class of immigrant was created, bringing entrepreneurs and investors to Canada. Once these changes started to work, the focus of immigration to Canada switched towards young professionals with a good knowledge of English or French. This cohort was significantly different from the previous one, which was excluded from the data set. In its turn, this limitation decreased the dataset down to 100,000 respondents.

Research Variables

The dependant variable[128] in my research is individuals' salaried or self-employment income. The dataset contains the variable "Total Income" (Field 125) which is a composite of all sources of income represented in the dataset. Total income cannot be used as it contains income sources that do not directly affect the income of one or another class of worker and, thus, cannot be considered as a feature of it (see Section 2.1, *"Income"*). The Census Data File also contains two variables which provide information on Salaries and Self-Employment Income (see Fields 126 and 127). I created a new variable "Salaries and Self-Employment Income" by merging these two variables. The new variable is appropriate because it includes only the direct income from the participation in one or another form of employment.

	Permanent Residents	Immigrants	Total Individuals with Mixed Income	Total individuals
Paid Workers	1294	430	1724	86848
Self-Employed Incorporated	110	60	170	3726
Self-Employed Unincorporated	430	122	552	5705

Table 2.2.1 Individuals with Mixed Income. *Source: Statistics Canada PUMF (Individuals), 2001*

[128] In applied sciences, it is a factor which value cannot be changed by a researcher. In social sciences, it is a factor which value, presumably, depends on the values of other (independent) variables.

However, it is still quite interesting to evaluate the number of the respondents with both paid and self-employment income, in order to understand if it might bring a serious distortion. As it is shown in **Table 2.2.1**, the largest share of respondents with mixed income is among unincorporated self-employed people. Nevertheless, even in this category their share does not exceed 10%.

The second step was to define income thresholds for the descriptive analysis. As it was discussed earlier (see Section 2.1, "*Income*"), the majority of researchers prefer to work with mean and median income as a continuous variable. In my study, the major part of the analysis also will include mean and median income. However, for the descriptive analysis, in order to represent the distribution of individuals, I have chosen to divide income variable into several ranges. Individuals' income values lower than zero was excluded from the dataset because of the unknown origin of such income.

The creation of income rests on the mean and the standard deviation of the income variance. As it is shown in **Table 2.2.2**, the distribution of income is quite skewed and the difference between the mean and the median as well as the standard deviation is very large, which makes it impossible to define the ranges.

Mean	38849,4
Median	32772,0
Std. Deviation	30703,0
Skewness	2,1
Minimum	,0
Maximum	245000,0

Table 2.2.2 Salaries & Self-Employment Income Distribution.
Source: Source: Statistics Canada PUMF (Individuals), 2001

Mean	30641,1
Median	29740,0
Std. Deviation	17212,2
Skewness	,2
Minimum	,0
Maximum	69550,0

Table 2.2.3 Salaries & Self-Employment Income Distribution (with the excluded cases).
Source: Source: Statistics Canada PUMF (Individuals), 2001

To reduce the skewness I decided to temporally remove those cases which cause its increase. In order to do this I removed all the individuals with incomes higher than the sum of the mean and the standard deviation which is equal to $69,552. This action temporally

excluded approximately 11,000 respondents who constitute 11.4% of the dataset. As it is shown in **Table 2.2.3 (see also Appendix 2.2.4)**, the new distribution is much closer to normal. The skewness is less than 1 and the mean and the median are very close to each other. The standard deviation is also much more compact. Based on the new distribution, I can define income ranges as 1) $0 - $14,000 which is below the mean minus one SD, 2) $14,001 - $31,000 which is the mean minus one SD, 3) $31,001 - $47,000 which is the mean plus one SD, and 4)$47,001 & More which is above the mean plus one SD. The excluded cases were reintroduced into the dataset and included in the fourth income group. These four ranges, which can be defined as 1) lower, 2) lower-average, 3) higher-average, and 4) higher income groups, perfectly represent the level of the economic performance of one or another class of worker.

The first most important independent variable in my research is "Class of Worker". **Table 2.2.4** demonstrates that the number of paid workers is significantly higher than the number of self-employed workers. It is obvious that there might be problems with a sufficient number of respondents in certain categories. **Appendix 2.2.5** confirms that in the case of retaining all place-of-birth categories along with all class-of-worker categories this problem becomes true. As discussed in Section 2.1, there is a significant difference between incorporated self-employed workers and unincorporated self-employed workers. Consequently, having found it very crucial to keep this division, I created a new variable with three categories: 1) Paid workers and unpaid family members – 86,848 respondents, 2) Incorporated self-employed workers – 3,799 respondents, and 3) Unincorporated self-employed workers – 5,824 respondents. However, according to **Appendix 2.2.6**, there are still categories which do not contain a large numbers of respondents.

Class of Worker					Total
Pd & unpd fam worker	Self-emp Inc:no pd help	Self-emp Inc:w/pd help	Self-emp Uninc:no pd help	Self-emp Uninc:w/pd help	
86848	1415	2311	3770	1935	96279

Table 2.2.4 Initial Categories in "Class of Worker" Variable.
Source: Source: Statistics Canada PUMF (Individuals), 2001

Education is the second independent research variable which influences the income of the individuals' groups. I used the variable "Highest Level of Schooling" (Field 93). The

variable was aggregated into three categories: 1) High-School or Less (29,993 respondents), 2) College or Other Trade Diploma (26,779 respondents), and 3) University Undergraduate or Post-Graduate Degree (39,507 respondents). I considered these three categories to be informative enough to let me come to conclusions regarding the role of the variable in income distribution.

The third variable is Occupations. This variable is based on the National Occupational Classification which, consists of 10 major classes (see **Appendix 2.2.7**) [129]. As it is shown in the appendix, some of the categories have a very small number of respondents. I aggregated the variable into five categories: 1) Management Occupations (13,254 respondents), 2) Social Sciences & Art Occupations (13,267 respondents), 3) Applied Sciences & Health Occupations (32,044 respondents), 4) Services & Retail Trade (16,826 respondents), and 5) Trades & Transport (12,534 respondents). The aggregation was based on the different types of education necessary for belonging to one or another occupation group (see also **Appendix 2.2.8**). Finally, several categories were excluded from the final – aggregated – variable because of the small number of respondents among self-employed workers (see **Appendix 2.2.9**).

Age is the fourth research variable. For the descriptive analysis I divided the variable into categories. The histogram of the respondents based on their age (15-65) demonstrates that the average age is approximately 40 with the standard deviation of approximately 10 years. Based on this information, I created four age categories: 1) 15-30 (25,616 respondents), 2) 31-40 (29,898 respondents), 3) 41-50 (26,302 respondents), and 4) 51-65 (14,463 respondents).

As was discussed in Section 2.1 (see Section 2.1, *"Place of Birth..."*), it is very crucial to create the most homogeneous initial groups of individuals as possible. In my research, there are the following variables which allow me to study the impacts of two very important factors of income variations: 1) place of birth, 2) nativity & language.

The Census identifies place of birth for each individual. I did not keep all of the categories because of the data limitations discussed above (see **Appendix 2.2.10**). Through the aggregation of categories I created seven regional categories (see **Appendix 2.2.11**): 1) Canada (70,335 respondents), 2) Europe & the United States (6,117 respondents), 3) West,

[129] National Occupation Classification, Statisitics Canada. See also Appendix 2.2.10

Central Asia & Middle East (1,701 respondents), 4) South and East Asia (13,301 respondents), 6) Africa (1,826 respondents), and 7) Central & South America (3,949 respondents). One can see that the number of Canadian-born individuals is significantly higher than all other respondents.

It was quite impossible to separate Eastern Europe into its own group as well as the United Kingdom and the United States into their own, because of data limitations. Culturally these areas are closer to each other than to any other area represented in the variable. I found it possible to construct one category for all of them. The same idea lies behind all other new categories. Some of these categories, such as West-Central Asia & Middle East, Africa, and Central & South America, do not contain as many individuals as Europe & the Untied States. However, I found it impossible to aggregate them with other categories because of obvious cultural, religious, and political differences. The exclusion of these categories would seriously impoverish the study.

The final variable is "Nativity & Language". As discussed in the previous section, many researchers use this or the previous variable in order to create more or less homogeneous groups. In my study I decided to use both, but not together. This decision was inspired by the fact that that Canada has two official languages and, as such, it is very interesting to explore their influence on economic performance of the respondents. I consider it to be quite essential to explore immigrant/ non-immigrant differences in addition to languages in the Canadian perspective. The **Appendix 2.2.12** demonstrates that the final dataset contains almost 25,000 respondents who are immigrants.

I created two new variables – "Nativity & Language (Home)" and "Nativity & Language (Work)" (see **Appendix 2.2.13**) – with the following main categories: 1) CB (Canadian-born) – English Language, 2) FB (Foreign-born) – English Language, 3) CB – French Language, 4) FB – French Language, 5) CB – Non-Official Language, 6) FB – Non-Official Language. In order to create these variables I used three other variables included in the Census file: Immigrant Status Indicator, Home Language, and The Language Most Often Used at Work. Both types language use are crucial, because they allow a comparison of the economic results (income) of two different aspects of immigrants' integration into the Canadian society. The "Home" language suggests the extent of an individual's integration into society (in terms of its linguistic component) and the "Work"

language offers insight into an individual's prosperity based on the linguistic business environment. Appendix 2.2.9 demonstrates that in case of language at home CB-English, CB-French and FB-NO are the most populated categories, while in case of language at work CB-English, FB-English, and CB-French are the most significant.

2.3. Methodology

Descriptive Analysis

Although the ultimate goal of my study is to see the influence of three classes of worker on economic performance of individuals, I cannot underestimate and exclude the role of immigration, ethnicity, and language. In order to explore these factors I chose to use a descriptive analysis. To develop a complete image of the relationship of income and classes of worker, one needs to realize who constitutes each of the classes and how they perform financially. Descriptive analysis best serves this goal. For this purpose I will have to employ certain variables such as gender, age, education, occupation, present residence, ethnicity, citizenship and linguistic backgrounds which will help me to explain the differences among the classes which, in turn, can influence their economic performance.

Ethnicity, nativity and language are the main divisions. *Ergo*, the descriptive analysis in my study will consist of three parts: 1) General Descriptive Analysis of Paid and Self-Employed workers, 2) Descriptive Analysis based on the Place of Birth, and 3) Descriptive Analysis based on the Nativity & Language. The general descriptive analysis will examine basic patterns defining each class. The second part of the analysis will focus on the role of the ethnicity and, to a more limited extent, the role of immigration in shaping the classes and their economic performance. Finally, the third part will concentrate much more on the comparison of immigrant or non-immigrant economic performance accompanied by the influence of a language.

All these crosstabulations are necessary in order to establish the characteristics of all three classes of worker in the major Canadian CMAs. The "CMA" dimension as well as the other social variables in the tables will be presented if there are significant differences from one metropolitan area to another.

The second and the third parts of the descriptive analysis will provide much more detailed information, regarding the patterns that take place among paid and self-employed workers by place-of-birth or nativity groups. In order to collect more information about income variance in this section I will have to use mean and median tables. These tables lack the valuable ability to demonstrate the distribution of workers' shares within various income categories. Nevertheless, it is useful to use this approach in order to see the relationship of income with more than two independent variables because of the lack of respondents in certain intersections (see Section 2.2). The analysis of the patterns will involve means and medians as well as the difference between means and medians. The following Mean and Median tables will be used in case of the second part:

- Class of Worker by Place of Birth by CMA by Income
- Class of Worker by Place of Birth by The Highest Level of Schooling by Income
- Class of Worker by Place of Birth by Occupations by Income

In this case, the addition of detailed spatial information is possible. The descriptive analysis based on the Nativity & Language (the third part) is quite similar to the previous one. However, this analysis will be based on a comparison of the differences based on the language at work.

Regression Analysis

The regression analysis is an important part of my study because it will indicate the relative influence of each variable on income in terms of its trend (positive or negative), amplitude, and contribution in the total variance. The choice of the model is stipulated by the fact that the dependent variable is a covariate (a scale variable) while the majority of independent variables (except age) are categorical. The General Linear Univariate Model is a good option for such a combination. It allows for the testing of various hypotheses with regard to a single dependent variable when cases are grouped into one or several independent categorical variables.

The first step in the regression analysis is the preparation of the variables. The independent variables should not have high levels of correlation with each other. For this reason the inter-correlations of the variables are examined. The regression analysis consists of two blocks of models. The first set of models will examine the relationship between

salaries and independent variables. The second set of models will examine the relationship of salaries and self-employment income and the independent variables. In other words, the paid workers and self-employed ones will be separated for two main reasons: 1) the number of paid workers is much greater than the number of self-employed ones, which can cause distortion in the results and 2) it is more effective to explore self-employment as an independent object because in this case its role is more important in comparison with a model where it could be just another independent variable. The roles of the other independent variables will refer directly to self-employment. Finally, each set of models will consist of two pairs: the analysis of income based on place-of-birth variable and the analysis based on nativity and language at work variable. The necessity of separating these variables is a function of their high inter-correlations.

The amplitudes and the trends of the variables' contribution will be explored by their coefficients, while their strength as predictors will be explored by the t-statistics results. The overall strength of the models will be examined by using the adjusted R^2 indicator, F-statistics, and Contrast results of the categories' mean income. Although adjusted R^2 results might not be necessary given the considerable number of cases, it is still more reliable than raw R^2 because of more than several independent variables.

In terms of the variables, the dependent variable – income – is examined as a continuous variable while the independent variables (with the exception of age) are recoded so that the following categories are the reference ones: 1) place of birth – born in Canada 2) nativity & language at work – Canadian-born English speaking, 3) CMAs – Toronto, 4) the highest level of schooling – high school degree or less, 5) occupations – transport & trades, 6) sex – males. For the variable nativity & language at work several categories – FB – French, CB – English & French, FB – English & French, CB – NO language - are not included for the reason discussed in Section 2.2: an insufficient number of respondents.

The decision regarding the reference categories is based on the largest number of respondents[130]. It means that those categories that have the largest share of respondents were transformed into reference categories. Thus, the regression analysis reference categories will be expressed by the following groups of respondents: paid workers (or unincorporated self-employed workers in case of the self-employment income); born in Canada; living in

[130] Hardy, M.Y., "Regression With Dummy Variables", *Series: Quantitative Applications in the Social Sciences* edited by Lewis-Beck, M.S., Sage Publications: London, New Delhi, 1993, p.10.

Toronto; high school degree or less; transport & trade occupations; males; and English language at work.

The regression models will be based on the addition of new variables to the previous ones. In this case, the exploration of these sets of models will reveal the role of each variable in income changes and income variations in connection with the other variables. It will allow for a better understanding of the coefficients' changes when new variables are added. This exploration also will demonstrate the amplitude of income advantage or disadvantage *viz a viz* one or another variable. The overall strength of each model will be examined.

Finally, to fulfill the tasks discussed in the description of the methodology I am going to employ the power of SPSS application[131].

Conclusion

In this chapter I examined and discussed the major studies exploring issues similar to those which I will explore. The literature review allowed me to finish the shaping of possible methodological approaches regarding my hypotheses. It provided me with the understanding of certain necessary steps in the preparation and transformation of my data. In light of this review I was able to define the spatial dimension of my study. The practical necessity to divide self-employed workers into incorporated and unincorporated ones was revealed, as was the importance of dividing respondents according to their ethnic background.

[131] SPSS is a quantitative statistical application developed at Stanford University and the University of Chicago in the 1960s. Its abbreviation stands for Statistical Package for the Social Sciences and, indeed, initially it was designed exclusively for the purposes of researchers in social sciences. The popularity of SPSS is a result of its ability to perform a great number of statistical operations and present the results in different flexible formats. Since its performance is very accurate, users have fewer grounds to be worried about errors and can invest more time in interpreting the results.

All this information was taken into account when defining variables that would be used in my study. The literature review helped me to clarify the following research variables used in my research: 1) place of birth, 2) nativity & language, 3) education, 4) occupations, 5) age.

In short, the information collected, analyzed, and employed in this chapter allows me to move to the analytical section of this study.

3. Descriptive and Regression Analyses of the Research Hypotheses' Data

In this chapter I will examine the hypotheses discussed in Chapter 1. The chapter presents descriptive and regression analyses of the relationship between individuals' income and their class of worker status along with their origin, language at work, human capital, occupation, age, and gender.

The chapter consists of three sections. The first section pays attention to the influence of each particular metropolis on the subsequent analysis. The second section presents a descriptive analysis of the relationship between class of worker and financial performance. This section will focus on understanding the differences among the studied groups with regards to their economic performance. The third section offers a regression analysis to examine the influence that various social and economic parameters have upon the studied groups and their income.

3.1 The Profiles of Toronto, Vancouver, and Montréal from an Economic and Immigrants' Perspectives.

Although some relevant introductory material concerning Toronto, Montréal, and Vancouver is presented in each chapter of the study, it is important at this point to focus on more detailed socio-economic characteristics of the three metropolitan areas. Each of these cities is unique from both an economic and immigration perspective and it is important to look at their characteristics in order to better understand the inhabitants' tendency towards self-employment and the factors which affect their earnings.

Economic Profile

The structure of occupations is one of the most important economic characteristics affecting residents' financial performance. The comparative analysis of the occupational structures in Toronto, Montréal, and Vancouver demonstrates (see **Figure 3.1.1**) that all three CMAs have distinctive niches in terms of their economic prominence.

Declaring itself the business capital of Canada, Toronto welcomes more managerial (13%), business, financial, and administrative occupations (21.7%) than both Montréal and Vancouver and less sales and services occupations (22.1%). Vancouver is more active in

sales and services (25.9%), while occupations unique to processing, manufacturing and utilities are less (4.7%) present there as compared with Toronto and Montréal.

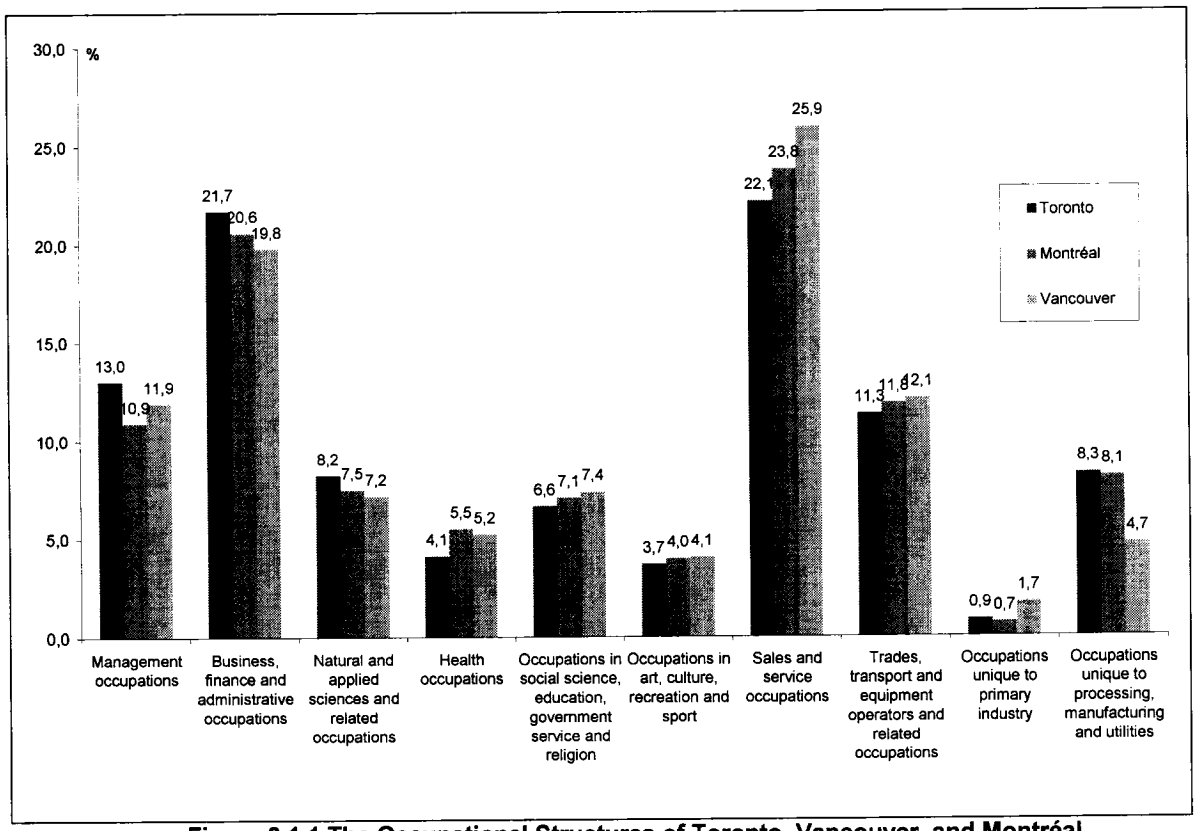

Figure 3.1.1 The Occupational Structures of Toronto, Vancouver, and Montréal.
Source: Statistics Canada (Census Tabulations), 2001.

According to occupational structure, Montréal demonstrates the smallest (among all three CMAs) share of managerial positions and the highest share of health occupations. A supplementary industrial analysis demonstrates that in Montréal more workers are employed in manufacturing (17.2% vs. 15.7% in Toronto and 9.3% in Vancouver[132]) and in health industries (9.7% vs. 7.5% and 9.4%); while a smaller proportion of workers are employed in finance and insurance industry (4.3% vs. 7.1% and 4.9%) and in professional, scientific and technical services (7.6% vs. 9.6% and 8.6%). In other words, Montréal is, more than Toronto and Vancouver, still inclined toward manufacturing.

The unemployment rate indicator is one of the major characteristics which demonstrate the health of the economy. For the purposes of this study, unemployment is an important reason for becoming self-employed (see Chapter 1). **Figure 3.1.2** shows that Montréal has the highest unemployment rate (8.6%), while Vancouver has the lowest (6.8%). Taking into

[132] Statistics Canada (PUMF), Individuals: NAICS 1997 Variable, 2001.

account that the real unemployment rate is usually higher than the official one, it is important to note that emergency choice self-employment may represent a more serious issue in Montréal than in the two other cities under study.

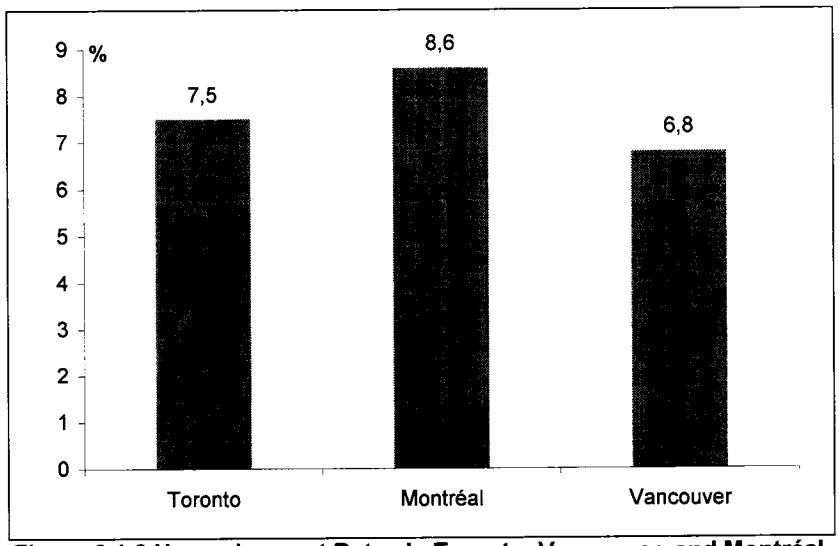

Figure 3.1.2 Unemployment Rates in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (Census Tabulations), 2001.

At the same time, all three metropolitan areas demonstrate similar labour force participation rates, although it is slightly higher in Toronto (69.4% vs. 67.4 in Montréal and 67.2 in Vancouver)[133].

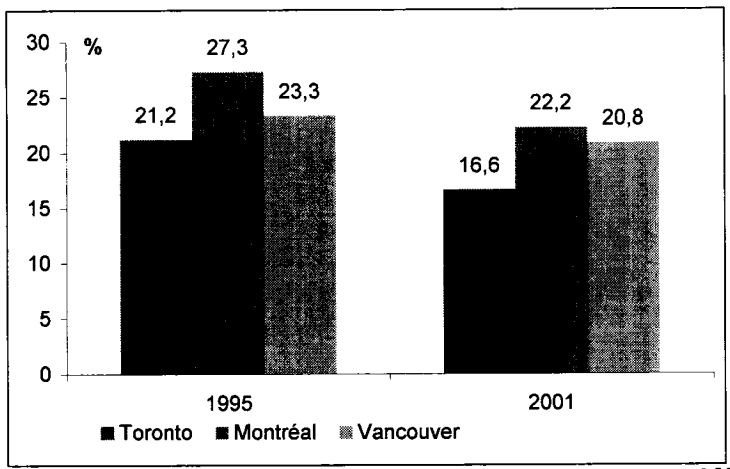

Figure 3.1.3 Incidences of Low Income in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (Census Tabulations), 2001.

[133] Statistics Canada (Census Tabulations), 2001.

Figure 3.1.3 illustrates another aspect of the economic situation, namely the incidence of low income. The incidence[134] of low income in Montréal is the highest among the three cities both in 1995 and 2001. Despite the decrease in the share of population with low income in the three metropolises in 2001, Montréal and Vancouver still rank higher than Toronto.

Table 3.1.1 reveals that there are differences of mean and median individuals' incomes among the cities. Toronto represents individuals with the highest incomes, while Montréal accommodates those with the lowest ones. Although this and the previous finding tend to support the idea of income differences between English and French-speaking Canadians, the actual situation is more complex.

CMA	Income, $	
	Mean	Median
Toronto	33 721	28 289
Montréal	28 361	23 830
Vancouver	30 270	25 000

Table 3.1.1 Individuals' Income Levels in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (PUMF, Individuals), 2001.

The consumer price index illustrates (see **Table 3.1.2)** that the inflation rate among the CMAs was the lowest in Montréal and the highest in Toronto both in 2000 and 2001. This situation remains the same during the subsequent years as well.

All-items	2000	2001	2002	2003	2004
1992 = 100					
Toronto	114.5	118.1	120.6	124.2	126.3
Montréal	110.7	113.4	115.7	118.4	120.7
Vancouver	113.9	116.0	118.6	121.0	123.4

Table 3.1.2 Consumer Prices Index Changes in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (Census Tabulations), 2001.

This latter finding is very relevant to this study, as it suggests that the lower earnings of French-speaking Canadians – represented almost solely by Montréal in my study – could be partially counterbalanced in this city by lower growth of the prices of commodities.

[134] Statistics Canada defines the incidence of low income as "the proportion or percentage of economic families (a group of two or more persons who live in the same dwelling and are related to each other by blood, marriage, common-law or adoption)or unattached individuals in a given classification below the low income cut-offs".

Finally, **Table 3.1.3** demonstrates that in Montréal both owners and tenants spend the smallest portion of their incomes on shelter. In contrast, Toronto residents spend the highest portion. This could also contribute to the well-being of the Montréal population.

	Toronto		Montréal		Vancouver	
Owner's major payments	#	%	#	%	#	%
0-24 % of income	716 445	69,5	549 410	77,4	307 050	66,9
25-49 %	233 425	22,6	116 315	16,4	107 700	23,5
50 % and over	80 795	7,8	44 455	6,3	44 030	9,6
Total	**1 030 665**	**100**	**710 180**	**100**	**458 780**	**100**
Tenant's gross rent	#	%	#	%	#	%
0-24 %	275 385	46,3	381 330	54,3	133 330	45,7
25-49 %	200 810	33,7	193 205	27,5	93 135	32,0
50 % and over	119 135	20,0	127 115	18,1	65 000	22,3
Total	**595 330**	**100**	**701 650**	**100**	**291 465**	**100**

Table 3.1.3 Shelter Expenditures in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (Census Tabulations), 2001.

All the above findings must be taken into consideration when looking at the financial performance of the respondents in Toronto, Vancouver, and, especially, in Montréal.

Immigrants' Profile

Toronto, Montréal, and Vancouver are noticeably different when it comes to the relative numbers of immigrants and the sources of immigration. Toronto's immigrant population (2 million immigrants out of 4.6 million population[135]) is overwhelmingly represented (see **Table 3.1.4**) by people who were born in the United States, Europe, and South and East Asia. Vancouver (0.7 million out of 2 million) is more skewed towards immigrants from South & East Asia (60%) which is partially the result of the business immigration program and the whole ideology – imposed both by the federal and provincial governments since the beginning of the 1980s – of higher degrees of interaction with the Pacific Rim economies[136]. Basically, Vancouver has only two major sources of immigrants: South & East Asia and the United States & Europe.

[135] Statistics Canada, 2001.
[136] Ley, D., "Seeking *Homo Economicus*: The Canadian State and the Strange Story of the Business Immigration Program", *Annals of the Association of American Geographers*, 93(2) 2003, pp.426-441.

Place of Birth	Toronto		Montréal		Vancouver	
	#	%	#	%	#	%
United States & Europe	754 035	37,2	255 710	41,2	209 710	29,3
Central and South America, Caribbean & Bermuda	303 135	15,0	113 325	18,3	26 540	3,7
Africa	98 975	4,9	73 510	11,8	24 700	3,4
West Central Asia and the Middle East	111 415	5,5	62 950	10,1	27 700	3,9
South & East Asia	758 095	37,4	115 125	18,5	427 405	59,7
Total	**2 025 655**	**100**	**620 620**	**100**	**716 055**	**100**

Table 3.1.4 The Sources of Immigrants in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (Census Tabulations), 2001.

Montréal (0.6 out of 3.4) has the most "European" immigrant population among the three CMAs. Immigrants of non-European origin started to arrive in the mid-1970s, although in much smaller numbers than to Toronto. This is a signal that the socio-economic situation in Montréal has not been the best; and a larger share of older European immigrants in the city's population is a consequence of the lack of more recent immigration.

Table 3.1.5 shows that there are significant differences regarding both languages at home and at work. The proportions of those immigrants who use a non-official language at home are very similar among all three CMAs, demonstrating that this is a demographic function rather than a geographic one. The table reveals, however, that Vancouver has the biggest share of immigrants who do not use either of the official languages at work.

	Home Language			
CMA	English	French	Non-Official Foreign	Total
Toronto	50,7	0,3	49,0	100
Montréal	21,9	28,1	50,1	100
Vancouver	46,0	0,3	53,7	100
	Language at Work			
Toronto	92,1	0,2	7,7	100
Montréal	33,8	58,3	7,9	100
Vancouver	84,4	0,1	15,4	100

Table 3.1.5 Language at Home and at Work among immigrants in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (PUMF, Individuals), 2001.

The next three tables (**Table 3.1.6**, **Table 3.1.7**, and **Table 3.1.8**) demonstrate the structure of immigration to Toronto, Montréal, and Vancouver according to immigration categories.

This is an important aspect of the study because, according to Citizenship and Immigration Canada reports, the categories are closely connected with the economic performance of immigrants. The Ministry's research on immigrants over 18 years of age who came to Canada from 1980 to 1994 and were landed immigrants for at least one year after arrival[137] revealed that economic principal applicants "report high employment earnings, low rates of unemployment benefit and social assistance usage", while their spouses and dependants enjoy lower incomes. At the same time, immigrants in the family category "report low employment earnings, high rates of unemployment and social assistance usage" as well as low percentages of taxfilers reporting their income[138]. This study reveals also that economic principal applicants achieve the Canadian average level of earnings approximately three years after landing, while all other categories have much more modest results[139]. Meanwhile, Hiebert has found that the employment income of economic family applicants is the highest among skilled workers, while entrepreneurs demonstrate much more modest results[140].

The three year trend in the tables demonstrates that the share of immigrants entering Toronto, Vancouver and Montréal through the family reunification program has been declining slightly. In general, this group of immigrants accounts for less than one third of all the immigrants in each metropolitan area. At the same time the share of economic category immigrants in each CMA has increased: very significantly in Montréal, yet only slightly in Vancouver, while it stayed the same in Toronto.

Interestingly, during these years Montréal has increasingly become an attractive place for skilled workers (from 46% in 1999 to 56% in 2001) although business immigrants were still responsible for 16% of all newcomers in the metropolis in 2001. Toronto is most open for skilled workers and is the leader among all three CMAs in terms both of the proportion of immigrants coming to the CMA in this category and their absolute numbers.

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[137] Strategic Policy, Planning and Research, "The Economic Performance of Immigrants: Immigration Category Perspective", *IMDB Profile Series*, CIC, 1998, p.8

[138] Ibid., p.8

[139] Ibid., p.16

[140] Hiebert, D., The Spatial Limits to Entrepreneurship: Immigrant Entrepreneurs in Canada", *Tijdschrift voor Economische en Sociale Geografie*, 93, #2, 2002, pp.173-190

IMMIGRANTS	1999		2000		2001	
	#	%	#	%	#	%
Spouse	13 550	17,8	15 441	15,4	16 433	14,3
Parents and Grandparents	6 958	9,1	8 900	8,9	11 359	9,9
Others	3 554	4,7	3 403	3,4	3 443	3,0
Total Family	**24 062**	**31,5**	**27 744**	**27,7**	**31 235**	**27,1**
Skilled Workers	47 564	62,4	67 485	67,5	78 557	68,3
Business Immigrants	3 377	4,4	3 909	3,9	4 462	3,9
Provincial/Territorial Nominees	17	0,0	64	0,1	91	0,1
Total Economic	**50 958**	**66,8**	**71 458**	**71,4**	**83 110**	**72,2**
Live-in Caregivers	662	0,9	585	0,6	623	0,5
Post-Determination Refugee Claimants	65	0,1	61	0,1	41	0,0
Deferred Removal Orders	528	0,7	189	0,2	87	0,1
Total Other	**1 255**	**1,6**	**835**	**0,8**	**751**	**0,7**
Total Immigrants	**76 275**	**100**	**100 037**	**100,0**	**115 096**	**100,0**

Table 3.1.6 Recent Immigrants Immigration Program Profile for Toronto. *Source: CIC, 2001.*

IMMIGRANTS	1999		2000		2001	
	#	%	#	%	#	%
Spouse	4 425	22,9	4 812	22,0	4 970	18,3
Parents and Grandparents	841	4,4	932	4,3	1 116	4,1
Others	1 153	6,0	1 079	4,9	1 182	4,4
Total Family	**6 419**	**33,3**	**6 823**	**31,2**	**7 268**	**26,8**
Skilled Workers	9 030	46,8	11 152	51,1	15 195	56,1
Business Immigrants	3 233	16,8	3 486	16,0	4 387	16,2
Provincial/Territorial Nominees	2	0,0	1	0,0	6	0,0
Total Economic	**12 265**	**63,5**	**14 639**	**67,0**	**19 588**	**72,3**
Live-in Caregivers	377	2,0	265	1,2	206	0,8
Post-Determination Refugee Claimants	67	0,3	47	0,2	14	0,1
Deferred Removal Orders	173	0,9	64	0,3	13	0,0
Total Other	**617**	**3,2**	**376**	**1,7**	**233**	**0,9**
Total Immigrants	**19 301**	**100,0**	**21 838**	**100,0**	**27 089**	**100,0**

Table 3.1.7 Recent Immigrants Immigration Program Profile for Montréal. *Source: CIC, 2001.*

IMMIGRANTS	1999		2000		2001	
	#	%	#	%	#	%
Spouse	4 867	15,9	4 563	14,7	4 912	15,3
Parents and Grandparents	2 995	9,8	3 258	10,5	3 599	11,2
Others	821	2,7	623	2,0	656	2,0
Total Family	**8 683**	**28,4**	**8 444**	**27,3**	**9 167**	**28,5**
Skilled Workers	16 974	55,5	18 067	58,4	18 759	58,3
Business Immigrants	3 594	11,7	3 401	11,0	3 402	10,6
Provincial/Territorial Nominees	10	0,0	11	0,0	18	0,1
Total Economic	**20 578**	**67,2**	**21 479**	**69,4**	**22 179**	**68,9**
Live-in Caregivers	1 246	4,1	970	3,1	801	2,5
Post-Determination Refugee Claimants	18	0,1	31	0,1	10	0,0
Deferred Removal Orders	77	0,3	37	0,1	17	0,1
Retirees	9	0,0	-	-	-	-
Total Other	**1 350**	**4,4**	**1 038**	**3,4**	**828**	**2,6**
Total Immigrants	**30 611**	**100,0**	**30 961**	**100,0**	**32 174**	**100,0**

Table 3.1.8 Recent Immigrants Immigration Program Profile for Vancouver. *Source: CIC, 2001.*

Vancouver is especially interesting for its decline in the share of business immigrants in the immigration structure of the city (18% in 1996) and even more so for the decline in the share of all business immigrants who came to Canada during 1999-2001. Since 1980 Vancouver has been the most desirable destination for business immigrants from South & East Asia[141]. The emphasis of the program was on capturing the individuals with high human and financial capital levels[142]. And, indeed, the initial performance of such immigrants was high: in 1980 45.5% of them reported that they had employment earnings ($30,579 on average). In 1995, however, only 16% of immigrants reported their earnings ($9,879 on average)[143].

Although these immigrants demonstrate human and financial capital levels above the Canadian average[144], "between 1995 and 1997 almost half of the principal applicants granted business-class status had no post-secondary education and at the same time slightly over half did not speak either official language"[145]. In the 1980s many principal applicants demonstrated readiness to become self-employed, which was a result of several factors: "the increasing prominence of business immigrants (who entered Canada under the Entrepreneur and Investor categories); an unwelcoming labour market; and the general shift to entrepreneurialism associated with economic restructuring"[146]. The evaluation, however, of the program for those immigrants who landed in the country between 1987 and 1989 showed that less than a quarter of them met both conditions of the program – active management and employing at least one Canadian[147] - while 82.5 percent of "entrepreneur" class immigrants reported an established business. Ley states that "return migration and early retirement have removed entrepreneurial activity" as well as investments in the real estate market, while "the

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[141] Ley, D., "Seeking *Homo Economicus*: The Canadian State and the Strange Story of the Business Immigration Program", *Annals of the Association of American Geographers*, 93(2) 2003, pp.426-441.
[142] Ley, D., Hiebert, D., "Immigration Policy as Population Policy", *The Canadian Geographer, 45 #1(2001) pp.120-125.*
[143] Ley, D., "Seeking *Homo Economicus*: The Canadian State and the Strange Story of the Business Immigration Program", *Annals of the Association of American Geographers*, 93(2) 2003, p.433
[144] Ley, D., Hiebert, D., "Immigration Policy as Population Policy", *The Canadian Geographer, 45 #1(2001) p.122*
[145] Ley, D., "Seeking *Homo Economicus*: The Canadian State and the Strange Story of the Business Immigration Program", *Annals of the Association of American Geographers*, 93(2) 2003, p.428-429.
[146] Hiebert, D., Walton-Roberts, M. and James, A., "Immigrant Self-Employment in Canada: Traditional and Transnational Perspectives", Paper prepared for the Conference on Immigrant Businesses in the (in)Formal Economy, Amsterdam, 1999.
[147] Ley, D., "Seeking *Homo Economicus*: The Canadian State and the Strange Story of the Business Immigration Program", *Annals of the Association of American Geographers*, 93(2) 2003, p.431

"astronaut" household – with family members dispersed on opposite shores of the Pacific Ocean – has displaced that activity oversees" [148].

In other words, the "quality" of immigrants has changed since the start of the program and it is possible to suggest that while many of the initial applicants met the goals of the program, those who entered the country in late 80s and mid-90s were more interested in "backup citizenship" options[149].

Overall, with regards to human capital of immigrants in Toronto, Montréal, and Vancouver, **Table 3.1.9** shows that immigrants have comparable levels of education in Toronto and Montréal. In Vancouver, the higher shares of immigrants with a university or a college degree suggests that business immigration might have had some reflection on high human capital.

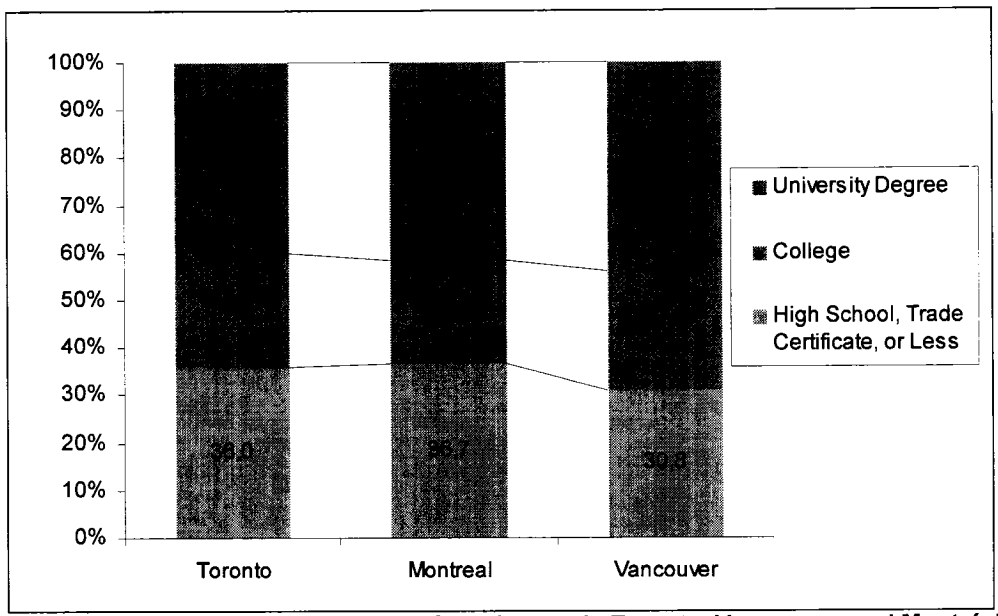

Figure 3.1.4 The Levels of Education of Immigrants in Toronto, Vancouver, and Montréal.
Source: Statistics Canada (PUMF, Individuals), 2001.

The changing nature of immigration might explain some of the findings, especially those pertaining to the self-employed who became incorporated. The most important contribution to immigration to Canada, however, comes from skilled workers, who account

[148] Ley, D., Seeking *Homo Economicus*: The Canadian State and the Strange Story of the Business Immigration Program RIIM Working Paper 00-02, 2000.
[149] Skeldon, R., ed. *Reluctant Exciles? Migration from Hong Kong and the New Overseas Chinese.* Armond, NY: M.E. Sharpe, 1994.

for more than two thirds of all newcomers. These are likely well-educated, and may as well access highest levels of earnings.

3.2. Descriptive Analysis. The Role of "Place of Birth" and "Nativity & Language"

The descriptive analysis is very important in order to have a distinct idea about the studied pool of respondents – their demographic, social, and economic portrait. In this study the descriptive analysis includes three characteristics: demographic, educational, and occupational. Demographic characteristics, represented by age and gender variables, provide an initial description of individuals involved in the study. The education variable reveals their human capital. The occupation variable reflects the economic choices of the respondents. Taken together, these variables ensure an understanding of the studied individuals.

General Profile of Paid and Self-Employed Workers

An initial look at the worker classes demonstrates (**Figure 3.2.1**) that the majority of workers represented in the dataset are paid workers (90%). At the same time, unincorporated self-employment is more popular than incorporated self-employment (6% and 4% respectively), which was expected and discussed in the previous chapters. In other words, the distribution is quite unbalanced and paid workers class might demonstrate more solid results due to a higher number of respondents in the dataset.

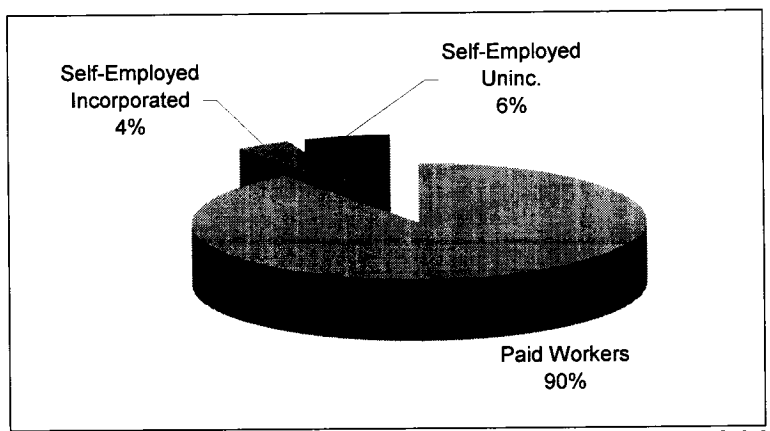

Figure 3.2.1 Division by Class of Worker in 3 Major CMAs (Toronto, Montréal, Vancouver).
Source: Statistics Canada, PUMF (Individuals), 2001

The next two figures represent the initial demographic characteristics of the individuals involved in these classes of worker. **Figure 3.2.2** shows that the ratio of males to females is more or less balanced among paid workers, but men predominate in the case of self-employment.

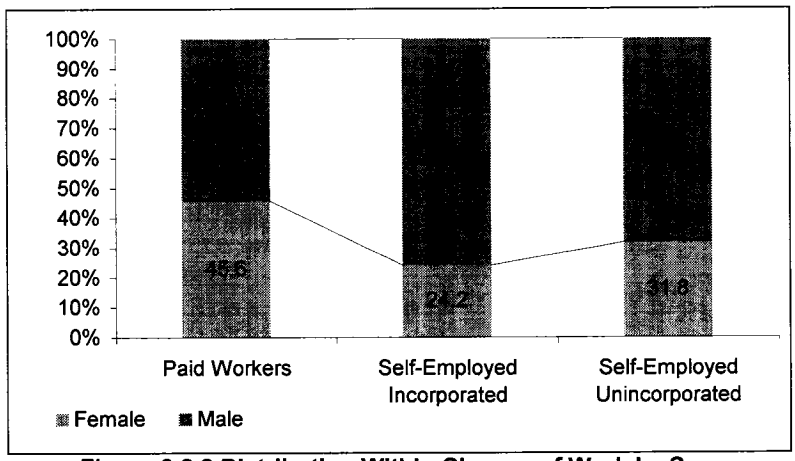

Figure 3.2.2 Distribution Within Classes of Work by Sex.
Source: Statistics Canada, PUMF (Individuals), 2001

Men significantly predominate among self-employed workers. As discussed in the previous chapter, women tend to have noticeably lower incomes than man. A higher proportion of women among paid workers might be reflected on the overall class performance.

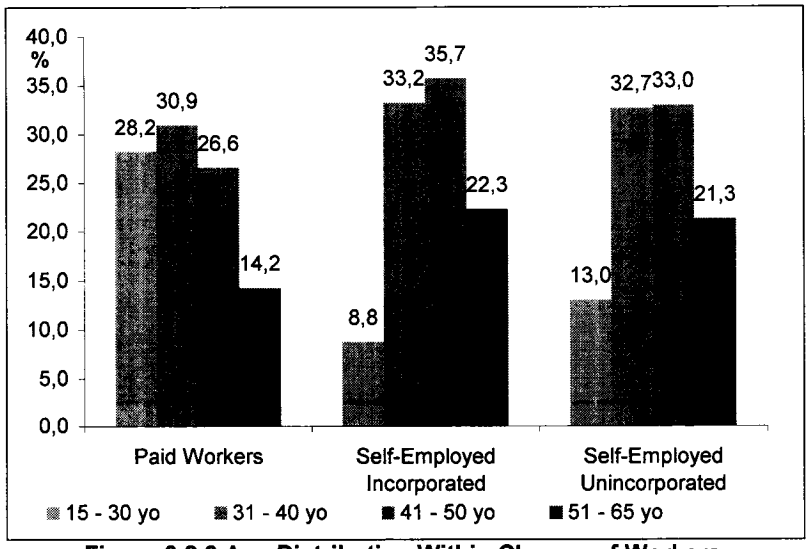

Figure 3.2.3 Age Distribution Within Classes of Workers.
Source: Statistics Canada, PUMF (Individuals), 2001

In terms of the age characteristics of the individuals, the number of paid workers generally attenuates with age, not changing significantly until the age of 51-65 (see **Figure 3.2.3.**). At the same time, the fluctuations among self-employed workers are much more significant. In both classes of self-employment the shares of workers in the 15–30 age groups are much smaller than among paid workers. I might suggest that these differences are governed by the fact that self-employment requires a higher level of initial work experience than paid work, thus making it less available for the youngest age group or, at least, less appealing as a possibility. At the same time, the smaller shares of workers in the 15-30 age group in self-employment classes (in comparison with paid workers) might positively affect the classes' performance due to a more experienced workforce.

The proportion of self-employed individuals in the 51-65 age group is higher than among paid workers, but does not differ significantly from the previous age group. Self-employment is not influenced by retirement regulations and upward career movement aspirations as is the case for paid work, thus leaving more space for older people. Moreover, the shares of people at all age groups except the first one in self-employment are higher than those among paid workers. I propose that there is a workforce flow between this group and the others, especially when people cross the middle-age threshold or enter the pre-retirement age group.

In terms of educational profile, paid workers are more strongly represented in the high school or college education categories (**Table 3.2.1**). Among self-employed workers, the share of individuals with university degrees is noticeably larger. It is possible to say that self-employed workers tend to be better educated than paid workers.

It is important to look at the differences in relation to location. Montréal tends to have the least educated workforce among the three cities. In both Toronto and Vancouver the shares of individuals with university degrees are much higher. Self-employed workers have higher shares of university degrees holders than paid workers in the three cities.

Toronto has the highest share of university degree holders among all worker classes; while in Montréal the shares of people with university education fall to 36% among paid workers. This disparity among the CMAs might be a reflection of their economic profiles, as well caused by higher involvement of immigrants into all spheres of the economy of Toronto and Vancouver.

CMA	Class of Worker	Highest Level of Schooling		
		High School or Less	College	University Degree
	Paid Workers	31,4%	28,2%	40,4%
	Self-Employed Incorporated	28,3%	24,3%	47,4%
	Self-Employed Unincorporated	28,9%	24,7%	46,4%
Montréal	Paid Workers	35,4%	28,6%	36,0%
	Self-Employed Incorporated	32,4%	23,9%	43,6%
	Self-Employed Unincorporated	32,2%	24,1%	43,7%
	Total	*35,1%*	*28,2%*	*36,7%*
Toronto	Paid Workers	29,8%	26,9%	43,3%
	Self-Employed Incorporated	26,8%	23,6%	49,6%
	Self-Employed Unincorporated	26,8%	23,3%	49,9%
	Total	*29,5%*	*26,6%*	*43,9%*
Vancouver	Paid Workers	28,4%	30,0%	41,6%
	Self-Employed Incorporated	25,4%	25,8%	48,8%
	Self-Employed Unincorporated	28,7%	27,7%	43,5%
	Total	*28,2%*	*29,7%*	*42,1%*

Table 3.2.1 Class of Worker by Census Metropolitan Area and Highest Level of Schooling.
Source: Statistics Canada, PUMF (Individuals), 2001

The workforce in Vancouver is interesting because it possesses the highest shares of college degree holders among all the CMAs. At the same time, in Vancouver the difference between incorporated and unincorporated self-employed individuals is most noticeable in terms of education. Unincorporated self-employed workers tend to be less educated. This difference could be a function of the business immigration program (see Section 3.1.1). Applicants, who entered Canada through this program when it was launched, had higher levels of human capital than those who came 10-15 years later. In other words this difference in human capital could have found a reflection in the type of self-employment and, presumably, in the financial performance of two classes.

With regards to the economic activity portrait of the individuals, **Figure 3.2.4** demonstrates that there are significant differences among the classes of worker. Paid workers have the highest shares of individuals in blue-collar occupations and in applied sciences and health occupations[150].

[150] At this level of the analysis "blue-collar" category is kept aggregated in order to demonstrate its importance in the Canadian economy.

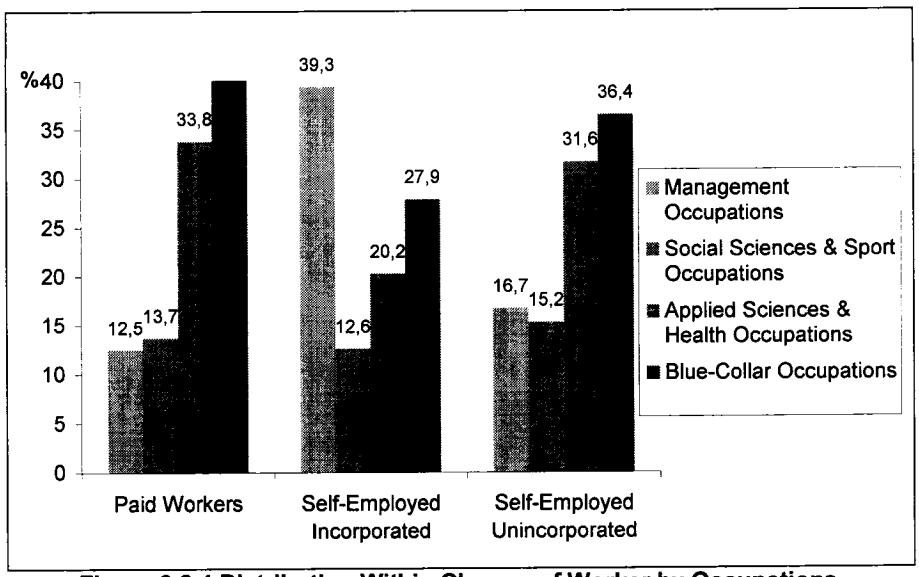

Figure 3.2.4 Distribution Within Classes of Worker by Occupations.
Source: Statistics Canada, PUMF (Individuals), 2001

The structure of occupations among unincorporated self-employed workers is very close to that of paid workers. The number of management occupations held by them, however, is slightly higher than those held by paid workers. Incorporated self-employed workers possess the highest share of management occupations which probably reflects the legalistic features of this form of business. It suggests that in case of an incorporated business, business owners are considered to be occupied in management positions. Blue-collar occupations are also numerous among incorporated self-employed workers, although these have the lowest share of blue-collar workers among all three classes.

Among all three classes, blue-collar occupations appear to be an important characteristic of the Canadian workforce. A more detailed look at the distribution of these occupations within classes of worker shows that among paid workers, sales and service occupations along with trades, transport and equipment operator occupations constitute approximately 30% of all occupations (**Figure 3.2.5**). These two types of occupations are principal in all three classes of worker, although among self-employed workers trades, transport and equipment operator occupations are more popular due to, presumably, a better availability of equipment for performing on a small scale.

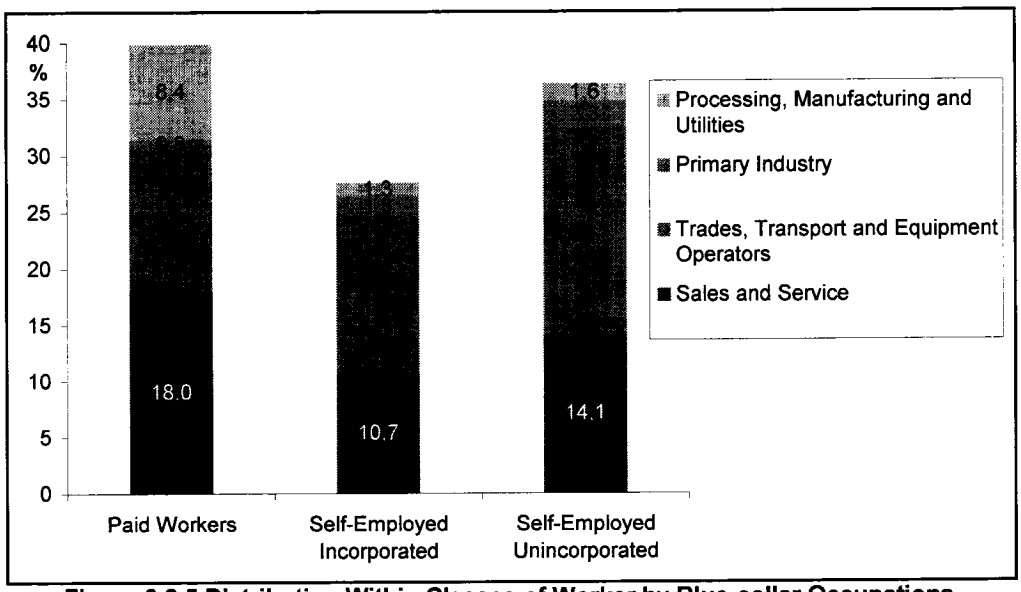

Figure 3.2.5 Distribution Within Classes of Worker by Blue-collar Occupations.
Source: Statistics Canada, PUMF (Individuals), 2001

All three classes of worker have a similar occupational structure, especially paid workers and unincorporated self-employed workers. It might mean that unincorporated self-employment aims to replicate the paid workforce market. Processing, manufacturing, and utilities occupations play a significant role in paid employment and almost no role in self-employment. The insignificance of these occupations in self-employment, expressed by a very small number of respondents, is the major reason why this category, along with the primary industries category, was excluded from the next steps in the analysis.

General Findings

Paid workers significantly exceed self-employed workers among whom unincorporated workers are more represented. Men tend to be more involved in self-employment activities than women. In terms of age, paid workers are more evenly distributed within the age groups (except the 51-65 age group), while fewer individuals under thirty are involved in self-employment. The higher number of them in unincorporated self-employment suggests that for some of them it might be an experimental activity. At the same time there are more senior people involved in self-employment.

With regards to education and occupations, self-employed workers tend to have university degrees much more often. Montréal's workforce is less educated than that of the other two cities and it also demonstrates a gap between paid and self-employed workers in

terms of level of education. In any case, human capital generally will not be the factor that limits financial performance of self-employed workers. At the same time, blue-collar occupations, as well as the occupations in applied sciences and health, shape the occupational structure in the three CMAs.

The Role of the Place of Birth

The following analysis has the same scheme as the previous one; however, in this case a new dimension – place of birth – is added. With this dimension, the analysis focuses on the research hypotheses involving the place-of-birth component of economic performance by classes of worker.

As it is shown in **Figure 3.2.6**, Canadian-born individuals are the majority in all three classes of worker, although their involvement decreases in self-employment. Immigrants from South and East Asia make up the second largest workforce component in Canada, followed by immigrants from the United States and Europe. Along with the workers born in Canada, immigrants from the United States and Europe and from South and East Asia account for more than 90% of the total workforce in all three classes. In other words, these three groups will contribute highly to the definition of the overall performance of all three classes of worker.

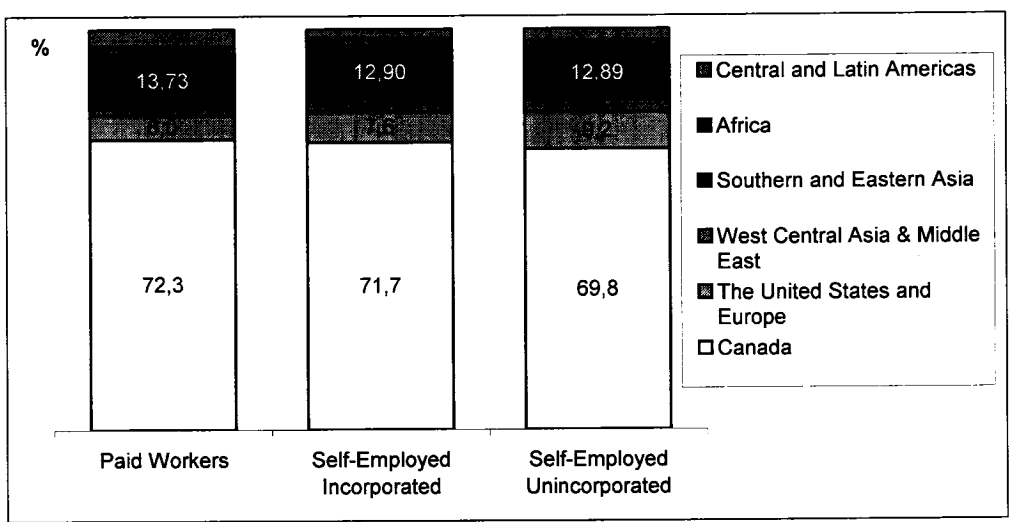

Figure 3.2.6 Distribution of Place of Birth groups within the Classes of Workers.
Source: Statistics Canada, PUMF (Individuals), 2001

The influence of gender on participation will not be included in the descriptive analysis of income performance due to the insufficient number of respondents in certain place-of-birth groups, and in the further analysis I will rely on the general gender pattern of the worker classes. Age, the next demographic parameter, is also excluded from this part of the analysis because its manifestation and distribution by birth place does not depart significantly from the general pattern found in the earlier analysis.

Educational differences among the groups, which can crucially influence their income, are an important focus of the research. As **Table 3.2.2** demonstrates, the pattern found in the previous sub-section is visible in this crosstabulation as well: individuals in self-employment have higher education than paid workers. It is interesting to note, however, that in both self-employment classes, the shares of university degrees holders of all immigrants, except those from Central and Latin America, are higher than the shares for workers born in Canada. This suggests that for highly educated immigrants self-employment is an important choice.

Class of Worker	Place of Birth	Highest Level of Schooling			Total
		High School or Less	College	University Degree	
Paid Workers	Canada	31,4%	30,3%	38,2%	100,0%
	The United States and Europe	25,3%	25,1%	49,5%	100,0%
	West Central Asia & Middle East	26,4%	17,2%	56,4%	100,0%
	South and East Asia	33,3%	18,3%	48,4%	100,0%
	Africa	22,9%	24,5%	52,7%	100,0%
	Central and Latin America	41,2%	32,1%	26,7%	100,0%
Self-Employed Incorporated	Canada	27,8%	25,9%	46,3%	100,0%
	The United States and Europe	22,5%	25,3%	52,2%	100,0%
	West Central Asia & Middle East	29,3%	17,9%	52,8%	100,0%
	South and East Asia	34,7%	13,9%	51,4%	100,0%
	Africa	20,9%**	25,6%	53,5%	100,0%
	Central and Latin America	33,3%	35,7%	31,0%	100,0%
Self-Employed Unincorporated	Canada	28,3%	26,1%	45,5%	100,0%
	The United States and Europe	22,0%	30,0%	48,0%	100,0%
	West Central Asia & Middle East	36,1%	13,9%	50,0%	100,0%
	South and East Asia	34,4%	15,6%	50,1%	100,0%
	Africa	23,8%	22,9%	53,3%	100,0%
	Central and Latin America	36,5%	22,9%	40,6%	100,0%

Table 3.2.2 Class of Worker by Place of Birth and Highest Level of Schooling. The mark ** highlights the cells with less than 20 respondents. *Source: Statistics Canada, PUMF (Individuals), 2001*

However, the most important finding is that, overall, immigrants do have quite high levels of human capital. Factors accounting for possible low earnings, in this case, are the compatibility of their human capital with Canadian requirements. The situation with immigrants from Central and Latin America does not significantly distort the image, as their share in the Canadian workforce is very low.

The next table – occupation – demonstrates that certain differences in occupational preferences of the classes of worker could be influenced by place of birth. Paid workers of all place-of-birth groups (see **Table 3.2.3**) follow the general pattern and are mainly employed in social and applied sciences types of work. Immigrants, however, are generally more skewed toward services and retail trade, while Canadian paid workers are more frequent in social sciences and art.

Nevertheless, in defining the occupational distribution of paid workers, one can say that the distribution is very diverse among place-of-birth groups. There is a higher prominence of workers from South and East Asia, West Central Asia and Middle East, and Central and Latin America in blue-collar positions.

Incorporated self-employed workers, on the other hand, demonstrate a very high concentration in management occupations in all place-of-birth groups. It is very interesting to note, however, that incorporated self-employed managers from Canada as well as from the United States and Europe concentrate, first of all, in professional, scientific, and technical services, while the other immigrants concentrate in retail trade.[151] In other words, income levels of these two groups of managers might be noticeably different. Another aspect of this distinction is that incorporated self-employed immigrants are highly educated individuals who turned to the retail trade.

Unincorporated self-employed workers of all place-of-birth groups demonstrate the diversity of occupations close to that of paid workers to the extent that Canadian self-employed workers are predominantly skewed toward social sciences and art, duplicating the paid labour market. Further analysis of the classes' income levels will reveal whether unincorporated self-employment is an alternative choice or an emergency strategy.

[151] Based on Statistics Canada, PUMF (Individuals, 2001) database supplementary analysis.

Class of Worker	Place of Birth	Occupations					Total
		Management Occupations	Social Sciences & Art	Applied Sciences & Health	Services & Retail Trade	Trades and Transport	
Paid Workers	Canada	14,8%	39,4%	13,2%	18,6%	13,9%	100%
	The United States and Europe	12,6%	29,9%	23,2%	17,9%	16,3%	100%
	West Central Asia & Middle East	14,3%	25,4%	25,2%	21,9%	13,2%	100%
	Southern and Eastern Asia	9,9%	30,6%	20,9%	26,8%	11,8%	100%
	Africa	11,2%	34,3%	23,1%	19,3%	12,2%	100%
	Central and Latin America	6,9%	36,7%	14,0%	24,4%	18,0%	100%
Self-Employed Incorporated	Canada	39,1%	24,1%	12,9%	9,7%	14,2%	100%
	The United States and Europe	35,9%	14,7%	20,9%	9,9%	18,7%	100%
	West Central Asia & Middle East	50,0%	10,5%**	10,5%**	10,5%**	18,4%	100%
	Southern and Eastern Asia	48,5%	12,8%**	10,7%**	17,5%**	10,5%**	100%
	Africa	53,6%	9,5%	13,1%	13,1%	10,7%	100%
	Central and Latin America	27,6%	18,4%**	10,5%**	21,1%**	22,4%**	100%
Self-Employed Unincorporated	Canada	14,9%	37,9%	16,0%	13,8%	17,4%	100%
	The United States and Europe	16,6%	22,9%	20,5%	13,8%	26,2%	100%
	West Central Asia & Middle East	32,7%	12,1%	10,9%**	15,8%	28,5%	100%
	Southern and Eastern Asia	28,1%	20,3%	13,6%	19,7%	18,3%	100%
	Africa	18,0%**	26,0%	20,0%	15,0%**	21,0%	100%
	Central and Latin America	15,5%	24,3%	11,5%**	17,6%	31,1%	100%

Table 3.2.3. Class of Worker by Occupations and Place of Birth. The mark ** highlights the cells with less than 20 respondents.

Source: Statistics Canada, PUMF (Individuals), 2001.

The Impact of Place of Birth on Income

In this sub-section I will address the most important part of this analysis – the description of the relationship between the research variables and income. This part of the analysis based on crosstabulations, as well as mean and median income tables.

As shown in **Table 3.2.4**, relative to all place-of-birth groups Canadian-born paid workers tend to have the smallest shares in lower-average income group. Workers born in the United States and Europe tend to be the least disadvantaged of all the immigrants, while the largest group of immigrants – those from South and East Asia – is one of the most disadvantaged. In other words, it is possible to say that the paid workforce market is ruled by the mainstream population and that cultural proximity is an important factor of integration into it. Another factor which can provide an alternative explanation is period of arrival. This demonstrates that out of all the immigrant workers who have entered Canada since 1980, 49% of all individuals from the U.S. and Europe and 39% of all immigrants from South and East Asia came during 1980-1990[152]. This difference in shares could be responsible for the better financial results of the first group of workers, as they had more time to integrate into Canadian society. However, the other place-of-birth groups demonstrate a similar pattern of arrival to that one of immigrants from the U.S. and Europe. In other words, this factor cannot be completely accepted.

Class of Worker	Place of Birth	Salaries & Self-Employment Income			
		$0 - $14'000	$14'001 - $31'000	$31'000 - $48'000	$48'001 & More
Paid Workers	Canada	13,9%	27,5%	27,7%	31,0%
	The United States and Europe	17,4%	30,6%	24,9%	27,1%
	West Central Asia & Middle East	28,5%	33,4%	20,1%	18,0%
	South and East Asia	26,2%	39,4%	20,7%	13,6%
	Africa	24,7%	35,7%	21,7%	17,8%
	Central and Latin America	23,5%	41,1%	24,3%	11,1%
Self-Employed Incorporated	Canada	12,5%	25,5%	21,1%	40,9%
	The United States and Europe	14,9%	33,5%	21,8%	29,8%
	West Central Asia & Middle East	26,5%	37,6%	18,8%	17,1%
	South and East Asia	28,7%	35,0%	18,8%	17,5%
	Africa	23,5%	28,2%	20,0%**	28,2%
	Central and Latin America	25,9%	34,6%	27,2%	12,3%**
Self-Employed Unincorporated	Canada	23,4%	31,2%	16,2%	29,2%
	The United States and Europe	24,1%	37,6%	16,9%	21,4%
	West Central Asia & Middle East	37,2%	33,7%	13,4%	15,7%
	South and East Asia	39,0%	35,5%	13,5%	12,1%
	Africa	34,3%	35,3%	12,7%**	17,6%**
	Central and Latin America	23,0%	43,5%	14,3%	19,3%

Table 3.2.4 Class of Worker by Place of Birth and Income.
Source: Statistics Canada, PUMF (Individuals), 2001

[152] Based on Statistics Canada, PUMF (Individuals): Period of Arrival – Grouped Variable, 2001.

Another interesting feature of paid workers is that the income levels of all the groups definitely show more relation to occupational choices rather than the levels of education. Basically, this suggests that immigrants cannot always find a job in Canada which matches their human capital.

Incorporated self-employed workers in almost all groups are more likely than paid workers to be represented in the higher income category. The exceptions are immigrants from West-Central Asia & the Middle East. Their shares increase in the lower and lower-average income groups. As discussed before, incorporated self-employed workers concentrate mainly in management positions and represent two distinctively different types of managers. The table also demonstrates that there is a noticeable gap between workers born in Canada, the U.S and Europe and all other immigrant groups.

As for unincorporated self-employment, all of the place-of-birth groups of workers, with the exception of those from Central and Latin America (relative to paid workers), increase their representation in the lower and lower-average income group. As discussed before, many unincorporated self-employed workers have university degrees and their choice of occupations is very close to that of paid workers. It would be quite reasonable to suggest that the reason they stay in poorly paid unincorporated self-employment is either a loss of a paid job or blocked entry into the paid workforce. The latter could be true both for locals and immigrants with a high level of education. Basically, the uncertainty raised during the analysis of occupations is, presumably, solved by the suggestion that unincorporated self-employment can be perceived as a temporary or an emergency response to unemployment, while incorporated self-employment usually is a more successful and planned project.

An additional aspect of income differences among the classes of worker has to do with location. Income means and medians for workers based on class of worker, place-of-birth and CMA variables are presented in **Appendix 3.2.1**. The first observation is that, in general, workers of all place-of-birth groups and classes of worker tend to have higher mean and median incomes in Toronto relative to Vancouver and Montréal. Montréal represents the lowest incomes; however, as was discussed in Section 3.1.1, Montréal should not be directly compared with the other two cities because of a noticeably lower cost of living. More detailed analysis of incidences of low income (**Table 3.2.5**) in regard to the studied pool of

individuals reveals that the actual differences between cities in terms of the shares of individuals with low incomes are really small.

Class of Worker	CMA	INCOME STATUS		Total
		Above LICO	Below LICO	
Paid Workers	Toronto	92,8	7,2	100
	Montréal	91,8	8,2	100
	Vancouver	91,4	8,6	100
Self-Employed Incorporated	Toronto	92,3	7,7	100
	Montréal	92,7	7,3	100
	Vancouver	91,4	8,6	100
Self-Employed Unincorporated	Toronto	88,9	11,1	100
	Montréal	84,8	15,2	100
	Vancouver	84,8	15,2	100

Table 3.2.5 2000 Low Income Cut-Offs in Toronto, Montréal and Vancouver by Class of Worker.
Source: Statistics Canada, PUMF (Individuals), 2001

Appendix 3.2.2 demonstrates the relationship of mean and median incomes with class of worker, place of birth, and the highest level of schooling. In all other place-of-birth groups it is possible to identify one definite pattern: the higher the education, the higher the salary. This pattern is also evident for most groups in incorporated self-employment. This means that the level of human capital might play a noticeable role in defining individual income levels, despite the fact that there are significant differences between workers born in Canada and immigrant workers.

In the case of unincorporated self-employed workers born outside of Canada, this pattern becomes quite unstable, as the workers with high school degrees have higher incomes than those with college degrees. Moreover, in the case of immigrants from the U.S. and Europe, those with high school degrees have higher income than those with university degrees. This situation might illustrate the fact that unincorporated self-employment is a less standardized type of economic activity.

Appendix 3.2.3 contains a table illustrating the relationship of mean and median incomes with class of worker, place of birth, and occupations. There is a very definite income distribution pattern among paid workers in all place-of-birth groups: those working in management have the highest mean and median income, followed by applied sciences and health workers, social sciences and art workers, workers in trades and transportation, and, finally, workers in services and retail trade. In other words, the suggestion that the

immigrants' "prominence" in blue-collar occupations negatively influence their income is favored.

Among incorporated self-employed workers there is a significant difference in incomes between workers born in Canada and those born in the United States and Europe. As noticed above, in both groups the managers belong to the same sector of economy: professional, scientific, and technical services; and such a disadvantage of workers from U.S. and Europe is surprising. On the other hand, managers from the U.S. & Europe are still much less disadvantaged relative to the other groups of immigrants.

Unincorporated self-employed workers demonstrate lower incomes in all occupation categories in comparison with paid workers. This is further evidence that this type of self-employment duplicates the paid workforce market for emergency reasons.

General Findings

In the conclusion of this part of the descriptive analysis I would like to summarize the main findings on the effect of place of birth. The first important finding is that the Canadian-born individuals shape the workforce in the explored metropolitan areas. Individuals from Southern and Eastern Asia and the United States and Europe are the major groups of immigrants in the Canadian workforce.

In general, immigrants have higher levels of education than individuals born in Canada. In other words, human capital does not seem to play a major role in explaining lower income levels among immigrants. At the same time, with regards to income levels in relation to education, paid workers and incorporated self-employed workers of all place-of-birth groups have higher incomes if they have a higher level of education.

The relative importance of the different occupations in the three classes of workers does not seem to be significantly affected by place of birth. Nevertheless, self-employed workers from West Asia and Middle East, Southern and Eastern Asia, and Africa tend to gravitate toward management occupations, while paid workers from these groups more toward service positions. Low incomes among immigrants in blue-collar occupations favor the suggestion that the prominence of immigrants in these positions influences the overall performance of the group.

The crosstabulation based on income groups demonstrated that incorporated self-employment provides higher incomes than paid work to almost all place-of-birth groups. The mean and median income table based on CMA division confirms these findings as well as adds some new information. Workers in Toronto, followed by those in Vancouver and Montréal, have the highest incomes, regardless of the type of worker.

The Role of Nativity & Language

As it was discussed in Chapter 2, nativity and language play an important role in the Canadian reality. Canada accepts immigrants from all over the world. Some newcomers do not use either English or French language at home or at work. In light of these facts, it becomes necessary to take into account the influence of language on economic performance. This part of the analysis is different from the previous one because it focuses on the immigrant population as a whole (not divided by place-of-birth) versus Canadian-born population by language in use. I will distinguish between four groups, namely Canadian-born English-speaking workers, Canadian-born French-speaking workers, foreign-born English-speaking workers, and foreign-born non-official (NO) language speaking workers.

In terms of the Nativity & Language at Home status, Canadian-born English-speaking workers prevail as expected, followed by Canadian-born French-speaking workers. **Figure 3.2.7** shows, however, that two out of three foreign-born workers use neither English nor French at home. The use of one or the other official languages at home is more prevalent among paid workers than self-employed workers.

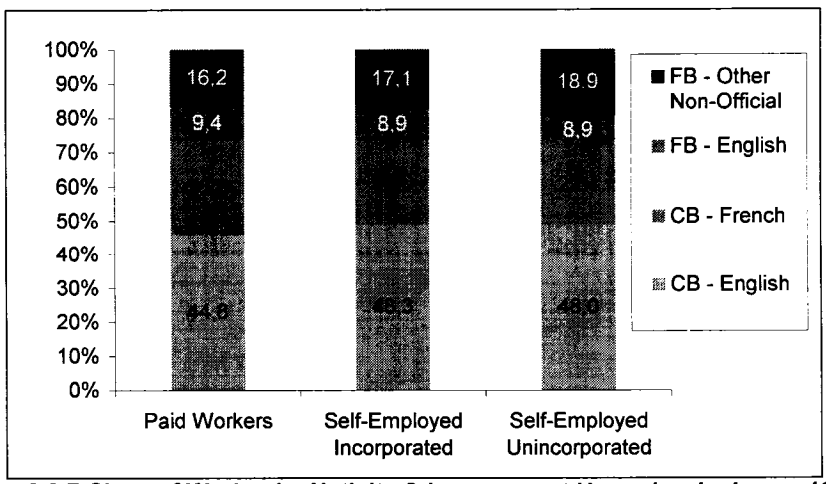

Figure 3.2.7 Class of Worker by Nativity & Language at Home (each class = 100%).
Source: Statistics Canada, PUMF (Individuals), 2001

Figure 3.2.8 demonstrates that in the case of the language used most often at work the situation has its own peculiarities. In general, the structure of groups is very close to the previous one: Canadian-born English and French-speaking workers dominate in all three classes, Canadian-born and foreign-born non-official (NO) language speaking workers still more actively choose self-employment. The role of non-official language at work, however, drops dramatically in comparison with its role at home. The role of English language in the workplace is indeed very strong.

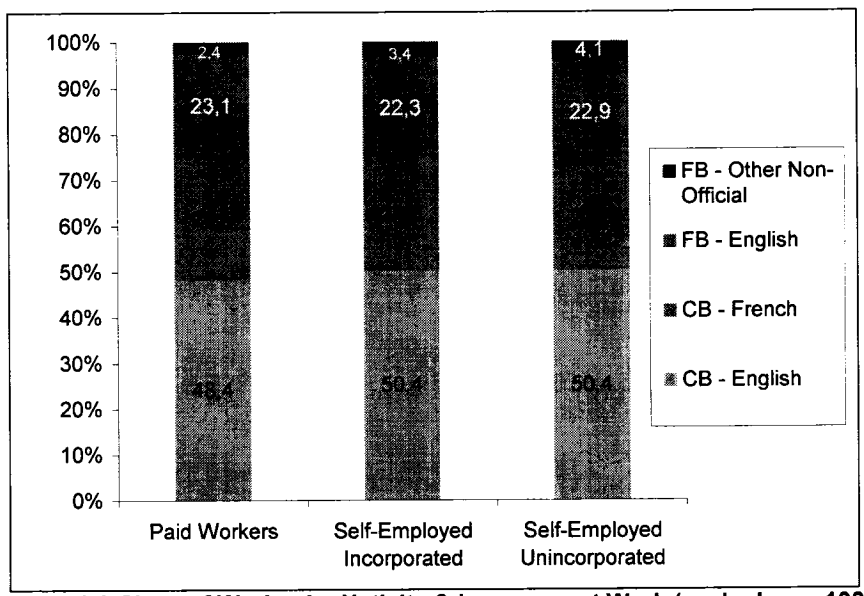

Figure 3.2.8 Class of Worker by Nativity & Language at Work (each class =100%).
Source: Statistics Canada, PUMF (Individuals), 2001

Canadian society is linguistically more united when it comes to economic activity than in the case of a language used at home. At the same time, those foreign-born workers who prefer to use English language at work do not demonstrate an increased propensity towards becoming self-employed. Basically, this illustrates that the knowledge of an official language increases the possibility of being accepted in the paid workforce market, while for those who use a non-official language at work self-employment is the only domain where they can possibly operate in their native language environment.

Before proceeding further, it is important to look more thoroughly at the group of workers who are foreign-born and do not use any of the official languages at work. Their number in the workforce is very small. On the other hand, these are the individuals who do

demonstrate a bigger share of self-employed workers. An additional analysis comparing foreign-born English and NO language speaking individuals reveals that there are no noticeable gender differences between these two groups. In terms of age characteristics, the only difference is that NO language-speaking workers are represented twice as much in the 51-65 group than English language speaking workers (19.5% vs. 10.4%). Taking into account that those individuals who do not actively participate in the workforce were excluded from the dataset, it is possible to suggest that these people very likely represent the dependants of the principal applicants who are their parents, spouses or brothers and sisters. The analysis based on the "relation to household reference person" variable does demonstrate that the share of parents among NO language immigrants is higher (3.8% vs. 1.5%) than among English-speaking ones. The share of spouses is also higher (30.6% vs. 27.7%), although the shares of reference persons in both groups are quite close (44.8% & 49.8%). This still might mean that NO language at work individuals entered Canada through the family immigration program or as refugees. They work in an isolated ethnic environment, or are part of enclave economies "based on networks of contractual relationships within ethnic groups"[153]. Both suggestions are supported by the major source regions of these immigrants: South and East Asia (66.1%) and Europe (16.0%).

In both cases they might not demonstrate high earnings, though they are in the workforce. One could use the term "isolated workforce", while describing these workers. The pool of these respondents does not contain a number of individuals comparable with the other groups, but it is enough for a quite meaningful analysis: 1967 paid workers, 120 incorporated self-employed and 223 unincorporated self-employed workers. Spatially, 58.1% of these individuals reside in Toronto, 38.9% in Vancouver, and 8.1% in Montréal.

As for education, **Table 3.2.6** shows the distribution of the classes of worker within the-highest-levels-of-education groups by language at work. It reveals, at least partially, the same pattern found in the previous sub-section: self-employed workers have higher shares of university degree holders than paid workers. Among the workers who use an official language, foreign-born English-speaking individuals tend to have the highest shares of university degrees holders in all classes (especially among incorporated self-employed

[153] Walton-Roberts, M., Hiebert, D., "Immigration, entrepreneurship, and the family: Indo-Canadian enterprise in the construction industry of Greater Vancouver", *Canadian Journal of Regional Science*, 20:119-40, 1997.

workers), while Canadian-born French-speaking workers tend to have the higher shares of those with high school degrees.

Class of Worker	Nativity & Language at Work	Highest Level of Schooling			Total
		High School or Less	College	University Degree	
Paid Workers	CB - English	27,7%	30,3%	41,9%	100%
	CB - French	37,9%	30,0%	32,0%	100%
	FB - English	28,5%	23,5%	48,0%	100%
	FB - Non-Official	60,0%	13,7%	26,4%	100%
Self-Employed Incorporated	CB - English	24,4%	26,6%	49,1%	100%
	CB - French	35,4%	24,6%	40,0%	100%
	FB - English	25,3%	20,6%	54,1%	100%
	FB - Non-Official	51,7%	12,5%**	35,8%	100%
Self-Employed Unincorporated	CB - English	24,7%	26,5%	48,8%	100%
	CB - French	35,6%	25,2%	39,1%	100%
	FB - English	26,7%	22,3%	51,0%	100%
	FB - Non-Official	52,9%	14,3%	32,7%	100%

Table 3.2.6 Class of Worker by Nativity & Language at Work and Highest Level of Schooling.
Source: Statistics Canada, PUMF (Individuals), 2001

In this scenario, foreign-born NO language speaking workers provide fresh information. They demonstrate the highest share of individuals with no post-secondary education in all three classes of worker, although in self-employment they have more workers with university degrees. Basically, it adds weight to the idea that these people are the "relatives' relatives", ex-refugees or a part of low-wage enclave economies.

In terms of occupations (see **Table 3.2.7**), the pattern found in the general descriptive analysis section is also recognizable for all the nativity and language (at work) groups. There are, however, certain differences. Among paid workers, those born abroad demonstrate low numbers in social sciences and higher numbers in applied sciences. It is quite interesting to note that 20% of immigrants who use NO language at work in paid positions hold occupations in social sciences (a sector supposedly driven more heavily by the use of English), while only 10.5% are found in applied sciences. The fact that 40% of immigrants from this group work in services and retail is more expected. Generally the three other groups of respondents tend to gravitate toward social sciences. The fact that so many immigrants using NO language at work occupy positions in social sciences might suggest that they work within their ethnic communities.

In the case of incorporated self-employment, as discussed above, the respondents tend to hold management positions. Nevertheless, it is quite interesting that NO language workers have the highest share of management occupations (50.4%) in comparison with the other groups of respondents. An additional analysis regarding the industries revealed that they are most represented in retail trade and manufacturing, while managers in the other groups are more likely to be involved in professional, scientific, and technical industries.

Class of Worker	Nativity & Language at Work	Occupations					Total
		Management	Social Sciences & Art	Applied Sciences & Health	Services & Retail Trade	Trades and Transport	
Paid Workers	CB - English	16,8%	39,8%	12,9%	18,0%	12,5%	100%
	CB - French	11,3%	38,6%	14,0%	19,3%	16,8%	100%
	FB - English	10,6%	31,8%	21,9%	21,8%	13,9%	100%
	FB - Non-Official	10,2%	21,8%	10,5%	40,1%	17,4%	100%
Self-Employed Incorporated	CB - English	40,1%	24,9%	13,0%	9,3%	12,7%	100%
	CB - French	36,9%	22,8%	12,7%	9,9%	17,7%	100%
	FB - English	44,0%	12,7%	15,5%	13,0%	14,8%	100%
	FB - Non-Official	50,4%	15,0%**	4,4%**	19,5%	10,6%**	100%
Self-Employed Unincorporated	CB - English	13,9%	39,7%	17,6%	11,3%	17,5%	100%
	CB - French	16,8%	34,9%	12,8%	18,9%	16,6%	100%
	FB - English	20,6%	21,4%	18,1%	15,7%	24,3%	100%
	FB - Non-Official	34,1%	20,7%	5,3%**	23,1%	16,8%	100%

Table 3.2.7 Class of Worker by Nativity & Language at Work and Occupations.
Source: Statistics Canada, PUMF (Individuals), 2001

With unincorporated self-employment, there is new evidence that the structure of occupations is very close to that of paid workers, especially for workers born in Canada. Nevertheless, a supplementary industry analysis demonstrates that both groups of foreign-born workers still are more present in managerial positions that are mainly related to retail trade (31.5%) for those who speak English, and manufacturing and construction (28.2%) for those who do not[154].

French-speaking Canadians demonstrate occupational distribution very close to English-speaking Canadians with some tendency toward trades and transport occupations as a possible result of broader college education in this direction. Knowing that they are presented almost solely in Montréal, it is possible to suggest that the city offers the same

[154] Based on Canadian Census, PUMF (Individuals): NAICS variable, 2001.

possibilities to French-speaking Canadians in terms of employment as Toronto and Vancouver do to English-speaking Canadians.

The Impact of Nativity & Language on Income

This part of the descriptive analysis explores the influence of immigrant status and language on income status.

As shown in Table **3.2.8**, among paid workers, those who are Canadian-born English speakers are the most prosperous: they are least represented in the lower income group and the most in upper-average and average income groups as it was expected. They are followed by Canadian-born French-speaking workers, who are not as strongly represented in the higher income group. This result will be discussed further.

Class of Worker	Nativity & Language at Work	Salaries & Self-Employment Income				Total
		$0 - $14'000	$14'001 - $31'000	$31'000 - $48'000	$48'001 & More	
Paid Workers	CB - English	12,8%	24,5%	27,8%	34,8%	100%
	CB - French	15,7%	32,3%	27,5%	24,5%	100%
	FB - English	21,1%	36,4%	23,7%	18,7%	100%
	FB - Non-Official	42,5%	41,2%	11,7%	4,6%	100%
Self-Employed Incorporated	CB - English	11,7%	22,3%	21,4%	44,7%	100%
	CB - French	14,4%	31,2%	20,5%	33,9%	100%
	FB - English	22,4%	33,3%	20,5%	23,8%	100%
	FB - Non-Official	31,7%	33,3%	22,5%	12,5%**	100%
Self-Employed Unincorporated	CB - English	20,0%	30,2%	16,5%	*33,3%*	100%
	CB - French	30,6%	33,2%	15,5%	20,7%	100%
	FB - English	29,5%	36,4%	15,9%	*18,2%*	100%
	FB - Non-Official	43,9%	37,2%	9,0%	9,9%	100%

Table 3.2.8 Class of Worker by Nativity & Language at Work and Income.
Source: Statistics Canada, PUMF (Individuals), 2001

Foreign-born English-speaking followed by foreign-born NO language speaking individuals are the most disadvantaged. While the disadvantage of NO language paid worker was expected, the results of the English-speaking immigrants are most intriguing. These workers are generally highly educated and have an occupational status similar to English-speaking Canadian-born individuals. One could contend that these people, to a vast extent, belong to the most successful over time "skilled workers" class of immigrants. The fact that their incomes are so significantly different from the mainstream population is really sad.

With regards to incorporated self-employment, all of the groups demonstrate much greater shares in higher income groups. It appears that the redistribution involves the upper-average income group, providing rather insignificant changes to the lower and lower-average income groups. The only exception is foreign-born NO language speaking incorporated self-employed workers, who definitely shift up along the income axis[155].

Unincorporated self-employed workers in almost all the groups are much more presented (than paid workers) in the lower and lower-average income groups. Foreign-born NO language speaking workers are still more than their paid counterparts presented in the higher income group. The decrease of incomes in this class, again, signals that unincorporated self-employment is not an alternative choice, but rather a start up or an emergency remedy. On the other hand, it still offers some possibilities to the workers who use neither English nor French at work.

Although French-Canadian workers show lower income in absolute numbers, this result should be treated very carefully due to the previously discussed influence of Montréal – the city which solely represents this group of respondents in the dataset. Basically, relying upon the findings of the previous part of the analysis on place of birth effects, it is not possible to state that Francophones' income levels are actually lower than those of Anglophones.

The mean and median incomes of the groups according to their level of schooling and language used at work reveal more precise information on the process of economic integration. **Appendix 3.2.4** demonstrates that for all three classes of worker, a university education, in general, provides a real "upgrade" in terms of the mean incomes within each group. It does not however rescue the group from a disadvantage in comparison with the mainstream population. Among paid workers, only NO language immigrants with a college degree have higher mean and median incomes than those with a university degree. This is expected due to their prominence in blue-collar positions.

In incorporated self-employment, on the other hand, NO language workers with college degrees have the lowest income, though this is not statistically convincing because of a small number of respondents in this category (less than 20). Those with a university degree show

[155] There are less than 20 respondents in the upper income group.

much better financial performance. In general, all groups of incorporated self-employed workers have better earnings if they have higher education.

In unincorporated self-employment a university degree provides a better income for Canadian-born English and French-speaking workers when it comes to mean incomes. Foreign-born NO language speaking workers with university degrees have higher both mean and median incomes. In other words, self-employment might provide the opportunity for greater earnings to at least some individuals with respect to their human capital. I might suggest that this happens due to less dependence of this type of activity on the recognition of educational credentials.

In the case of income distribution according to language at work and occupations (see **Appendix 3.2.5),** paid workers obey the following income pattern: management occupations (best paid), social sciences, applied sciences, and blue-collar occupations (worst paid). Foreign-born NO language speaking workers are the only exception, as being employed in social sciences they have very low earnings. Additional analysis reveals that more than 50% of these workers are employed in professional, scientific and technical services as well as in the health and social assistance industry. This is a form of employment that presumably requires the use of an official language. On the other hand, they could be working within their ethnic environment, but in this case their income is really very low.

In incorporated self-employment social sciences bring the highest incomes in all nativity groups, except foreign-born NO language speaking workers. They still have incomes significantly lower than those of the workers of the other groups, while their earnings are much higher than those of their paid counterparts. In general, incorporated self-employed workers do better in all nativity & language groups in all occupations, except management ones. This is a tendency not only for the groups divided by place-of-birth. In unincorporated self-employment, all groups tend to have lower incomes (median and often mean) than paid workers in all occupations except social sciences and art.

General Findings

The "Nativity and Language" Analysis reveals that the English language is prevalent in the workforce for both paid and self-employed workers, although Canadian society is much less consolidated when it comes to language used at home.

With regards to education, foreign-born English-speaking workers are the most educated in all three classes of worker, while French-speaking and NO language speaking workers are the least educated. At the same time, foreign-born NO language workers definitely have a better match between income and education in unincorporated self-employment rather than in paid labour force. In general, education does provide a financial upgrade for Canadian-born workers and, to a certain extent, to foreign-born English-speaking workers.

In terms of occupational differences among paid and unincorporated self-employed workers, Canadian-born and foreign-born English and French-speaking individuals have quite a similar occupational distribution. Foreign-born NO language speaking workers are skewed toward blue-collar positions in paid labor force and have more choices in self-employment. In any case, this group of workers tends to be seriously disadvantaged in all occupations and, especially, in social sciences and art.

The income distribution demonstrates that Canadian-born English-speaking workers followed by French-speaking workers are the most advantaged in all three classes of worker, while NO language speaking paid workers are the most disadvantaged. Incorporated self-employment offers much higher earnings for all groups. The income levels of French-speaking workers, residing solely in Montréal, might not be directly compared with income levels of the other groups of respondents. This means that the hypothesis declaring lower incomes of French-speaking Canadians cannot be fully supported.

3.3. The Exploration of the Disparities of Salaries and Self-Employment Income Based on the Regression Analysis

In this section of the study will I employ regression analysis to examine the relationship between income and a series of socio-economic variables for paid and self-employed workers. This will be done in order to more precisely examine trends found through the descriptive analysis and to evaluate the influence of each variable and the model as a whole.

As discussed in Section 2.3, the analysis starts with an evaluation of the relationships between the independent variables. The variables should not demonstrate any strong correlation with each other, a most important first condition of a meaningful analysis. The second step is the examination of the overall income variance that is necessary for the

exclusion of possible outliers. The regression models are the next step, where R^2, F-values, t-statistics along with the models' coefficients will be discussed.

The Regression Analysis of the Income of Paid Workers

Correlations

Although the General Linear Model does not require a normal distribution of a dependent variable, it is still important that independent variables not be highly correlated. As shown in **Appendix 3.3.1**, there are no strong correlations between the independent variables and the dependent variable or among the independent variables themselves. The only exception is the inter-relation of nativity and language at work and CMAs (-0.43). This reflects the division of English and French language use between Quebec and the rest of Canada. The fact that there are, generally, no significant correlations among the independent variables suggests that these variables are truly independent from each other.

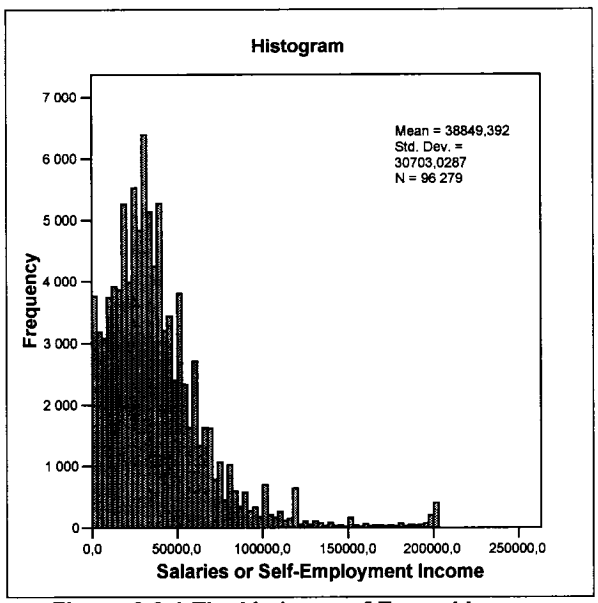

Figure 3.3.1 The Variance of Earned Income
Source: Statistics Canada, PUMF (Individuals), 2001

The general variation of earned income (**see Figure 3.3.1**) demonstrates that there are outlying values: individuals with earnings over $200,000 or lower than $1,000. However, if the income point over $200,000 is a possible leverage point that skews the pattern, the values under $1,000 might be a distortion of the income variance. These values show up as a peak at the position where a slope should be. Although the distribution pattern is not even overall,

an unexpectedly high number of people in full-time positions with an annual income under $1,000 is unusual. As a consequence, I have excluded these values from the analysis.

Paid Workers: Regression Models. Place of Birth

As **Table 3.3.1** demonstrates (see also **Appendixes 3.3.2 – 3.3.4**), the relationship between income for paid workers and the independent variables is to a large extent defined by the addition of the research variables, as the adjusted R^2 increases from the first model (0.02) to the third one (0.30). The F-value[156] (significant at 0.001 level) also increases, although in the third model (2127.77) it shows a smaller change in comparison with the value change from the first (368.0) to the second model (1498.7). Basically, this implies that the income of paid workers does not depend on one or several particular variables but that it results from a wide set of factors.

Interpreting the results of the regression equations (see **Table 3.3.1**), according to t-statistic[157], the role of almost all of the predictors increases with the addition of new variables. In terms of the predictors in the 3rd model, which is the most interesting of the three, the place-of-birth categories, when compared with the reference one (Canada), are negative. This supports the findings of the descriptive analysis.

Immigrants in paid work tend to have lower salaries than paid workers born in Canada. In this group, immigrants from South and East Asia (-$15,069), and West, Central Asia and Middle East (-$14,343) are the most disadvantaged, while immigrants from the U.S. and Europe are the least disadvantaged (-$5,369). The most disadvantaged categories of immigrants are also the strongest contributors, especially immigrants from South and East Asia (t = -51.1,) which supports the suggestion that their financial disadvantage plays a significant role in the total income variation according to the place of birth variable.

Although the positive role of a university degree was revealed in the descriptive analysis, the influence of a college degree was not entirely clear. The regression analysis demonstrates that both college and university degrees are positive contributors to a respondent's income. It demonstrates that a college degree appears to be quite a strong contributor, although the role of a university degree is much stronger (63.5 vs. 22.5). This is an interesting result, because it reveals that human capital is actually one of the strongest

[156] The F statistic is the regression mean square (MSR) divided by the residual mean square (MSE).
[157] T-value over 2 or less than –2 signals about a statistically significant predictor.

predictors, while in the descriptive analysis it was less defined, particularly among immigrants.

	Model I		Model II		Model III	
	B ($)	t	B ($)	t	B ($)	t
Intercept	*42 442,8*	*352,5*	*35 280,5*	*123,6*	*10 603,9*	*24,0*
The United States and Europe	-1 513,3	-3,4	-3 528,8	-8,5	-5 368,7	-13,9
West-Central Asia & Middle East	-10 241,7	-11,9	-13 312,4	-16,9	-14 342,5	-19,6
South and East Asia	-11 949,6	-35,9	-12 707,8	-41,1	-15 069,0	-51,1
Africa	-9 359,3	-11,7	-11 180,1	-15,2	-12 962,1	-19,0
Central and Latin America	-12 456,1	-22,0	-9 358,9	-18,0	-10 314,8	-21,2
Canada	*ref*	.	*ref*	.	*ref(42,500.0)*	.
University Degree			13 738,6	54,5	14 930,3	63,5
College Degree			3 255,7	12,6	5 429,7	22,5
High School or Less			*ref*	.	*ref(26,037.0)*	.
Management			20 603,9	54,3	21 706,5	60,5
Social Sciences & Art			-4 338,9	-13,8	2 309,5	7,3
Applied Sciences & Health			4 748,2	12,6	9 140,9	25,7
Services & Retail Trade			-7 377,6	-21,7	-1 651,3	-5,1
Trades and Transport			*ref*	.	*ref(26,522.5)*	.
Female					-11 575,9	-59,1
Male					*ref(36,852.4)*	.
Montréal					-8 192,7	-39,4
Vancouver					-3 893,5	-15,8
Toronto					*ref(38,611.6)*	.
Age *(Mean Age)*					750,8 *(38.1)*	88,5
Adjusted R^2	0,023		0,175		0,302	
F	367,96		1498,73		2127,77	
Number of respondents	77,513		77,513		77,513	

Table 3.3.1 The GLM models for Paid Workers (Salaries – the Dependent Variable) at 0.01 level, calculated for the mean age of 38.1 and the reference categories with the mean income values in the brackets.

Source: Statistics Canada, PUMF (Individuals), 2001

In the descriptive analysis the results were interpreted according to place-of-birth groups, while in this case the importance of education is identified by the whole sample of paid workers who are overwhelmingly presented by people born in Canada. In other words, this part of the research analysis strongly suggests that, overall, human capital is a substantial contributing factor to the financial performance of paid workers.

Occupations demonstrate that all of the categories (except services and retail) are positive contributors to financial performance. Management appears to be the most profitable occupation ($21,707), followed by applied sciences & health ($9,141). They are both the

strongest positive and the most distinctive predictors (74.3 and 42.5 respectively) among the occupation categories.

Age and sex are both strong predictors. However, their roles are different. In the previous (descriptive) analysis their precise influence on earnings was not explored, although I made a few suggestions as to how they might affect levels of income. Age appears to be a strong positive predictor, demonstrating that salaries tend to increase with age. The descriptive analysis revealed a higher share of 15-30 year-old individuals in the paid labor force. The regression analysis suggests that this fact might suppress overall class performance because the age coefficient is a high positive value. In other words, the coefficient suggests that the income value will grow when the age value grows. Being the strongest predictor, it demonstrates that this personal characteristic plays the most important role (t = 88.5) among all the predictors in the explanation of income variance. It is also intriguing because age appears to be a complex parameter itself that reflects the influence of other characteristics such as career growth and professional experience, among other things.

Sex also has a strong influence on income. Although women are still a minority in the labour force, in the regression analysis they are presented in much greater numbers due to a lack of subdivision into groups. As was the case with age, its influence on earnings was not revealed through the descriptive analysis, although a number of studies (*see Section 2.1: Gender*) have demonstrated that male workers still enjoy much higher incomes than female workers. The regression analysis supports these findings. Sex is a strong negative predictor (-59.1), demonstrating that female paid workers, on average, tend to earn less (-$11,576) than male workers. Paid workers comprise the highest shares of women in all place-of-birth groups. Female workers demonstrate a significant financial disadvantage in relation to men. This disadvantage is as pronounced as that of immigrants in comparison with native-born workers.

The CMA group of predictors demonstrates that paid workers in Vancouver (-$3,894) and Montréal (-$8,193) tend to be less prosperous than those in Toronto (the reference category). Montréal is also a very strong negative predictor (-39.4), which means that the disparities are considerable. This also means that the role of location in the total variation of income is significant as well, though the absolute earnings differences shown are not decisive (*see also Section 3.1 and Section 3.2*).

Overall, the third model is the most saturated regression model that explains income variation among paid workers. All the variables I employed are generally considered to be significantly influential (*see Section 2.1*); the low adjusted R^2 value might seem rather unexpected, but this might be caused by a data sample size that introduces a lot of noise[158].

A possible remedy could be the examination of interactions between variables. The GLM method allows for exploration of the influence of the variables' interactions on the dependent variable. However, it also requires a sufficient number of respondents involved in these interactions. In other words, in order to make such an analysis meaningful there should be enough respondents who possess "a" and "b" characteristics at the same time in order to see the influence of "a" by "b" on a dependent variable. In this study, this condition is not fully met. **Appendix 3.3.5** demonstrates that the inclusion of the interactions between variables causes the growth of the R^2. At the same time, quite a few of the coefficients (B) are weak predictors, according to t-statistics (with Sig. over 0.05). Interpreting the results becomes quite complicated due to the unreliability of such predictors. The weakness of some interactions is a result of the insufficient number of respondents.

Contrasts are another important aspect that can be examined using GLM. As demonstrated in **Table 3.3.2**, all contrasts are significant at the 0.001 level. The mean income differences of the categories within each variable are indeed statistically significant. In short, despite the low R^2, there are obvious and statistically significant variations in earnings caused by the research variables. It means that the research variables are valid predictors.

According to this analysis, gender and education provide the highest cumulative F-values, indicating that in these particular cases the contrasts are especially significant and firm. Place-of-birth categories, on the other hand, provide the least cumulative contrast F-value. This result is not unexpected because the variable still contains fairly significant internal heterogeneity in terms of income. This issue was discussed in Chapter 2.1 and Chapter 2.2. As for the CMA variable, it demonstrates the second lowest cumulative contrast F-value, which suggests that the intercity mean income differences are not as significant as gender or education differences.

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[158] The study of Sanders and Nee (Sanders, J., Nee, V., "Limits of Ethnic Solidarity in the Enclave Economy", *American Sociological Review*, Vol. 52, No. 6, 1987) on Cuban immigrants' income in Florida (with more than 3,000 cases in some models) also demonstrates quite low R^2 (less than 0.4) in some equations.

Simple Contrast vs. Reference Category in the Variable	Contrast, $	F (Sig. at 0,000)
The United States and Europe	-5 368,7	
West-Central Asia & Middle East	-14 342,5	
Southern and Eastern Asia	-15 069,0	
Africa	-12 962,1	
Central and Latin America	-10 314,8	
Canada	*ref*	674,8
University Degree	14 930,3	
College Degree	5 429,7	
High School or Less	*ref*	2 148,0
Management	21 706,5	
Social Sciences & Art	2 309,5	
Applied Sciences & Health	9 140,9	
Services & Retail Trade	-1 651,3	
Trades and Transport	*ref*	1 640,7
Female	-11 575,9	
Male	ref	3 494,0
Montréal	-8 192,7	
Vancouver	-38 93,5	
Toronto	*ref*	778,6

Table 3.3.2 Contrast Table for Paid Workers demonstrating significance of the differences between the reference categories' and the other categories' mean incomes.
Source: Statistics Canada, PUMF (Individuals), 2001

Paid Workers: Regression Models. Nativity & language

In the case of the language at work categories of respondents, there is no significant change in coefficients of the variables when place-of-birth categories are replaced by nativity-and language (at work) categories. For this very reason **Table 3.3.3** presents just the third regression model (see also **Appendix 3.3.6**). Although the replacement of place-of-birth categories with language categories did not seriously affect the equation, certain changes did take place. The CMA categories were removed from the analysis because Montréal shows a very high correlation (0.77) with French-speaking respondents and, therefore, these variables are not independent from each other.

In comparison with the model based on place-of-birth, the present model has a slightly lower R^2 value, but higher F-values, and this may mean that it contains fewer errors caused by the internal heterogeneity of the nativity and language variable. As the parameters that were used in the previous model did not change significantly, attention will be paid to the language categories.

As discovered in the descriptive analysis, all language groups other than English-speaking Canadians are financially disadvantaged. Those who use NO language at work are the most disadvantaged. French-speaking workers are the least disadvantaged relative to English speaking workers. It is not possible, however, to be absolutely certain about this latter result, given the particular role that Montréal plays in the distribution of earnings. As previously discussed, French-speaking Canadians reside almost exclusively in Montréal, which offers a lower cost of living than Toronto or Vancouver.

Parameter	Language at Work	
	B, $	t
Intercept	*8 806,9*	*19,6*
FB - Non-Official	-20 822,8	-29,1
CB – French	-6 924,1	-31,0
FB – English	-10 898,7	-45,1
CB – English	*ref(44,878.5)*	.
University Degree	14 674,6	60,2
College Degree	5 353,5	21,4
High School or Less	*ref(28,540.7)*	.
Management	21 743,1	58,8
Social Sciences & Art	21 71,2	6,6
Applied Sciences & Health	8 747,9	23,8
Services & Retail Trade	-2 011,8	-6,0
Trades and Transport	*ref(29,086.7)*	.
Female	-11 636,2	-57,5
Male	*ref(41,034.8)*	.
Age *(Mean Age)*	762,3 *(38.1)*	86,9
Adjusted R^2	0.289	
F	2313.5	
Number of Respondents	74126	

Table 3.3.3 The GLM models for Paid Workers (Salaries – the Dependent Variable) at 0.01 level, calculated for the mean age of 38.1 and the reference categories with the mean income values in the brackets.
Source: Statistics Canada, PUMF (Individuals), 2001

A new finding is that foreign-born English-speaking individuals are the strongest negative contributor among these groups (-45.1). In terms of the predictor strength, they surpass even French-speaking workers, implying, in other words, this cannot be just a function of a sample size. Thus, the inability of English-speaking immigrants to keep up with the mainstream workforce is, indeed, a serious issue. Non-official language speaking workers show an exceptional disadvantage, while their role as a contributor is not as high.

The fact that the former group is much more important in terms of the number of respondents probably explains this discrepancy.

The contrasts of the nativity and language variable's categories (see **Table 3.3.4**), reveal that the income differences among the groups are statistically significant at the 0.001 level. The cumulative contrast F-values of the variables are higher than in the case of the place of birth variable. This might also support the idea that the present classification contains less income heterogeneity than the previous one.

Parameter	Language at Work	
	Contrast, $	F (Sig. at 0,000)
Intercept	*8 806,9*	
FB - Non-Official	-20 822,8	
CB – French	-6 924,1	
FB – English	-10 898,7	
CB – English	*ref*	*961,1*

Table 3.3.4 Contrast Table for Paid Workers demonstrating significance of the differences between the reference category and the other categories' mean incomes.
Source: Statistics Canada, PUMF (Individuals), 2001

The Regression Analysis of the Self-Employed Workers' Income

Correlations

As in the previous case, almost none of the independent variables have significant correlations among each other and with the dependent variable (see **Appendix 3.3.7**). Occupations (-0.12) and highest level of schooling (0.24) have the strongest relationship with self-employment income as well as gender (0.14) and nativity & language (-0.15)

The Metropolitan Areas will be excluded from the second part of the analysis due to a high concentration of French-speaking workers in Montréal. It is also important to mention that age values under 22 are also omitted. This exclusion is necessary given the lack of involvement of individuals under this age in self-employment, as many of them are still attending school (see **Appendix 3.3.8**).

Self-Employed Workers: Regression Models. Place of Birth

In the case of incorporated and unincorporated self-employment, I use the same, more saturated model that was discussed in the earlier analysis with paid workers. The models for both classes of worker are presented in **Table 3.3.5** (see also **Appendix 3.3.9 – 3.3.10**).

The models demonstrate much lower adjusted R^2 values. In this case, the data sample is significantly smaller (3,519 of incorporated and 5,359 of unincorporated self-employed individuals) than in the model describing income of paid workers (77,513 respondents).

	Incorporated Self-Employed Workers			Unincorporated Self-Employed Workers		
Parameter	**B, $**	**t**	**Sig.**	**B, $**	**t**	**Sig.**
Intercept	*25 448,4*	*6,9*	*0,000*	*17 292,8*	*6,3*	*0,000*
U.S. & Europe	-12 721,7	-5,0	0,000	-11 399,3	-6,0	0,000
W-C Asia & Middle East	-19 191,4	-5,0	0,000	-12 810,0	-4,1	0,000
S. & E. Asia	-24 011,9	-11,1	0,000	-21 022,0	-12,4	0,000
Africa	-15 248,3	-3,4	0,001	-12 916,1	-3,3	0,001
C. & L. America	-18 575,9	-4,0	0,000	-13 400,3	-4,1	0,000
Canada	*ref(48,193.7)*	.	.	*ref(39,453.6)*	.	.
University	14 713,0	8,7	0,000	15 801,7	11,1	0,000
College	2 536,6	1,4	0,173	-2 028,5	-1,4	0,173
High School	*ref(27,502.9)*	.	.	*ref(22,949.3)*	.	.
Management	10 201,9	4,9	0,000	6 300,4	3,5	0,000
Social Sciences & Art	10 852,9	4,4	0,000	13 078,1	7,6	0,000
Applied Sciences & Health	16 325,2	6,0	0,000	28 843,1	14,6	0,000
Services & Retail	2 048,3	0,8	0,447	2 870,4	1,5	0,132
Transport & Trades	*ref(25,340.6)*	.	.	*ref(17,308.0)*	.	.
Montréal	-7 195,8	-4,6	0,000	-12 993,4	-10,4	0,000
Vancouver	-939,0	-0,5	0,585	-8 944,0	-6,5	0,000
Toronto	*ref(35,955.8)*	.	.	*ref(34,849.1)*	.	.
Female	-12 699,4	-7,9	0,000	-15 502,8	-13,0	0,000
Male	*ref(39,580.7)*	.	.	*ref(35,279.1)*	.	.
Age (*Mean Age*)	423,5 *(42.9)*	5,8	0,000	532,2 *(42.1)*	9,8	0,000
Adjusted R^2		0.126			0.21	
F		34.9			93.2	
Number of Respondents		3 519			5 359	

Table 3.3.5 The GLM models for Self-Employed Workers (Salaries & Self-Employment Income – the Dependent Variable) at 0.01 level, calculated for the mean age of 42.9 & 42.1 and the reference categories with the mean income values in the brackets.
Source: Statistics Canada, PUMF (Individuals), 2001

The small R^2 values, however, require additional support for the models' validity of predictors, which could be provided by the contrasts observation. Upon examining the

contrasts between the categories (see **Table 3.3.5**), it becomes clear that the differences of income means are significant among all the categories except for people with college degrees, those working in services and retail occupations, and in the case of incorporated self-employment in Vancouver. The F-values of the variables, in general, demonstrate the same hierarchy as in the case of paid workers. The examination of the contrasts reveals that the predictors are statistically significant despite the low R^2 value.

	Incorporated Self-Employed Workers			Unincorporated Self-Employed Workers		
Parameter	**Contrast, $**	**F**	**Sig.**	**Contrast, $**	**F**	**Sig.**
U.S. & Europe	-12 721,7		0,000	-11 399,3		0,000
W-C Asia & Middle East	-19 191,4		0,000	-12 810,0		0,000
S. & E. Asia	-24 011,9		0,000	-21 022,0		0,000
Africa	-15 248,3		0,001	-12 916,1		0,001
C. & L. America	-18 575,9		0,000	-13 400,3		0,000
Canada	*ref*	*32.58*	0,000	*ref*	*37.71*	0,000
University	14 713,0		0,000	15 801,7		0,000
College	2 536,6		0,177	-2 028,5		0,170
High School	*ref*	*45.06*	0,000	*ref*	*102.93*	0,000
Management	10 201,9		0,000	6 300,4		0,000
Social Sciences & Art	10 852,9		0,000	13 078,1		0,000
Applied Sciences & Health	16 325,2		0,000	28 843,1		0,000
Services & Retail	2 048,3		0,437	2 870,4		0,129
Transport & Trades	*ref*	*12.42*	0,000	*ref*	*64.01*	0,000
Montréal	-7 195,8		0,000	-12 993,4		0,000
Vancouver	-939,0		0,582	-8 944,0		0,000
Toronto	*ref*	*11.42*	0,000	*ref*	*58.75*	0,000
Female	-12 699,4		0,000	-15 502,8		0,000
Male	*ref*	*61.89*	0,000	*ref*	*168.8*	0,000

Table 3.3.6 Contrast Table for Paid Workers demonstrating significance of the differences between the reference categories' and the other categories' mean incomes.
Source: Statistics Canada, PUMF (Individuals), 2001

One of the first important features revealed by the models is that in both self-employed classes, income disparities of immigrants relative to Canadian-born workers (the referent category) are noticeably higher than was the case with paid workers. This might be the result of a greater dispersion of the earnings, a greater possibility (in comparison with paid workers) of hiding a portion of income, or sample size. The first two factors are supported by the fact that entrepreneurship is a less standardized activity and one that involves greater uncertainty. The third factor is a technical one resulting from the inequality in numbers between paid workers and self-employed workers. In other words, I have much denser data

on paid workers than on self-employed ones. On average, all immigrant groups in incorporated self-employment have higher incomes than unincorporated ones. In both cases, as with paid employment, the income hierarchy of the groups is the same as the one found in the descriptive analysis.

In terms of education, the situation is quite different for self-employed workers in comparison with paid workers. For paid workers, both college and university degrees are strong positive predictors as opposed to a high school degree, which is not. Among incorporated self-employed workers, however, a college diploma is statistically insignificant (1.4) and provides a much lower increase in income than a university degree. For unincorporated self-employed workers, this parameter is an insignificant negative predictor. The model suggests that unincorporated self-employed workers with college degrees will have lower incomes than those with just high school degrees. A university degree is a strong positive predictor in both cases, providing a similar "upgrade" in earnings (app. $15,000) to that of paid workers. Interestingly, the education variable shows a constant income gap between workers with a university degree and the others, irrespective of their choice of employment: in the mainstream workforce market, a successful entrepreneurship, or an emergency remedy.

In examining occupations, it becomes clear that in both self-employment classes – as distinct from paid workers – social sciences and applied sciences are the strongest positive contributors (4.4 – 6.0 and 7.6 – 14.6 respectively), while management loses its power. In the first case, the individuals are mainly employed in professional, scientific, and technical services. Positions in applied sciences are occupied by workers in health and social assistance services. This is the perfect domain for those immigrants who are not able to confirm their educational credentials but do not want to change their profession. This suggestion is supported by the fact that unincorporated self-employed individuals working in applied sciences, as opposed to incorporated ones and paid workers, have a much greater income raise (see Table 3.3.5). On the other hand, the services and retail parameter is a statistically insignificant positive predictor in both self-employment classes (0.8 and 1.5), though this category accommodates approximately the same share of workers as applied sciences. This suggests that distinct from the fields of applied sciences and health, those employed in services and retail have much more random levels of income.

In terms of the role of the metropolitan areas, the hierarchy (Toronto, Vancouver, and Montréal) is preserved in all three classes of workers. However, the disparities with the reference category are the highest among unincorporated self-employed workers (-$8,944 in Vancouver and -$12,993 in Montréal) and are much higher than in the case of paid workers. Remarkably, the incomes of incorporated self-employed workers who reside in Vancouver are not statistically significantly different from those in Toronto (-.05).

In terms of gender differences, female workers have the highest income differences with men among unincorporated self-employed workers (-$15,502). The gap is the smallest among paid workers (-$11,576). The regression analysis reveals that a broader involvement of women in unincorporated self-employment (relative to incorporated one) negatively affects the whole class performance.

Finally, with regards to age, it appears that self-employed workers are, on average, older than paid workers. This finding was highlighted in the descriptive analysis. However, in this case, the role of age as a predictor in all three classes of worker is different: if age of paid workers is the strongest predictor of the model (88.5), then for unincorporated self-employed it is quite strong (9.8), but not the strongest predictor, and among incorporated self-employed workers its role is modest (5.8). This means that income growth is less likely to be a function of age for self-employed workers.

Self-Employed Workers: Regression Models. Nativity & Language

In comparison with the model based on the place-of-birth variable, the coefficients of the different parameters did not change significantly (see **Table 3.3.7,** see also **Appendix 3.3.12 – 3.3.13**). As well as in the case of paid workers, the CMA variable is omitted.

The separation of French-speaking and English-speaking workers born in Canada, distinct from place-of-birth groups, led to a significant rise in the mean income for the reference group (English-speaking workers) in both classes of worker. In comparison with the paid workers' model, incorporated self-employed workers have higher incomes in the reference category while unincorporated self-employed workers have lower incomes. Foreign-born NO language speaking workers have the highest disadvantage relative to the reference category in both classes. Nevertheless, incorporated self-employed NO language speaking workers have higher mean incomes than their paid counterparts.

	Incorporated Self-Employed Workers			Unincorporated Self-Employed Workers		
Parameter	**B, $**	**t**	**Sig.**	**B, $**	**t**	**Sig.**
Intercept	*25 322,02*	*6,70*	*0,00*	*14 638,61*	*5,21*	*0,00*
FB - Non-Official	-24 480,72	-6,28	0,00	-21 346,98	-7,31	0,00
FB - English	-18 492,34	-10,58	0,00	-15 418,35	-11,05	0,00
CB - French	-6 265,83	-3,71	0,00	-10 862,20	-7,84	0,00
CB - English	*ref(53,010)*	.	.	*ref(43,362.1)*	.	.
University	14 777,84	8,43	0,00	15 809,54	10,64	0,00
College	2 910,07	1,52	0,13	-2 633,97	-1,71	0,09
High School	*ref(31,804.3)*	.	.	*ref(27,063.4)*	.	.
Management	9 519,76	4,42	0,00	5 095,87	2,71	0,01
Social Sciences & Art	10 425,11	4,14	0,00	12 724,25	7,16	0,00
Applied Sciences & Health	15 826,18	5,71	0,00	28 665,29	14,03	0,00
Services & Retail	704,46	0,25	0,80	2 203,45	1,10	0,27
Transport & Trades	*ref(30,405.1)*	.	.	*ref(21,717.4)*	.	.
Female	-12 667,03	-7,67	0,00	-15 685,95	-12,68	0,00
Male	*ref(44,033.8)*	.	.	*ref(39,298.2)*	.	.
Age (Mean Age)	415,12 (42.5)	5,59	0,00	532,44 (42.1)	9,47	0,00
Adjusted R Squared		0.13			0.20	
F		42.6			114.6	
Number of Respondents		3374			5127	

Table 3.3.7 The GLM models for Self-Employed Workers (Language at Work, Salaries & Self-Employment Income – the Dependent Variable) at 0.01 level, calculated for the mean age of 42.5 & 42.1 and the reference categories with the mean income values in the brackets.
Source: Statistics Canada, PUMF (Individuals), 2001

Finally, foreign-born English-speaking incorporated self-employed workers tend to be more prosperous than their paid unincorporated self-employed counterparts. Although the regression model supports the findings of the descriptive analysis in general, it reveals that when compared to the reference group, income differences are much higher among self-employed workers than among paid workers.

As shown in **Table 3.3.8**, all contrasts are statistically significant in both classes of worker, although in the case of unincorporated self-employed workers, the cumulative F values are slightly higher.

	Incorporated Self-Employed Workers			Unincorporated Self-Employed Workers		
Parameter	**Contrast, $**	**F**	**Sig.**	**Contrast, $**	**F**	**Sig.**
Intercept	25 322,02		0,00	14 638,61		0,00
FB - Non-Official	-24 480,72		0,00	-21 346,98		0,00
FB - English	-18 492,34		0,00	-15 418,35		0,00
CB - French	-6 265,83		0,00	-10 862,20		0,00
CB - English	Ref	45.1	0,00	ref	56.7	0,00

Table 3.3.8 Contrast Table for Paid Workers demonstrating significance of the differences between the reference category's and the other categories' mean incomes.
Source: Statistics Canada, PUMF (Individuals), 2001

Low R Squared

The regression analysis revealed that the R^2 is not high both for paid and self-employed workers. For the paid workers model, this issue was partially discussed in the beginning of the section. However, the situation with self-employment presents several new questions to consider. In both self-employment classes of worker models, the number of respondents is much smaller than for paid workers. Nevertheless, the strength of the models represented by R^2 does not increase, though the predictors are statistically significant. In general, it means that although the predictors are valid, they are not enough to explain the income variance. On the other hand, there are some other factors that might influence the parameters of the models.

One important factor to consider is residual heterogeneity within the dataset. This heterogeneity could be caused partially by grouping respondents into categories. Although great effort was made in order to reduce this heterogeneity, the employment of two-way GLM interaction models (see **Appendix 3.3.14**) demonstrates that R^2 could be increased. However, as the appendix demonstrates, the employment of an interaction model was not possible because of the insufficient number of respondents, which is reflected in the overwhelming number of statistically insignificant predictors. On the other hand, as shown in **Appendix 3.3.15**, the differences between R^2 of the model based on the aggregated education categories and R^2 based on the initial categories are not striking, taking into account the fact that 12 categories were added. Thus, the aggregation did not significantly distort the data. The mean income differences between almost every variable's category and a reference category were proven to be significant.

Another aspect that should be considered in the discussion is the fact that self-employment as an economic and social activity implies higher levels of a possible stochastic (casual) error. This activity is less regulated than paid employment and is affected by a greater number of casual factors and risks. Confidence intervals demonstrate that (see **Appendix 3.3.16**) in the case of paid employment, the interval boundaries are much closer to the mean income in a particular category than in the case of self-employment. In the first case the standard error of estimation is also smaller. It is partially a function of a higher number of respondents. I would argue, however, that it is also a function of the type of business activity.

A significant stochastic error is probably reflected in the fact that a high level of variance can be examined by including a variety of much less significant factors which influence the income of self-employed workers. For example, a restaurant opened by a Chinese male immigrant with a university education might bring lower income than that one of his less educated counterparts merely because of a poor choice of location. This suggestion is supported by the statistical significance of the predictors. In other words, major variables can provide an explanation of the main trends, while a more complete explanation will require higher levels of involvement and individualization of research.

In light of this idea, it is quite remarkable that with the exception of the work done by Frenette[159] (see Chapter 2.1, *Income*) and the above-mentioned study of Sanders and Nee[160], all other studies I examined do not directly study the relationship between income and independent variables. Studies on self-employment usually employ logistic or probit regression models to explore possibilities of becoming self-employed. At the same time, in these two works the authors also do not achieve R^2 indicators higher than 0.3, employing a similar (to this study) set of independent variables in relation to the income of self-employed workers.

Conclusion

In this chapter I examined the hypotheses put forth in the beginning of my study. The analysis demonstrated that there are significant differences in the classes of worker, as well

[159] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002.
[160] Sanders, J., Nee, V., "Limits of Ethnic Solidarity in the Enclave Economy", *American Sociological Review*, Vol. 52, No. 6, 1987

as significant differences in their economic performance. Incorporated self-employment proved more beneficial than paid employment, while unincorporated self-employment appeared less beneficial, revealing its frequent role as an emergency employment choice. Place of birth and language division demonstrated that workers born in Canada, followed by immigrants from the U.S. and Europe, tend to have the best financial performance. All other immigrant groups experienced much stronger financial disadvantages. The disadvantage is less significant in self-employment, especially for those workers who do not use one of the official languages at work. Human capital is a strong positive predictor of financial disadvantage.

The regression analysis reveals that the other strong positive contributors are management occupations and age, while female workers, workers residing in Montréal, and immigrants from South and East Asia are the strongest negative predictors. The regression analysis also demonstrated a low adjusted R^2 value, which was recognized as a sign that more precise models would require more variables with detailed specification. Nevertheless, this analysis does reveal major trends and effects imposed by the research variables on the income distribution, and is highly suggestive regarding avenues for additional inquiry.

4. General Findings

In this chapter I will summarize the main findings of my research with regards to the economic performance of entrepreneurs. In light of other studies, I will discuss my research hypotheses based on the results of both my descriptive and regression analyses of income of self-employed and paid workers in the three main metropolitan areas of Canada. The discussion will be divided into four themes: 1) class of worker effects, 2) place of birth effects, 3) human capital effects, and 4) language effects.

4.1. General Effect of Type of Work

The first objective of my thesis was to explore the impact of self-employment on income. My research hypothesis stated:

- *In general, entrepreneurs might enjoy higher incomes than paid workers.*

Throughout my theoretical and practical research I found that entrepreneurship is a complex activity that has various manifestations. Although the idea that self-employment has to be innovative still finds many supporters, more and more researchers believe that this is not necessarily the case. The unique characteristic of entrepreneurship is not its innovative component as is often presumed, but rather its social importance. Entrepreneurship is a strong social instrument for economic prosperity, as it is available to any individual regardless of his or her professional and educational experience. However, the motives behind this choice might be quite different.

On the one hand, entrepreneurship is a lifestyle choice for professionals who have decided that moving to self-employment will yield more benefits, such as relative independence and self-realization with no loss or gain in income. On the other hand, it is often used as a response to economic or social disadvantage. Ethnic entrepreneurship is a bright example of this, although it is often a solution for the mainstream population as well.

The fact that the financial performance of entrepreneurs depends significantly on the type of self-employment – incorporated or unincorporated – begs consideration as to whether or not it is possible to separate these two aspects in a practical study. Ivan Light and

Elizabeth Roach insist on differentiating those who chose self-employment "as a means of economic ascent", from "struggling people [who] are undertaking self-employment to survive hard times"[161]. The difference between incorporated and unincorporated self-employment is not just a matter of a legal formula. To a greater extent it represents the boundary beyond which a spontaneous and, perhaps, emergency decision transforms into a sustainable economic activity. Of course, it does not mean that all unincorporated small businesses are struggling, while the incorporated ones are flourishing.

Survival entrepreneurship, however, is a vital motive for those who undertake self-employment. Jones gives the definition of survival entrepreneurs as of those who selected this form of business activity in preference to low-wage employment or underemployment[162]. This definition includes two groups of entrepreneurs. Value entrepreneurs chose low return self-employment over low wage jobs motivated by non-financial reasons: women who combine homework with flexible self-employment, for example. Jones suggests that financially disadvantaged individuals undertake self-employment because of the market disadvantage which might provide them with higher returns on their human capital in self-employment[163]. Although immigrants are the most exposed to social and economic disadvantages, the mainstream population is not protected either. Self-employment becomes quite a vital instrument for both groups.

The analysis demonstrates that incorporated self-employment provides higher incomes than paid work to all groups examined in the study. This finding favors the assumption that incorporated self-employment is a more established and professional type of entrepreneurship, one which combines paid employment dedication with higher levels of flexibility. On the other hand, unincorporated self-employment, in general, provides lower income. As such, this part of the analysis partially supports the hypothesis that self-employed workers generally enjoy higher incomes than their paid counterparts. This result also tends to support the suggestion that while unincorporated self-employment might be, first of all, an emergency choice or a temporary solution; incorporated self-employment is a more successful business activity.

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[161] Ibid., p.194.
[162] Light, I., Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter's, 1995, p.205.
[163] Jones, Y., "Street Peddlers as Entrepreneurs: An Economic Adaptation to an Urban Area." *Urban Anthropology* #17, 1988, pp. 143-170.

4.2. Effect of Place of Birth

The type of business is not the only factor that influences self-employed individuals' income. Based on the findings presented in Chapter 1 and Chapter 2, I have looked at the effects of place of birth. My research hypothesis was:

- Individuals of different ethnic backgrounds will have different levels of income. Those who are culturally closer to the mainstream (host) population might enjoy higher incomes than the other immigrants. At the same time, mainstream population individuals will have the highest incomes.

A number of studies demonstrate that foreign-born workers are usually more entrepreneurial than native-born ones[164]. In addition, certain researchers found that several ethnic minorities have rates of entrepreneurship appreciably higher than the foreign-born in general[165]. Cultural theory explains these disproportions by the fact that the international relocation of cultural traditions allows the groups that were entrepreneurial in their native countries to remain entrepreneurial in their new environment[166]. The literature also insists on the differences in the propensity of individuals from different ethnic minorities to form communities. Some communities are highly organized and hold many functions of mainstream social and financial institutions. They can be recognized by mainstream society and in this case can be economically very active. However, even if they are not fully recognized they still offer an inside market for co-ethnic inhabitants, both employers and employees. As discussed in Chapter 1, cultural, racial, linguistic, and religious differences as well as political issues can seriously affect the performance of ethnic communities.

The descriptive analysis favors the suggestion of a cultural proximity influence, demonstrating that the income hierarchy headed by Canadian-born workers is followed with a minimal gap by immigrants from the US & Europe, Africa, West, Central Asia & Middle East, Central & Latin America, and Southern & Eastern Asia. At the same time, no clear

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[164] Langlois.A., Razin E., "Self-Employment among Ethnic Minorities in Canadian Metropolitan Areas.", *Canadian Journal of Regional Science*, #XII:3, 1989.

[165] Langlois.A., Razin E., "Self-Employment among Ethnic Minorities in Canadian Metropolitan Areas.", *Canadian Journal of Regional Science*, #XII:3, 1989.

[166] Light, I., Rosenstein, C., *Race, Ethnicity, and Entrepreneurship in Urban America*, New York: Aldine de Gruyter's, 1995, p.18.

connection between income levels and period of arrival was found. It does suggest that cultural similarities might play a significant role in economic integration.

In the regression analysis, the final model reveals that all of the place-of-birth groups (except those born in Canada, which is the reference category) are negative contributors. Immigrants from Africa, Middle East, and South & East Asia are the most disadvantaged, while immigrants from the US & Europe are the least disadvantaged. This confirms the result demonstrated in the descriptive analysis. The most disadvantaged categories are also the strongest predictors in the place-of-birth group of predictors. That is to say, their financial disadvantage plays a significant role in the total income variation.

The role of a location was an important issue in my study. Minority ethnic communities, most of which were built through immigration, tend to concentrate in large metropolitan areas. Immigrants of various ethnic backgrounds are attracted to large metropolitan areas due to not only strong economic possibilities, but also the higher social tolerance of mainstream inhabitants. In other words, in Canada, the role of Toronto, Vancouver, and Montréal is essential in the study of ethnic entrepreneurship. The three cities are major recipients of immigrants in Canada both in terms of the numbers of newcomers as well as their shares in the cities' population.

The results of the financial performance of the immigrants have been also controversial. Since the beginning of the 1980s Vancouver has been influenced by the business immigration program which results are controversial. Toronto is more lucrative for "skilled worker" immigrants who demonstrate firm positive financial results. Montréal has accepted the least number of immigrants among all three CMAs which is, partially, a result of a worse socio-economic environment.

Both the descriptive and the regression analyses reveal that Toronto provides the best financial performance to all place-of-birth groups. Montréal, conversely, shows the "worst" result. Its role, however, is not that robust, as the city demonstrates a lower cost of living when compared to Toronto and Vancouver.

4.3. Effect of Human Capital

As discussed in Chapter 1, an individual's level of education and, to a certain extent, his or her occupational choice is the expression of human capital. Based on these ideas, the third hypothesis states:

-Both paid and self-employed workers with higher levels of human capital enjoy higher incomes. Among immigrants, paid workers tend to concentrate in blue-collar positions and have lower incomes. Self-employed immigrants are less concentrated in blue-collar positions and have higher incomes than their paid counterparts.

Human capital is defined as "the knowledge, skills, competences and other attributes embodied in individuals that are relevant to economic activity"[167]. This concept is rigorously employed by researchers who study the impact of knowledge, skills, and life experience of individuals upon their economic performance. As for self-employment, there is "much evidence which shows that among all ethno-racial groups and categories, human capital increases rates of entrepreneurship"[168]. In this sense, the notion of human capital is the most important of all forms of capital. As discussed above, human capital can be interpreted as a professional personal experience that can influence an individual's productivity. Statistics, as well as a considerable number of studies, usually work with two major indicators of human capital: the highest level of schooling and an individual's occupation or industry. Although both of these indicators refer to human capital, education is more often used as a direct parameter in studies on income, while occupational status is more interesting in terms of the individuals' choices in connection with their education.

As discussed in Chapter 2, certain studies reveal that better educated immigrants receive higher incomes. Other studies also reveal that the odds of immigrants to lean toward self-employment are higher if they have a higher degree of education. This suggests that higher expectations among better educated immigrants could also influence this prominence because they prefer more prestigious self-employment to the employment offered by the low-wage general labour market.

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[167] OECD, "Human Capital Investment: An international Comparison.", *Organization for Economic Cooperation and Development*, Paris, 1998, p.9.

[168] Light, I., Rosenstein, C., "Bates, Race, Self-Employment, and Upward Mobility.", *Ethnicity and Entrepreneurship*, #30, pp.130-131.

Some studies on occupations and industries demonstrate that recent immigrants tend to concentrate in manufacturing and service industries, although with time this concentration becomes less distinct[169]. Nevertheless, this reveals that immigrants and individuals born in the country demonstrate noticeably different occupation patterns.

The descriptive analysis shows that in the case of paid employment and incorporated self-employment, a higher level of education means a higher individuals' income. In unincorporated self-employment this pattern is not clear. The finding supports the suggestion that that human capital shows positive correlation with income. However, no pattern in unincorporated self-employment supports the idea that it is a less standardized type of economic activity which has an emergency or an experimental ground.

Another interesting finding is that immigrants tend to be very well educated individuals in all three classes of worker. This suggests that income disparities between them and the mainstream workers cannot be explained by low levels of human capital. In light of this finding, an examination of occupation choices becomes very relevant. The analysis demonstrates that among paid workers, immigrants tend to concentrate in lower-paying blue-collar positions. In self-employment they are more dispersed, as a significant number of them are managers, although the majority of immigrants are managers in blue-collar industries. Taking into account the fact that the dataset includes only full-time workers who immigrated to Canada often through skilled worker and business immigration programs, it becomes evident that immigrants cannot always find a job which matches their human capital and lets them compete with the workers born in Canada. Simultaneously, within each place-of-birth group the influence of human capital is much more noticeable.

Aside from more detailed grouping, my study demonstrates that there is a noticeable gap in incomes between two blocks of workers – those born in Canada and those born abroad. At the same time, it does not show a visible gap between the educational backgrounds of the groups. In other words, the descriptive analysis nurtures some hesitation about the strong positive role of human capital in socio-economic mobility. The regression analysis, however, sheds a different light on the effect of education, showing that college and, especially, university degrees are, generally, strong positive predictors in all classes of worker. These somewhat contradictory findings are very likely a result of an overwhelming

[169] Frenette, M., *Do the Falling Earnings of Immigrants Apply to Self-Employed Immigrants?*, Statistics Canada, 2002, p.9.

presence of the Canadian-born workers in the dataset and of the noticeable influence of human capital within each place-of-birth group among immigrants.

4.4. Effect of Language

My fourth and fifth hypotheses relate to the effect of language on the economic performance of entrepreneurs. The issue of language use in the workplace was my focus as a vital part of the economic integration of immigrants. The Canadian situation pertaining to language suggests that:

- The knowledge of at least one of the official languages among immigrants significantly improves their economic performance. At the same time, those who do not know any of the official languages will have better performance if they are self-employed.

- French-speaking workers both paid and self-employed have lower incomes than their English-speaking counterparts.

Language presents one of the main cultural barriers towards integration into a new society. And in Canada this issue is very important for two main reasons. First of all, the mainstream population is divided into English and French speaking groups. While Toronto and Vancouver host mainly English-speaking Canadians, Montréal is a unique example of the bilingualism of the mainstream population with an overwhelming domination of French language. Secondly, the increasing number of immigrants brings up the issue of a rising presence of non-official languages at home and at work.

The descriptive analysis shows that Canadian-born workers who speak English at work are the most prosperous: they are least represented in the lower income group and the most in upper-average and higher income groups. They are followed by Canadian-born French speaking workers, who are not as well represented in the higher income group. Foreign-born English speaking, followed by foreign-born NO language at work individuals, are the most disadvantaged.

The significant number of immigrants who do not abandon their native languages even at their workplace is an interesting issue. Certain studies, like that one of Walton-Roberts and

Hiebert[170], demonstrate that enclave economies provide an isolated linguistic environment. My research suggests that these individuals are an "isolated workforce", either within certain industries or within ethnic communities. The key-features of this group of respondents are: 1) very low levels of education, 2) predominant propensity toward blue-collar positions in paid workforce and managerial positions in blue-collar industries in self-employment, 3) higher propensity to self-employment, and 4) the lowest incomes, although those of them who are entrepreneurs tend to have higher (than their paid counterparts) incomes even in unincorporated self-employment. This finding is revealed both by descriptive (at mean and median levels for incorporated workers and mean level for unincorporated ones) and regression analyses.

Foreign-born workers who speak English at work are in quite a different situation. Although they are significantly disadvantaged in comparison with Canadian-born workers, according to both the descriptive and the regression analyses, they have higher incomes than workers who use neither English nor French language at work, and are less likely to be entrepreneurs. This might be further evidence that self-employment is more or less an emergency solution for immigrants. In other words, a comparison of the immigrant groups lends weight to certain key suggestions. Namely, the knowledge of at least one of the official languages has a significant positive influence on financial performance, while self-employment might provide a better possibility for those who use other languages at work.

The French language factor brings another important issue. As discussed in Chapter 1, certain studies demonstrate that French Canadians tended to have lower socio-economic status than Anglophones. This was a result of their lower education and tendency to gravitate towards blue-collar positions. The descriptive and the regression analyses partially support these features. It reveals that French-speaking individuals have an occupational pattern very close to that one of English-speaking workers. At the same time, as outlined in Chapter 1, they still have lower levels of education. Both the descriptive and the regression analyses show that French-speaking workers have lower incomes than English-speaking workers born in Canada. This result, however, should be treated very carefully, as almost all of the French-speaking workers live in Montréal, so this apparent effect of language could in fact be an

[170] Walton-Roberts, M., Hiebert, D., "Immigration, entrepreneurship, and the family: Indo-Canadian enterprise in the construction industry of Greater Vancouver", *Canadian Journal of Regional Science*, 20:119-40, 1997.

effect of location. In other words, although the final hypothesis shall not be dismissed, it has to be discussed with much care.

Conclusion

Entrepreneurship is a very interesting aspect of the social and economic life of a society because it combines a desired independence with possible economic prosperity. Such an attitude towards entrepreneurship has been cultivated for decades, if not for centuries. The attitude has not changed much to the present day, although self-employment as an activity has gone through a number of serious changes. The share of small businesses (as the most popular form of self-employment) in economic life has significantly decreased since the mid 19th century in North America and Canada, in particular. Nevertheless, the second part of the 20th century demonstrated that some small businesses managed to stay extremely innovative and became more powerful because of easier access to local and international markets. Entrepreneurs occupied the niches left by bigger companies and specific niches providing exclusive products and services.

One of the major reasons why entrepreneurship has attracted research interest is its social dimensions. It became popular as a supplementary or emergency income source for the mainstream population as well as immigrants and ethnic communities. For the latter, entrepreneurship became both the way to gain new social capital through employing their human capital and, in certain cases, preserving their ethnic identity. Ethnic entrepreneurs became an important part of the urban landscape, attracted as they were by better economic possibilities. They increased social and economic (products and services) diversity in cities, thus becoming an important factor of business activity relocation. In other words, entrepreneurs have helped to change the geography of economic activity in North America.

In Canada, the role of self-employment is very interesting due to the growing numbers of immigrants and the linguistic diversification of Canadian society. My objective was to examine how self-employment could possibly help ethnic minorities and different language holders to perform in the economy of the country. Basically, I tried to explore whether self-employed workers tend to have higher incomes than their paid counterparts; whether ethnic minorities are more disadvantaged than the native population in paid positions and more prosperous in self-employment; whether those who have higher levels of human capital have higher incomes; and how the use of different languages affects economic performance.

My analysis demonstrated that incorporated self-employed workers do tend to be more prosperous than paid workers among all place-of-birth groups. The analysis also showed that all immigrant groups tend to be more financially disadvantaged than Canadian-born workers. However, the immigrants from the US and Europe experienced the smallest gap with the incomes of the Canadian-born workers. Both the descriptive and the regression analyses demonstrated that education is a very strong contributor to the financial prosperity among all place-of-birth groups in all classes of worker. The descriptive analysis demonstrated that immigrants tend to be more skewed to blue-collar occupations if they are paid workers. It also highlighted the fact that blue-collar workers tend to have the lowest incomes. The regression analysis confirmed this result. Finally, I suggested that the knowledge of at least one of the official languages would contribute to economic prosperity while those who do not use any of the official languages at work would be less disadvantaged in self-employment. This suggestion was supported by the analyses.

The contribution of this project to research about self-employment is stipulated by the following factors. In this research I examined the differences not just between paid and self-employed workers but also between two classes of self-employed workers. The findings confirmed that there is a significant income differences between these two classes in Canada. Secondly, in this work I had the opportunity to employ both place of birth and nativity and language factors of social division. This is especially important in Canada, which is diverse both linguistically and ethnically. Thirdly, the last Canadian Census for the first time in its history provided the opportunity to compare the impacts of language at home and at work on the financial performance of an individual. The findings also demonstrated that the division of language at work is not irrelevant for understanding the economic performance of workers, both self-employed and paid.

The study was limited to the three main metropolitan areas of Canada. Although attention was paid to differences between those three cities, the study did not go very far in the analysis of the effect of geography on the income of entrepreneurs. Further research could both develop this aspect of the study as well as explore the income disparities among paid workers and self-employed workers in different groups of metropolitan areas. However, in this case the research would probably be limited to the workers born in Canada, because the three chosen metropolitan areas are the major destinations for immigrants. Another

possible way to continue this study for selected groups of self-employed individuals would be to examine if their economic prosperity and forms of activity reflect the socio-economic characteristics of a metropolitan area. Finally, as it was discussed in the paper, self-employed workers, especially those who are immigrants, tend to work through social networks. Thus, it would be interesting to examine how these networks influence their financial performance, as well as how they are influenced by location and demographic characteristics of the participants.

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APPENDIXES

(Chapter 2)

Appendix 2.2.1[171] *The Longitudinal Immigration Database (IMDB) Variables*

Field	Name	Describe	Source	Line	Comments
B	SERIAL	IMM1000 serial number	LIDS		Scrambled - retains linkage capability
B	LAND_DT	Date of landing	LIDS	45	
F	LNDYR	Year of landing	LIDS	45	
B	DOB	Date of birth	LIDS	5	
F	LNDAGE1	Age in years at landing	DER		Derived from DOB (LYR-YOB)
F	SEX	Gender	LIDS	8	
B	M_STAT	Marital status	LIDS	9	Married, single, etc
F	F_STAT	Family status	LIDS	14	Principal applicant, spouse, dependant
F	CLASS	Immigrant class	DER		
F	CATEG	Immigrant category	LIDS	19	58 categories including Old Act
F	MAST_CAT	Master list of categories	DER		Finest level of detail (141 categories)
F	IMCAT	Basic categories	DER		Standardized groupings (15)
F	FCLPR	Country of last permanent res.	LIDS	25	With U.K. combined as one country
B	COB	Country of birth	LIDS	7	
B	CITZ	Country of citizenship	LIDS	10	
B	NAT_LANG	Native language	LIDS	17	
F	POST	Post (office) of issue	LIDS	34	Processed abroad or inland
F	PROV	Province of destination	DER		
B	DEST	City of destination	LIDS	15	
F	SPEC_P	Special program	LIDS	20	
F	EMP_STAT	Employment status	LIDS	23	
F	CAN_LANG	Canadian language ability	LIDS	24	
B	ED_QUA	Educational Qualifications	LIDS	21	
B	SCH_YR	Years of schooling	LIDS	22	
F	FEDUC	Level of education	DER		From ED_QUA & SCH_YR
F	OCC7	Intended occupation	LIDS	16	Seven digit CCDO codes
F	FLPRA	Principal applicant flag	DER		Principal applicant or no
F	FLLCP	Live-in-caregiver flag	DER		Live-in-caregiver or no
F	FLADR	Administrative Review flag	DER		Processed under Administrative Review
F	FLBLG	Backlog clearance flag	DER		Processed under Backlog Clearance Program
F	FLSEL	Selected immigrant flag	DER		Confirmed as selected - Economic stream
F	TYEAR	Year of filing	DNR	002	
F	TAXAGE	Age in tax year	DER		TYEAR - LNDYR
F	RESPROV	Province of residence - Dec 31	DNR	012	
B	TIPS	Other employment income	DNR	104	
B	T4EARNS	Total earnings from T4	DNR	101	
F	EMPEARN	Employmnent earnings	DER		T4EARNS+TIPS
B	DIVINC	Dividends	DNR	120	
B	INVEST	Interest income	DNR	121	
B	CALCAPG	Total net capital gain	DNR	127	
F	INVINC	Investment income	DER		DIVINC+INVEST+CALCAPG
F	BUSNET	Net business income	DNR	135	
F	PROFNET	Net professional income	DNR	137	
F	COMNET	Net commission income	DNR	139	
F	FARMNET	Net farming income	DNR	141	
F	FISHNET	Net fishing income	DNR	143	
F	LPARTINC	Limited partnership income	DNR	122	
F	SELFEMP	Self employed income	DER		BUSNET+PROFNET+COMNET+FARMNET+FISHNET+LPARTINC
F	UICBEN	Employment insurance benefits	DNR	119	
F	WELFBEN	Welfare benefits	DNR	145	
B	RENTGROS	Gross rental income	DNR	160	
F	RENTNET	Net rental income	DNR	126	
F	TOTINC	Total Income	DNR	150	To be recalculated sa ALLINC

[171]Citizenship and Immigration Canada, "*The Longitudinal Immigration Database (IMDB). An Introduction*", 1997.

F	FEDSH	Total federal tax	DNR	420	
B	BUSGROS	Gross business income	DNR	162	
B	PROFGRO	Gross professional income	DNR	164	
B	COMGROS	Gross commission income	DNR	166	
B	FARMGROS	Gross farming income	DNR	168	
B	FISHGROS	Gross fishing income	DNR	170	
F	ERNFL	Employment earnings flag	DER		EMPEARN > 2
F	SELFL	Self-employed income flag	DER		BUSGROS+PROFGROS+COMGROS+FARMGROS+FISHGROS>0 or SELFEMP <> 0
F	INVFL	Investment income flag	DER		INVINC > 2
F	UICFL	Employment benefit flag	DER		UICBEN > 2
F	WELFL	Welfare benefit flag	DER		WELFBEN > 2
F	RNTFL	Rental income flag	DER		RENTGROS > 2
F	TCRFL	Tax credit flag	DER		ERNFL=1 or SELFL=1 or INVFL=1 or RNTFL=1
F	AGRP	Custom groupings - age	WRK		
F	CDIM1	Custom groupings	WRK		
F	CDIM2	Custom groupings	WRK		
F	PDIM3	Custom groupings	WRK		
F	PDIM4	Custom groupings	WRK		

Source: LIDS means Landed Immigrant Data System; DNR means Taxation File; DER means derived or calculated;

WRK: work field for custom groupings;

LINE: For data elements drawn from the Landing Record, this is the box number shown on the document. For data elements drawn from the Tax Record, this is the line number of the item on the 1995 tax return.

Appendix 2.2.2 2001 *Canadian Census Variables Description*

Field	Size	Position	Type	Mnemonic	Title
1	2	1-2	N	PROVP	Province or territory
2	3	3-5	N	CMAP	Census metropolitan area (CMA)
3	2	6-7	N	HHSTATP	Relationship to household reference person (Person 1)
4	1	8	N	NUHMAINP	Number of household maintainers
5	1	9	N	PRMAINP	Primary household maintainer indicator
6	1	10	N	HHCLASSP	Household classification
7	2	11-12	N	HTYPEP	Household type
8	1	13	N	UNITSP	Household size
9	2	14-15	N	ROOMP	Number of rooms
10	1	16	N	CONDWELP	Condition of dwelling
11	6	17-22	N	VALUEP	Value of dwelling
12	1	23	N	TENURP	Tenure
13	1	24	N	RCONDP	Tenure . condominium
14	4	25-28	N	OMPP	Owner.s major payments (monthly)
15	4	29-32	N	GROSRTP	Monthly gross rent
16	1	33	N	EFSTATP	Economic family status
17	1	34	N	EFSIZEP	Number of persons in the economic family
18	2	35-36	N	CFSTATP	Census family status
19	1	37	N	CFSIZEP	Number of persons in the census family
20	1	38	N	PRESCP	Presence and combination of children at home in the census family
21	2	39-40	N	AGEP	Age
22	1	41	N	SEXP	Sex
23	1	42	N	MARSTLP	Legal marital status
24	1	43	N	MARSTHP	Historical comparability indicator of marital status
25	2	44-45	N	POBP	Place of birth
26	2	46-47	N	POBPA	Place of birth
27	1	48-48	N	POBMTHRP	Place of birth of mother
28	1	49-49	N	POBFTHRP	Place of birth of father
29	1	50	N	GENSTPOB	Generation status
30	1	51	N	CITOTHP	Citizenship other than Canadian
31	2	52-53	N	CITOTHPA	Citizenship other than Canadian
32	1	54	N	CITIZENP	Citizenship
33	1	55	N	IMMPOPP	Immigrant status indicator

34	1	56	N	YRIMMIG	Year of immigration
35	2	57-58	N	YRIMMIGA	Year of immigration
36	2	59-60	N	IMMIAGEP	Age at immigration
37	1	61	N	VISMINP	Visible minority indicator
38	1	62	N	ABSRP	Aboriginal identity
39	1	63	N	REGINP	Registered or treaty Indian indicator
40	1	64	N	BNFNMEMP	Member of an Indian band or first nation
41	2	65-66	N	ETHNICR	Ethnic origin
42	2	67-68	N	ETHNICRA	Ethnic origin
43	1	69	N	ABETHNCP	Aboriginal ethnic category
44	1	70	N	AFETHNCP	African ethnic category
45	1	71	N	BAETHNCP	Balkan ethnic category
46	1	72	N	CAETHNCP	Canadian ethnic origin
47	1	73	N	CHETHNCP	Chinese ethnic origin
48	1	74	N	CRETHNCP	Caribbean ethnic category
49	1	75	N	DUETHNCP	Dutch (Netherlands) ethnic origin
50	1	76	N	FIETHNCP	Filipino ethnic origin
51	1	77	N	GEETHNCP	German ethnic origin
52	1	78	N	GRETHNCP	Greek ethnic origin
53	1	79	N	HUETHNCP	Hungarian (Magyar) ethnic origin
54	1	80	N	ITETHNCP	Italian ethnic origin
55	1	81	N	JEETHNCP	Jewish ethnic origin
56	1	82	N	LBETHNCP	Lebanese ethnic origin
57	1	83	N	LCETHNCP	Latin, Central and South American ethnic category
58	1	84	N	POETHNCP	Polish ethnic origin
59	1	85	N	PRETHNCP	Portuguese ethnic origin
60	1	86	N	SOETHNCP	South Asian ethnic category
61	1	87	N	SPETHNCP	Spanish ethnic origin
62	1	88	N	UKETHNCP	Ukrainian ethnic origin
63	1	89	N	VIETHNCP	Vietnamese ethnic origin
64	1	90	N	WAETHNCP	West Asian ethnic category
65	1	91	N	RELIGRP	Religion group
66	2	92-93	N	RELIGRPA	Religion group
67	1	94	N	OLNP	Knowledge of official languages
68	1	95	N	MTNP	Mother tongue
69	2	96-97	N	MTNPA	Mother tongue
70	1	98	N	HLNP	Home language

71	2	99-100	N	HLNPA	Home language
72	1	101	N	FOLP	First official language spoken
73	1	102	N	NOLP	Knowledge of non-official languages
74	1	103	N	NOLABOP	Knowledge of an Aboriginal language
75	1	104	N	NOLARAP	Knowledge of Arabic language
76	1	105	N	NOLCHIP	Knowledge of Chinese language
77	1	106	N	NOLGERP	Knowledge of German language
78	1	107	N	NOLGREP	Knowledge of Greek language
79	1	108	N	NOLIRAP	Knowledge of other Indo-Iranian languages
80	1	109	N	NOLITAP	Knowledge of Italian language
81	1	110	N	NOLNETP	Knowledge of Netherlandic languages
82	1	111	N	NOLPOLP	Knowledge of Polish language
83	1	112	N	NOLPORP	Knowledge of Portuguese language
84	1	113	N	NOLPUNP	Knowledge of Punjabi language
85	1	114	N	NOLSPAP	Knowledge of Spanish language
86	1	115	N	NOLUKRP	Knowledge of Ukrainian language
87	1	116	N	NOLVIEP	Knowledge of Austro-Asiatic languages
88	1	117	N	WLNAP	Language used most often at work
89	1	118	N	WLNBP	Other languages frequently used at work
90	1	119	N	SCHATTP	School attendance
91	1	120	N	HGRADP	Highest grade of elementary or secondary schooling
92	1	121	N	SECGRADP	Secondary (high) school graduation certificate
93	2	122-123	N	HLOSP	Highest level of schooling
94	1	124	N	TRNUCP	Trades and college certificates or diplomas
95	2	125-126	N	DGREEP	Highest degree, certificate or diploma
96	2	127-128	N	DGMFSP	Major field of study
97	1	129	N	PSUVP	Years of university
98	1	130	N	PSOTP	Years of college education
99	2	131-132	N	TOTSCHP	Total years of schooling
100	1	133	N	MOB5P	Mobility status . place of residence 5 years ago
101	1	134	N	MOB1P	Mobility status . place of residence 1 year ago
102	2	135-136	N	PROV5P	Province or territory of residence 5 years ago
103	2	137-138	N	PROV1P	Province or territory of residence 1 year ago
104	1	139	N	POWP	Place of work status

105	1	140	N	DISTP	Commuting distance
106	1	141	N	MODEP	Mode of transportation
107	2	142-143	N	LFACTP	Labour force activity (in reference week)
108	1	144	N	COWP	Class of worker
109	1	145	N	FPTWKP	Full-time or part-time weeks worked in 2000
110	3	146-148	N	HRSWKP	Hours worked for pay or in self-employment (in reference week)
111	1	149	N	LSTWKP	When last worked for pay or in self-employment
112	2	150-151	N	WKSWKP	Weeks worked in 2000
113	2	152-153	N	NOCHRDP	Occupation (Employment Equity designations . based on the National Occupational Classification)
114	2	154-155	N	NOCS01P	Occupation (based on the 2001 National Occupational Classification for Statistics [NOC.S 2001])
115	2	156-157	N	IND80P	Industry (based on the 1980 Standard Industrial Classification [SIC])
116	2	158-159	N	NAICSP	Industry (based on the 1997 North American Industry Classification System [NAICS])
117	1	160	N	UPHWKP	Unpaid work: hours spent doing unpaid housework
118	1	161	N	UPKIDP	Unpaid work: hours spent looking after children, without pay
119	1	162	N	UPSRP	Unpaid work: hours spent providing unpaid care or assistance to seniors
120	2	163-164	N	HHINCP	Total household income groups
121	2	165-166	N	HHINCPA	Total household income groups
122	2	167-168	N	CFINCP	Total census family income groups
123	2	169-170	N	CFINCPA	Total census family income groups
124	1	171	N	MSCFINCP	Major source of census family income
125	7	172-178	N	TOTINCP	Total income
126	7	179-185	N	WAGESP	Wages and salaries
127	7	186-192	N	SELFIP	Self-employment income
128	7	193-199	N	CHDBNP	Canada child tax benefit
129	7	200-206	N	OASGIP	Old age security pension and guaranteed income supplement
130	7	207-213	N	CQPPBP	Canada or Québec pension plan benefits
131	7	214-220	N	UICBNP	Employment insurance benefits
132	7	221-227	N	GOVTIP	Other income from government sources
133	7	228-234	N	TGOVTP	Total government transfer payments
134	7	235-241	N	INVSTP	Investment income

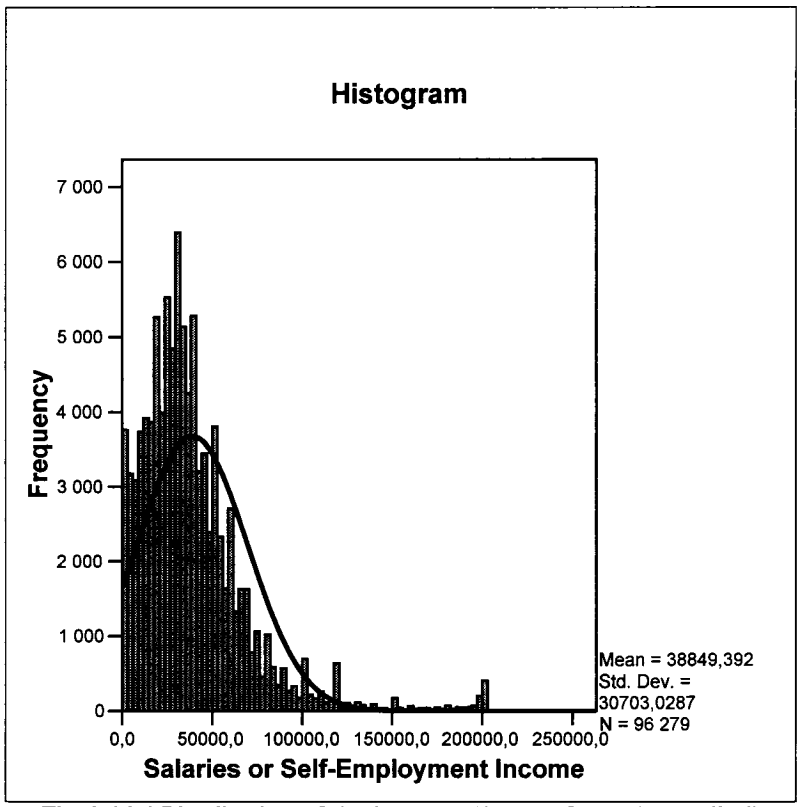
135	7	242-248	N	RETIRP	Retirement pensions, superannuation and annuities, including RRSPs and RRIFs
136	7	249-255	N	OTINCP	Other money income
137	1	256	N	INCSTP	Income status (2000 low income cut-offs)
138	9	257-265	F	WEIGHTP	Individuals weighting factor

Appendix 2.2.3 Classification Table for Canadian CMAs. "*" – Marked CMAs were excluded from the standardized score as obvious over-influential points. They constitute the first group. The table includes the data on all immigrants of the database. *Source: 2001 Census Data*

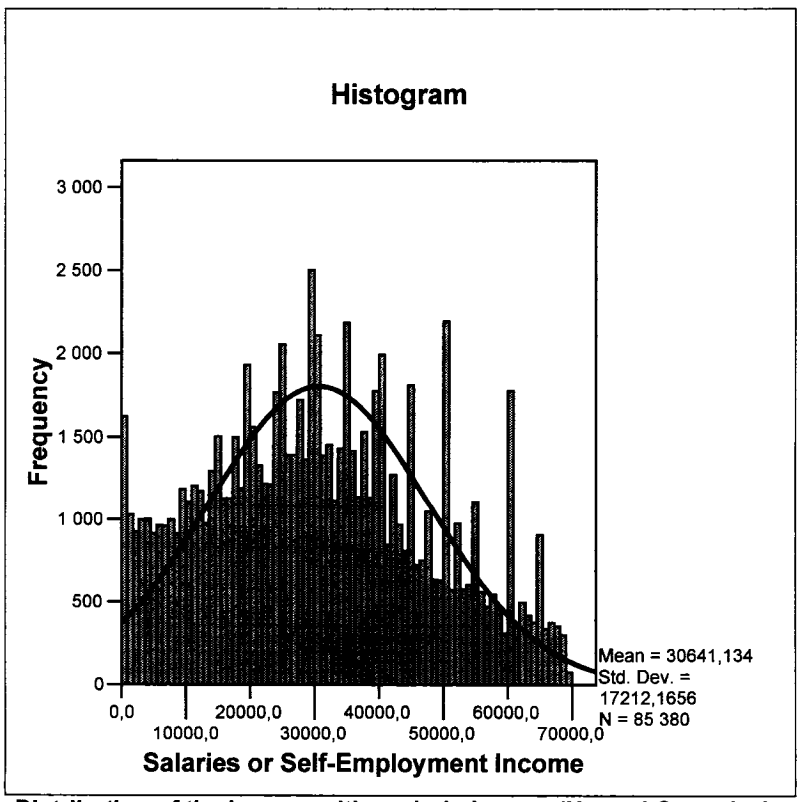
CMA	CMA Population (x1000, 2001)	Total Number of Respondents	Share of each CMA in Immigrants, %	Distribution of Immigrants among CMA, %	2001 Census Immigrants	Immigrants from (distribution among CMAs, %)					Share of each CMA in Im-migrants, zScore	Dis-tribution of Immigrants among CMA, zScore	2001 Census Im-migrants, zScore	Average zScore
						The United States and Europe	West Central Asia & Middle East	Southern and Eastern Asia	Africa	Central and Latin America				
Toronto*	4648,0	44631	44,9	47,8	16639	41,8	44,0	51,1	40,4	56,6	.	.	.	9999
Montréal*	3380,6	34305	12,1	18,6	4001	12,4	22,7	6,5	25,5	19,9	.	.	.	9999
Vancouver*	1967,5	18524	15,2	38,6	5259	10,9	9,4	22,1	8,6	4,6	.	.	.	9999
Total	*9996,1*				*25899*	*65,1*	*76,1*	*79,7*	*74,5*	*81,1*				
Calgary	943,3	11092	4,7	22,3	1630	5,4	4,0	5,0	5,1	2,9	2,09038	1,02977	2,23677	1,8
Ottawa - Hull	1050,8	11609	4	18,4	1357	4,7	7,5	3,1	7,4	3,6	1,59749	0,46955	1,68174	1,3
Edmonton	927,0	10098	3,8	19,3	1251	4,2	2,4	4,0	3,5	2,2	1,45666	0,59883	1,46623	1,2
Hamilton	655,1	6093	2,9	23,2	747	4,2	1,8	1,3	1,4	1,9	0,82295	1,15906	0,44156	0,8
Winnipeg	661,7	7055	2,3	17,1	758	2,3	0,4	2,7	1,9	2,0	0,40047	0,28281	0,46392	0,4
Kitchener	409,8	4306	1,9	22,8	577	3,2	1,5	0,9	1,0	1,7	0,11882	1,1016	0,09594	0,4
London	422,2	4063	1,6	18,7	392	2,3	1,6	0,5	0,8	1,2	-0,09242	0,51264	-0,28018	0,0
Windsor	305,0	2985	1,3	21,7	397	1,9	2,8	0,7	0,9	0,6	-0,30366	0,94358	-0,27002	0,1
Total	*5374,9*				*7109*	*28,3*	*22,1*	*18,3*	*21,9*	*16,1*				
St. Cath/Niagara	371,4	3391	1,1	16,3	228	1,6	0,4	0,3	0,6	0,5	-0,44448	0,16789	-0,61361	-0,3
Victoria	307,0	2868	1	17	217	1,3	0,1	0,6	0,4	0,3	-0,51489	0,26844	-0,63597	-0,3
Oshawa	293,6	2989	0,9	16	194	1,1	0,4	0,3	0,3	0,7	-0,58531	0,12479	-0,68274	-0,4
Regina/Saskatoon	190/222,6	4334	0,7	8,1	188	0,8	0,6	0,5	0,7	0,4	-0,72613	-1,01002	-0,69493	-0,8
Halifax	356,0	4170	0,5	7,5	287	N/D	N/D	N/D	N/D	N/D	-0,86696	-1,09621	-0,49366	-0,8
Sudbury/Thunder Bay	153,8/120,3	2551	0,4	7,8	68	0,4	0,0	0,1	0,2	0,2	-0,93737	-1,05312	-0,9389	-1,0
Québec	673,1	7530	0,4	2,9	136	1,1	0,0	0,1	0,9	0,5	-0,93737	-1,75699	-0,80065	-1,2
Sherbr/Trois-Riviere	134,6	2845	0,2	3	50	0,3	0,1	0,0	0,4	0,2	-1,0782	-1,74262	-0,9755	-1,3
Total	*2821,2*				*1368*	*6,6*	*1,8*	*2,0*	*3,6*	*2,8*				

N/D means that the number of respondents is so small that Statistics Canada does not reveal it at this level.

Appendix 2.2.4 *Distribution of Salaries and Self-Employment Income. Source: Statistics Canada, PUMF (Individuals), 2001.*



The Initial Distribution of the Income (Normal Curve is Applied)



The Distribution of the Income with excluded cases (Normal Curve is Applied)

Appendix 2.2.5 *Place of Birth vs. Class of Worker: Individuals (for 3 major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

Place of Birth	Class of Worker					Total
	Pd & unpd fam worker	SE Inc:no pd help	SE Inc:w/pd help	SE Uninc:no pd help	SE Uninc:w/pd help	
NF and Labrador	848	7	9	25	9	898
Nova Scotia	730	11	8	43	8	800
New Brunswick	682	12	10	32	12	748
Québec	28250	456	741	1148	509	31104
Ontario	22268	351	569	983	505	24676
Manitoba	972	20	46	56	27	1121
Saskatchewan	728	22	42	55	25	872
Alberta	1304	29	43	76	34	1486
British Columbia	7499	115	217	329	165	8325
Other prov/terr	142	0	3	8	6	159
United States	469	10	13	23	18	533
United Kingdom	742	18	13	51	25	849
Germany	153	5	8	13	4	183
Italy	121	5	7	11	7	151
Netherlands	34	3	2	3	1	43
Poland	872	14	23	53	44	1006
Portugal	495	7	12	12	15	541
France	365	9	11	20	5	410
Greece	69	3	3	3	5	83
USSR, former	553	18	22	45	36	674
Yugoslavia, former	430	5	11	23	11	480
Other Europe	890	29	24	44	38	1025
W-C Asia/Middle-E	1356	53	64	114	58	1645
India	2281	41	50	73	35	2480
Other Southern Asia	1554	12	28	48	33	1675
People Rep of China	2005	23	66	86	52	2232
Hong Kong	1535	30	57	71	48	1741
Philippines	2011	7	14	18	19	2069
Viet Nam	1069	7	18	25	24	1143
Other E/S-E Asia	1190	28	76	89	84	1467
Eastern Africa	545	11	26	23	11	616
Other Africa	1069	19	29	49	19	1185
C & S America	3617	35	46	118	43	3859
Total	86848	1415	2311	3770	1935	96279

Appendix 2.2.6 *Place of Birth vs. Class of Worker: Individuals (for 3 major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

PLACE OF BIRTH-REGIONS AND COUNTRIES	Class of Worker			Total
	Paid Workers	Self-Employed Incorporated	Self-Employed Unincorporated	
NF and Labrador	848	16	34	898
Nova Scotia	731	19	51	801
New Brunswick	682	22	44	748
Québec	28314	1204	1666	31184
Ontario	22309	922	1491	24722
Manitoba	972	66	83	1121
Saskatchewan	729	65	80	874
Alberta	1306	72	110	1488
British Columbia	7513	333	494	8340
Other prov/terr	142	3	14	159
United States	470	23	42	535
United Kingdom	744	31	76	851
Germany	157	14	17	188
Italy	129	12	19	160
Netherlands	34	5	4	43
Poland	894	41	105	1040
Portugal	515	21	28	564
France	366	20	26	412
Greece	73	6	8	87
USSR, former	571	44	89	704
Yugoslavia, former	441	18	37	496
Other Europe	897	54	86	1037
W-C Asia/Middle-E	1398	123	180	1701
India	2383	98	122	2603
Other Southern Asia	1595	47	84	1726
People Rep of China	2086	95	143	2324
Hong Kong	1604	92	132	1828
Philippines	2041	23	39	2103
Viet Nam	1098	26	49	1173
Other E/S-E Asia	1253	109	182	1544
Eastern Africa	549	37	35	621
Other Africa	1086	49	70	1205
C & S America	3695	84	170	3949
Oceania	212	5	14	231
Total	86848	3799	5824	96279

Note: As it is shown in the table, a number of the places of birth have less than 100 individuals per "Place of Birth" category for certain "Class of Worker" categories. Thus, any further analysis with these cells appears to be superficial.

Appendix 2.2.7 *Occupations vs. Place of Birth: Individuals (for 3 Major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

Occupations (NOC)	Place of Birth					
	Canada	The United States and Europe	West Central Asia & Middle East	Southern and Eastern Asia	Africa	Central and Latin America
Management Occupations (A)	10423	789	297	1378	226	250
Business, Finance and Administrative Occupations (B)	16178	889	234	2483	379	857
Natural & Applied Sciences & Related Occupations (C)	5756	1005	281	1613	265	239
Health Occupations (D)	3075	252	68	482	97	194
Occupations in Social Science, Education, Government Service (E)	6469	465	86	428	120	202
Occupations in Art, Culture, Recreation and Sport (F)	2852	225	37	201	32	64
Sales and Service Occupations (G)	11877	963	321	2783	303	760
Trades, Transport and Equipment Operators and Related Occupations (H)	9317	976	237	1334	205	599
Occupations Unique to Primary Industry (I)	723	39	8	111	2	23
Occupations Unique to Processing, Manufacturing and Utilities (J)	3535	499	131	2475	193	754

Note: Some of the cells contain less than 100 individuals. In case of further data division, it will make further analysis superficial.

Appendix 2.2.8 *Occupations vs. Class of Worker: Individuals (for 3 Major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Occupations				
	Management	Social Sciences & Art	Applied Sciences & Health	Services & Retail Trade	Trades and Transport
Paid Workers	10845	29471	11921	15623	10972
Self-Employed Incorporated	1462	762	473	398	518
Self-Employed Unincorporated	947	1811	873	807	1044

Appendix 2.2.9 *Occupations vs. Place of Birth: Individuals (for 3 Major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Place of Birth	Occupations						Total
		Manage -ment	Social Sciences & Art	Applied Sciences & Health	Services & Retail Trade	Trades & Transport	Manu-facturing	
Paid Workers	The United States and Europe	591	1404	1090	840	766	502	5193
	West Central Asia & Middle East	176	313	310	270	162	125	1356
	Southern and Eastern Asia	907	2820	1921	2466	1089	2442	11645
	Africa	159	488	329	274	173	191	1614
	Central and Latin America	200	1056	402	703	520	736	3617
	Canada	8812	23390	7869	11070	8262	4020	63423
Self-Employed Inc.	The United States and Europe	98	40	57	27	51	2	275
	West Central Asia & Middle East	57	12	12	12	21	3	117
	Southern and Eastern Asia	213	56	47	77	46	18	457
	Africa	45	8	11	11	9	1	85
	Central and Latin America	21	14	8	16	17	5	81
	Canada	1028	632	338	255	374	84	2711
Self-Employed Uninc.	The United States and Europe	82	113	101	68	129	17	510
	West Central Asia & Middle East	54	20	18	26	47	7	172
	Southern and Eastern Asia	190	137	92	133	124	29	705
	Africa	18	26	20	15	21	2	102
	Central and Latin America	23	36	17	26	46	13	161
	Canada	580	1479	625	539	677	155	4055

Appendix 2.2.10 *Place of Birth Variable After Aggregation (for 3 major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

Place of Birth - Regions & Countries	New Place of Birth Variable	Number of Respondents
NF and Labrador Nova Scotia New Brunswick Québec Ontario Manitoba Saskatchewan Alberta British Columbia Other prov/terr	Canada	70335
United States United Kingdom Germany Italy Netherlands Poland Portugal France Greece USSR, former Yugoslavia, former Other Europe	Europe	6117
W-C Asia/Middle-E	W-C Asia/Middle-E	1701
India Other Southern Asia People Rep of China Hong Kong Philippines Viet Nam Other E/S-E Asia	Southern & Eastern Asia	13301
Eastern Africa Other Africa	Africa	1826
C & S America	C & S America	3949
Oceania	Excluded	231

Place of Birth	Class of Worker			Total
	Paid Workers	Self-Employed Incorporated	Self-Employed Unincorporated	
Canada	63423	2711	4055	70189
The United States and Europe	5193	275	510	5978
West Central Asia & Middle East	1356	117	172	1645
Southern and Eastern Asia	11645	457	705	12807
Africa	1614	85	102	1801
Central and Latin America	3617	81	161	3859
Total	*86848*	*3726*	*5705*	*96279*

Appendix 2.2.11 *Class of Worker vs. Immigrant Status (for 3 major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Immigrant Status	
	Non-Immigrant	Immigrant
Paid Workers	64500	22348
Self-Employed Incorporated	2740	986
Self-Employed Unincorporated	4114	1591
Total	*71354*	*24925*

Appendix 2.2.12 *Class of Worker vs. Immigrant Status (for 3 major CMAs; Full-Time; Immigrants not earlier than from 1980; 15 – 65 years old). Source: Statistics Canada, PUMF (Individuals), 2001.*

Nativity & Language at Home	Class of Worker			Total
	Paid Workers	Self-Employed Incorporated	Self-Employed Unincorporated	
CB - English	38878	1798	2737	43413
FB - English	8181	333	506	9020
CB - French	23314	894	1277	25485
FB - French	1183	45	68	1296
CB - Non-Official	1231	19	41	1291
FB - Non-Official	14061	637	1076	15774
Total	*86848*	*3726*	*5705*	*96279*

Nativity & Language at Work	Class of Worker			Total
	Paid Workers	Self-Employed Incorporated	Self-Employed Unincorporated	
CB - English	40074	1796	2752	44622
FB - English	19146	795	1253	21194
CB - French	21642	855	1232	23729
FB - French	1811	74	132	2017
CB - English & French	1653	56	66	1775
FB - English & French	501	26	42	569
CB - Non-Official	54	4	5	63
FB - Non-Official	1967	120	223	2310
Total	*86848*	*3726*	*5705*	*96279*

APPENDIXES

(Chapter 3)

Appendix 3.2.1 *Mean Incomes of Classes of Worker by place of birth in Toronto, Montréal, and Vancouver. Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Place of Birth	CMA	Mean, $	Median, $	N	Std. Deviation	Mean - Median Difference, $
Paid Workers	Canada	Montréal	36 786	32 141	27 308	25 891	4 646
		Toronto	45 976	39 718	24 703	34 007	6 258
		Vancouver	41 827	37 893	11 535	28 792	3 934
		Total	41 274	35 813	63 546	30 090	5 461
	The United States and Europe	Montréal	33 693	26 961	1 038	28 764	6 732
		Toronto	39 562	33 421	3 381	31 560	6 141
		Vancouver	39 523	34 049	872	30 162	5 474
		Total	38 404	32 000	5 291	30 884	6 404
	West Central Asia & Middle East	Montréal	26 549	20 534	403	22 293	6 015
		Toronto	32 372	27 765	828	26 983	4 607
		Vancouver	24 298	18 200	167	20 826	6 098
		Total	29 729	24 495	1 398	25 222	5 234
	Southern and Eastern Asia	Montréal	22 237	18 026	990	19 454	4 211
		Toronto	28 950	25 198	7 813	22 173	3 752
		Vancouver	26 439	22 258	3 257	21 671	4 181
		Total	27 721	24 000	12 060	21 914	3 721
	Africa	Montréal	24 517	20 602	578	19 272	3 915
		Toronto	33 398	28 017	877	25 856	5 381
		Vancouver	35 079	30 496	180	25 115	4 583
		Total	30 444	25 634	1 635	24 044	4 810
	Central and Latin America	Montréal	20 357	17 334	903	16 912	3 023
		Toronto	30 084	28 000	2 592	19 684	2 084
		Vancouver	27 933	25 217	200	22 486	2 716
		Total	27 590	25 000	3 695	19 647	2 590
Self-Employed Incorporated	Canada	Montréal	47 493	35 000	1 108	42 480	12 493
		Toronto	56 293	45 000	1 007	44 756	11 293
		Vancouver	55 584	42 900	607	44 064	12 684
		Total	52 553	40 000	2 722	43 873	12 553
	The United States and Europe	Montréal	31 509	22 767	54	36 399	8 742
		Toronto	43 227	32 825	181	35 197	10 402
		Vancouver	46 029	39 701	54	36 782	6 328
		Total	41 561	31 566	289	35 937	9 995
	West Central Asia & Middle East	Montréal	35 419	21 723	36	44 422	13 696
		Toronto	32 381	29 731	72	28 134	2 650
		Vancouver	31 531	20 253	15	34 357	11 278
		Total	33 166	24 688	123	34 124	8 478
	Southern and Eastern Asia	Montréal	24 632	18 226	33	25 649	6 406
		Toronto	30 684	24 757	294	24 812	5 927
		Vancouver	28 460	22 306	163	26 047	6 154
		Total	29 537	23 636	490	25 288	5 901
	Africa	Montréal	30 899	27 895	16	18 109	3 004
		Toronto	40 789	34 865	54	39 815	5 924
		Vancouver	43 021	27 344	16	39 497	15 677
		Total	39 364	30 083	86	36 591	9 281
	Central and Latin America	Montréal	22 231	18 219	20	18 881	4 012
		Toronto	31 179	31 400	57	20 166	-221
		Vancouver	29 715	15 276	7	43 410	14 439
		Total	28 926	26 022	84	22 507	2 905

Class of Worker	Place of Birth	CMA	Mean, $	Median, $	N	Std. Deviation	Mean - Median Difference, $
Self-Employed Unincorporated	Canada	Montréal	36 945	24 871	1 539	39 684	12 074
		Toronto	53 823	34 824	1 676	52 261	19 000
		Vancouver	38 492	29 000	852	36 922	9 492
		Total	44 225	29 431	4 067	45 509	14 794
	The United States and Europe	Montréal	31 386	24 296	71	29 538	7 090
		Toronto	36 977	27 400	363	34 065	9 577
		Vancouver	33 672	21 688	103	38 848	11 984
		Total	35 604	25 873	537	34 485	9 731
	West Central Asia & Middle East	Montréal	21 784	15 534	69	24 839	6 250
		Toronto	35 622	23 533	84	40 858	12 089
		Vancouver	40 812	28 475	27	43 516	12 337
		Total	31 096	19 595	180	36 616	11 501
	Southern and Eastern Asia	Montréal	17 907	11 592	61	16 847	6 315
		Toronto	27 427	19 483	427	30 133	7 944
		Vancouver	24 381	17 701	263	23 980	6 680
		Total	25 587	18 376	751	27 323	7 211
	Africa	Montréal	22 188	14 068	31	18 808	8 120
		Toronto	40 692	25 000	60	48 747	15 692
		Vancouver	30 649	19 239	14	35 736	11 410
		Total	33 890	18 961	105	40 972	14 929
	Central and Latin America	Montréal	24 664	19 250	44	19 557	5 415
		Toronto	30 839	27 278	107	25 994	3 561
		Vancouver	26 632	20 000	19	25 292	6 632
		Total	28 771	24 034	170	24 431	4 737

Appendix 3.2.2 *Mean Incomes of Classes of Worker by Place of Birth and the Highest Level of Schooling. Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Place of Birth	Highest Level of Schooling	Mean, $	Median, $	N	Std. Deviation	Mean - Median Difference, $
Paid Workers	Canada	High School or Less	32 518	29 688	19 984	22 066	2 830
		College	37 505	34 182	19 259	24 435	3 323
		University Degree	51 460	45 000	24 303	36 275	6 460
		Total	41 274	35 813	63 546	30 090	5 461
	The United States and Europe	High School or Less	29 772	28 000	1 340	20 091	1 772
		College	34 195	30 002	1 330	25 475	4 193
		University Degree	44 954	38 000	2 621	36 060	6 954
		Total	38 404	32 000	5 291	30 884	6 404
	West Central Asia & Middle East	High School or Less	21 691	18 688	369	17 212	3 003
		College	26 132	23 115	240	20 275	3 018
		University Degree	34 582	29 491	789	28 407	5 091
		Total	29 729	24 495	1 398	25 222	5 234
	Southern and Eastern Asia	High School or Less	22 541	20 000	4 015	16 034	2 541
		College	27 272	25 000	2 206	18 520	2 272
		University Degree	31 452	27 258	5 839	25 558	4 194
		Total	27 721	24 000	12 060	21 914	3 721
	Africa	High School or Less	23 196	21 103	374	17 088	2 093
		College	27 885	24 688	400	20 484	3 197
		University Degree	34 780	30 266	861	27 063	4 514
		Total	30 444	25 634	1 635	24 044	4 810
	Central and Latin America	High School or Less	23 188	21 498	1 522	15 209	1 690
		College	28 364	27 110	1 185	17 774	1 254
		University Degree	33 443	29 689	988	25 384	3 755
		Total	27 590	25 000	3 695	19 647	2 590
Self-Employed Incorporated	Canada	High School or Less	41 744	32 434	758	35 028	9 310
		College	45 104	37 750	704	35 115	7 355
		University Degree	63 217	50 000	1 260	50 185	13 217
		Total	52 553	40 000	2 722	43 873	12 553
	The United States and Europe	High School or Less	34 747	29 921	65	28 449	4 826
		College	37 131	30 000	73	28 935	7 131
		University Degree	46 635	35 000	151	40 950	11 635
		Total	41 561	31 566	289	35 937	9 995
	West Central Asia & Middle East	High School or Less	29 411	20 127	36	31 716	9 285
		College	35 782	29 987	22	31 333	5 795
		University Degree	34 361	25 961	65	36 548	8 400
		Total	33 166	24 688	123	34 124	8 478
	Southern and Eastern Asia	High School or Less	24 638	20 196	170	17 598	4 442
		College	27 124	20 761	68	22 361	6 364
		University Degree	33 492	26 679	252	29 501	6 814
		Total	29 537	23 636	490	25 288	5 901
	Africa	High School or Less	29 489	27 242	18	16 448	2 247
		College	40 442	32 344	22	42 695	8 098
		University Degree	42 713	32 448	46	39 054	10 265
		Total	39 364	30 083	86	36 591	9 281
	Central and Latin America	High School or Less	28 037	28 742	28	19 384	-704
		College	23 326	18 469	30	16 565	4 857
		University Degree	36 345	31 681	26	29 358	4 665
		Total	28 926	26 022	84	22 507	2 905

Class of Worker	Place of Birth	Highest Level of Schooling	Mean, $	Median, $	N	Std. Deviation	Mean - Median Difference, $
Self-Employed Unincorporated	Canada	High School or Less	29 556	23 420	1 152	27 777	6 137
		College	30 943	24 629	1 063	27 606	6 314
		University Degree	60 972	39 947	1 852	55 826	21 025
		Total	44 225	29 431	4 067	45 509	14 794
	The United States and Europe	High School or Less	34 019	28 694	118	30 159	5 325
		College	29 808	23 714	161	25 086	6 094
		University Degree	39 945	25 928	258	40 413	14 017
		Total	35 604	25 873	537	34 485	9 731
	West Central Asia & Middle East	High School or Less	30 391	23 796	65	32 393	6 595
		College	26 443	15 125	25	39 830	11 318
		University Degree	32 897	19 394	90	38 788	13 504
		Total	31 096	19 595	180	36 616	11 501
	Southern and Eastern Asia	High School or Less	20 403	15 454	258	18 753	4 950
		College	20 387	16 573	117	17 537	3 814
		University Degree	30 762	21 339	376	33 215	9 424
		Total	25 587	18 376	751	27 323	7 211
	Africa	High School or Less	31 116	18 478	25	51 777	12 638
		College	16 422	15 136	24	12 772	1 286
		University Degree	42 614	29 950	56	41 498	12 664
		Total	33 890	18 961	105	40 972	14 929
	Central and Latin America	High School or Less	27 908	24 500	62	20 293	3 408
		College	22 928	21 086	39	14 982	1 842
		University Degree	32 848	28 010	69	30 844	4 838
		Total	28 771	24 034	170	24 431	4 737

Appendix 3.2.3 *Mean Incomes of Classes of Worker by Place of Birth and Occupations. Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Place of Birth	Occupations	Mean	Median	N	Std. Deviation
Paid Workers	Canada	Management	65 349	57 000	8 812	41 878
		Social Sciences & Art	37 913	34 311	23 390	25 348
		Applied Sciences & Health	47 839	45 000	7 869	29 182
		Services & Retail Trade	31 781	26 355	11 070	25 774
		Trades and Transport	36 762	35 000	8 262	21 455
	The United States and Europe	Management	64 524	52 000	591	46 966
		Social Sciences & Art	34 068	30 000	1 404	26 333
		Applied Sciences & Health	46 781	42 160	1 090	31 156
		Services & Retail Trade	26 628	21 448	840	23 788
		Trades and Transport	35 381	33 437	766	21 458
	West Central Asia & Middle East	Management	43 505	35 228	176	34 398
		Social Sciences & Art	27 962	26 000	313	21 179
		Applied Sciences & Health	37 734	35 628	310	26 790
		Services & Retail Trade	20 210	15 321	270	17 722
		Trades and Transport	27 866	22 755	162	23 621
	Southern and Eastern Asia	Management	39 778	32 327	907	31 999
		Social Sciences & Art	28 124	26 688	2 820	19 672
		Applied Sciences & Health	38 065	35 673	1 921	26 970
		Services & Retail Trade	20 727	17 689	2 466	16 895
		Trades and Transport	27 809	25 000	1 089	19 586
	Africa	Management	47 149	39 923	159	32 224
		Social Sciences & Art	28 748	26 000	488	20 689
		Applied Sciences & Health	40 461	37 616	329	28 791
		Services & Retail Trade	21 414	18 611	274	17 959
		Trades and Transport	26 220	24 255	173	17 870
	Central and Latin America	Management	43 539	37 846	200	32 468
		Social Sciences & Art	28 206	27 414	1 056	19 017
		Applied Sciences & Health	35 252	34 034	402	21 274
		Services & Retail Trade	21 616	19 376	703	16 550
		Trades and Transport	30 617	29 072	520	17 879
Self-Employed Incorporated	Canada	Management	56 685	43 289	1 028	46 716
		Social Sciences & Art	55 277	40 000	632	47 235
		Applied Sciences & Health	63 502	55 129	338	44 446
		Services & Retail Trade	41 998	31 300	255	37 981
		Trades and Transport	38 052	31 877	374	27 960
	The United States and Europe	Management	34 136	29 681	98	25 304
		Social Sciences & Art	48 249	29 649	40	47 599
		Applied Sciences & Health	56 665	49 000	57	40 792
		Services & Retail Trade	28 347	27 795	27	19 068
		Trades and Transport	42 486	32 000	51	35 624
	West Central Asia & Middle East	Management	36 879	23 996	57	44 096
		Social Sciences & Art	31 664	29 366	12	16 049
		Applied Sciences & Health	31 003	29 981	12	15 677

		Services & Retail Trade	38 351	32 922	12	37 787
		Trades and Transport	25 995	22 000	21	19 074
	Southern and Eastern Asia	Management	27 986	23 269	213	24 608
		Social Sciences & Art	27 468	26 429	56	18 840
		Applied Sciences & Health	49 974	38 000	47	39 542
		Services & Retail Trade	23 142	18 000	77	18 306
		Trades and Transport	29 722	27 627	46	18 445
	Africa	Management	38 800	30 000	45	35 561
		Social Sciences & Art	38 888	28 776	8	22 758
		Applied Sciences & Health	64 563	45 000	11	61 214
		Services & Retail Trade	24 844	10 000	11	23 953
		Trades and Transport	29 809	35 768	9	12 078
	Central and Latin America	Management	24 869	18 500	21	18 407
		Social Sciences & Art	24 064	28 000	14	10 955
		Applied Sciences & Health	41 770	24 900	8	32 901
		Services & Retail Trade	25 433	20 516	16	22 208
		Trades and Transport	37 583	30 000	17	26 198
Self-Employed Unincorporated	Canada	Management	38 748	29 374	580	35 900
		Social Sciences & Art	49 558	30 000	1 479	51 269
		Applied Sciences & Health	69 794	50 000	625	56 825
		Services & Retail Trade	28 538	20 000	539	29 621
		Trades and Transport	29 871	24 688	677	25 473
	The United States and Europe	Management	28 996	24 827	82	20 337
		Social Sciences & Art	32 906	23 199	113	34 128
		Applied Sciences & Health	58 218	38 000	101	50 891
		Services & Retail Trade	27 743	19 414	68	30 300
		Trades and Transport	30 831	25 856	129	22 938
	West Central Asia & Middle East	Management	32 656	17 310	54	45 772
		Social Sciences & Art	22 334	21 534	20	16 324
		Applied Sciences & Health	57 137	60 746	18	48 523
		Services & Retail Trade	18 241	12 000	26	16 420
		Trades and Transport	28 240	23 796	47	22 971
	Southern and Eastern Asia	Management	24 923	19 376	190	21 630
		Social Sciences & Art	26 217	18 000	137	26 972
		Applied Sciences & Health	42 917	29 844	92	42 266
		Services & Retail Trade	18 906	13 000	133	18 320
		Trades and Transport	20 622	15 648	124	17 004
	Africa	Management	26 579	14 800	18	26 158
		Social Sciences & Art	29 884	20 645	26	37 015
		Applied Sciences & Health	70 034	50 000	20	54 356
		Services & Retail Trade	21 138	17 688	15	15 321
		Trades and Transport	23 683	11 946	21	41 892
	Central and Latin America	Management	27 308	25 000	23	19 917
		Social Sciences & Art	32 727	26 111	36	36 536
		Applied Sciences & Health	39 254	35 097	17	25 405
		Services & Retail Trade	19 457	17 246	26	13 270
		Trades and Transport	31 582	27 350	46	20 929

Appendix 3.2.4 *Mean Incomes of Classes of Worker by Nativity and Language at Work and the Highest Level of Schooling. Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Nativity & Language at Work	Highest Level of Schooling	Mean, $	Median, $	N	Std. Deviation	Mean - Median Difference, $
Paid Workers	CB - English	High School or Less	35 030	32 000	11 117	23 951	3 030
		College	40 081	36 000	12 156	25 972	4 081
		University Degree	53 600	46 376	16 801	38 603	7 224
	FB - English	High School or Less	25 746	23 688	5 428	17 759	2 058
		College	30 704	28 000	4 495	21 169	2 704
		University Degree	36 981	31 291	9 223	29 877	5 690
	CB - French	High School or Less	29 407	27 198	8 208	18 972	2 209
		College	33 077	30 000	6 499	20 601	3 077
		University Degree	46 957	42 765	6 935	29 715	4 192
	FB - Non-Official	High School or Less	19 255	17 381	1 179	14 598	1 874
		College	20 111	18 246	269	14 729	1 865
		University Degree	17 876	12 251	519	20 327	5 625
Self-Employed Incorporated	CB - English	High School or Less	46 379	38 821	438	37 223	7 558
		College	48 659	40 000	477	36 643	8 659
		University Degree	63 974	50 000	881	49 721	13 974
	FB - English	High School or Less	29 388	25 000	200	24 533	4 388
		College	33 398	29 831	164	27 250	3 568
		University Degree	39 300	30 000	431	35 096	9 300
	CB - French	High School or Less	35 336	27 080	303	31 019	8 256
		College	38 290	29 379	210	31 154	8 911
		University Degree	62 540	49 658	342	51 884	12 882
	FB - Non-Official	High School or Less	25 410	21 189	62	18 520	4 221
		College	18 381	17 637	15	11 551	744
		University Degree	31 712	26 587	43	24 940	5 125
Self-Employed Unincorporated	CB - English	High School or Less	32 350	25 688	680	29 273	6 662
		College	33 660	26 800	729	28 277	6 860
		University Degree	65 251	41 205	1 343	58 121	24 046
	FB - English	High School or Less	30 409	23 405	333	30 253	7 004
		College	26 106	20 408	283	24 489	5 698
		University Degree	35 568	24 214	637	37 094	11 354
	CB - French	High School or Less	25 536	19 733	439	25 563	5 803
		College	23 630	19 182	311	22 268	4 448
		University Degree	50 346	34 982	482	47 800	15 364
	FB - Non-Official	High School or Less	17 540	12 706	118	16 717	4 834
		College	20 615	14 722	32	20 248	5 893
		University Degree	28 973	20 233	73	26 248	8 740

Appendix 3.2.5 *Mean Incomes of Classes of Worker by Nativity and Language at Work and Occupations. Source: Statistics Canada, PUMF (Individuals), 2001.*

Class of Worker	Nativity & Language at Work	Occupations	Mean, $	Median, $	N	Std. Deviation	Mean - Median Difference, $
Paid Workers	CB - English	Management Occupations	68 255	59 999	6 369	43 622	8 256
		Social Sciences & Sport Occupations	50 791	48 000	4 900	30 909	2 791
		Applied Sciences & Health Occupations	40 175	35 672	15 123	27 432	4 503
		Blue-Collar Occupations	35 522	31 919	13 682	25 485	3 603
		Total	44 347	38 421	40 074	32 465	5 926
	FB - English	Management Occupations	50 756	40 000	1 740	39 591	10 756
		Social Sciences & Sport Occupations	42 174	39 606	3 567	28 264	2 568
		Applied Sciences & Health Occupations	30 475	28 423	5 188	21 811	2 052
		Blue-Collar Occupations	25 882	23 142	8 859	18 933	2 740
		Total	32 352	28 000	19 354	25 455	4 352
	CB - French	Management Occupations	57 774	52 000	2 242	35 692	5 774
		Social Sciences & Sport Occupations	43 010	40 000	2 782	25 154	3 010
		Applied Sciences & Health Occupations	34 037	31 431	7 650	20 442	2 606
		Blue-Collar Occupations	30 376	27 431	8 968	20 466	2 945
		Total	36 133	32 000	21 642	24 584	4 133
	FB - Non-Official	Management Occupations	26 728	21 688	147	23 920	5 040
		Social Sciences & Sport Occupations	12 011	6 100	151	13 581	5 911
		Applied Sciences & Health Occupations	20 071	16 321	314	19 380	3 750
		Blue-Collar Occupations	18 707	16 907	1 356	14 346	1 801
		Total	19 010	16 814	1 968	16 326	2 197
Self-Employed Inc.	CB - English	Management Occupations	60 185	47 586	700	48 189	12 600
		Social Sciences & Sport Occupations	64 507	60 000	227	44 160	4 507
		Applied Sciences & Health Occupations	54 174	40 000	434	43 494	14 174
		Blue-Collar Occupations	45 061	37 000	435	36 468	8 061
		Total	55 616	44 000	1 796	44 422	11 616
	FB - English	Management Occupations	32 731	24 924	344	30 770	7 807
		Social Sciences & Sport Occupations	52 413	41 984	121	38 949	10 429
		Applied Sciences & Health Occupations	34 783	29 649	100	30 342	5 134
		Blue-Collar Occupations	31 492	27 404	235	25 152	4 088
		Total	35 601	29 595	800	31 385	6 006
	CB - French	Management Occupations	48 988	38 000	305	42 347	10 988
		Social Sciences & Sport Occupations	61 352	52 000	105	44 713	9 352
		Applied Sciences & Health Occupations	58 623	39 736	188	55 393	18 887
		Blue-Collar Occupations	30 086	25 431	257	20 010	4 655
		Total	46 943	35 000	855	42 618	11 943
	FB - Non-Official	Management Occupations	28 074	21 931	57	23 513	6 143
		Social Sciences & Sport Occupations	21 571	23 483	5	10 401	-1 912
		Applied Sciences & Health Occupations	31 392	29 698	17	20 863	1 694
		Blue-Collar Occupations	23 731	19 269	41	17 177	4 462
		Total	26 789	22 286	120	20 729	4 503

Class of Worker	Nativity & Language at Work	Occupations	Mean, $	Median, $	N	Std. Deviation	Mean - Median Difference, $
Self-Employed Uninc.	CB - English	Management Occupations	41 395	30 400	367	35 517	10 995
		Social Sciences & Sport Occupations	70 028	51 448	464	56 451	18 580
		Applied Sciences & Health Occupations	55 490	33 716	1 050	55 449	21 775
		Blue-Collar Occupations	32 398	25 117	871	29 144	7 281
		Total	48 753	30 888	2 752	48 277	17 865
	FB - English	Management Occupations	28 543	19 800	249	27 366	8 743
		Social Sciences & Sport Occupations	51 893	35 000	221	47 583	16 893
		Applied Sciences & Health Occupations	31 425	21 688	261	33 871	9 737
		Blue-Collar Occupations	25 854	20 515	536	23 125	5 339
		Total	32 072	23 199	1 267	33 004	8 873
	CB - French	Management Occupations	33 848	24 667	200	36 001	9 181
		Social Sciences & Sport Occupations	70 967	50 520	152	59 042	20 447
		Applied Sciences & Health Occupations	34 596	25 051	415	34 311	9 545
		Blue-Collar Occupations	23 467	19 631	465	20 839	3 836
		Total	34 761	24 161	1 232	37 509	10 601
	FB - Non-Official	Management Occupations	22 405	19 376	71	19 527	3 029
		Social Sciences & Sport Occupations	46 481	23 486	11	42 022	22 995
		Applied Sciences & Health Occupations	20 677	13 973	43	18 471	6 704
		Blue-Collar Occupations	18 911	13 258	98	18 907	5 653
		Total	21 724	15 531	223	21 324	6 193

Appendix 3.3.1 *Pearson Correlation Table for Paid Workers with 1-tailed Sig. Levels. Source: Statistics Canada, PUMF (Individuals), 2001.*

	Salaries or Self-Employment Income	Place of Birth	Education	Occupations	CMA	Age	SEX	Nativity & Language at Work
Salaries or Self-Employment Income	1,000							
Place of Birth	0,091	1,000						
Highest Level of Schooling	-0,237	0,083	1,000					
Occupations..	-0,217	-0,065	0,304	1,000				
CMA	0,079	-0,271	-0,074	-0,036	1,000			
Age	0,277	0,015	0,084	-0,058	-0,061	1,000		
Sex	0,204	-0,024	0,045	0,253	-0,003	0,020	1,000	
Nativity & Language at Work	-0,153	-0,252	0,100	0,097	-0,434	0,060	0,010	1,000
Salaries or Self-Employment Income	.							
Place of Birth	0,000	.						
Highest Level of Schooling	0,000	0,000	.					
Occupations..	0,000	0,000	0,000	.				
CMA	0,000	0,000	0,000	0,000	.			
Age	0,000	0,000	0,000	0,000	0,000	.		
Sex	0,000	0,000	0,000	0,000	0,206	0,000	.	
Nativity & Language at Work	0,000	0,000	0,000	0,000	0,000	0,000	0,004	.

Appendix 3.3.2 *The 1st GLM models for Paid Workers (Salaries – the Dependent Variable) at 0.01 level, calculated for the mean age of 38.1. Source: Statistics Canada, PUMF (Individuals), 2001.*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1566987978375,242(a)	5	313397595675,048	367,969	,000
Intercept	19138992529907,860	1	19138992529907,860	22471,608	,000
placebirth	1566987978375,515	5	313397595675,103	367,969	,000
Error	66012448884708,100	77507	851696606,561		
Total	19295051411890 9,000	77513			
Corrected Total	67579436863083,300	77512			

a R Squared = ,023 (Adjusted R Squared = ,023)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	42439,326	120,384	352,533	,000	42129,230	42749,422
[placebirth=1,00]	-1509,818	448,903	-3,363	,001	-2666,145	-353,492
[placebirth=2,00]	-10238,235	857,349	-11,942	,000	-12446,675	-8029,796
[placebirth=3,00]	-11946,146	332,793	-35,897	,000	-12803,384	-11088,908
[placebirth=4,00]	-9355,889	798,457	-11,717	,000	-11412,628	-7299,151
[placebirth=5,00]	-12452,699	565,183	-22,033	,000	-13908,550	-10996,848
[placebirth=6,00]	0(a)	.	.	.	.	.

a This parameter is set to zero because it is redundant.

Appendix 3.3.3 *The 2nd GLM models for Paid Workers (Salaries – the Dependent Variable) at 0.01 level, calculated for the mean age of 38.1. Source: Statistics Canada, PUMF (Individuals), 2001.*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11850002728200,790(a)	11	1077272975290,981	1498,126	,000
Intercept	18846853666795,630	1	18846853666795,630	26209,669	,000
placebirth	16228793573609,420	5	324575871473,884	451,376	,000
education	2479402785878,186	2	1239701392939,093	1724,010	,000
occu_new	6009332033409,010	4	1502333008352,254	2089,243	,000
Error	55729434134882,600	77501	719080194,254		
Total	192950514118909,000	77513			
Corrected Total	67579436863083,300	77512			

a R Squared = ,175 (Adjusted R Squared = ,175)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	35280,342	285,269	123,674	,000	34545,520	36015,164
[placebirth=1,00]	-3525,565	414,432	-8,507	,000	-4593,098	-2458,033
[placebirth=2,00]	-13308,543	789,697	-16,853	,000	-15342,719	-11274,368
[placebirth=3,00]	-12704,880	309,414	-41,061	,000	-13501,897	-11907,863
[placebirth=4,00]	-11176,994	734,753	-15,212	,000	-13069,639	-9284,349
[placebirth=5,00]	-9357,540	520,192	-17,989	,000	-10697,498	-8017,582
[placebirth=6,00]	0(a)	.	.	.	.	.
[education=1,00]	13733,871	251,968	54,506	,000	13084,829	14382,913
[education=2,00]	3255,741	259,090	12,566	,000	2588,354	3923,128
[education=3,00]	0(a)	.	.	.	.	.
[occu_new=1,00]	20589,869	379,655	54,233	,000	19611,918	21567,820
[occu_new=2,00]	-4336,984	314,952	-13,770	,000	-5148,266	-3525,701
[occu_new=3,00]	4750,252	376,444	12,619	,000	3780,573	5719,932
[occu_new=4,00]	-7376,999	339,734	-21,714	,000	-8252,118	-6501,879
[occu_new=5,00]	0(a)	.	.	.	.	.

a This parameter is set to zero because it is redundant.

Appendix 3.3.4 *The 3rd GLM models for Paid Workers (Salaries – the Dependent Variable) at 0.01 level, calculated for the mean age of 38.1 and the reference categories with the mean income values in the brackets. Source: Statistics Canada, PUMF (Individuals), 2001.*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	197133158321 42,240(a)	15	1314221055476, 150	2127,772	,000
Intercept	73255671521,7 46	1	73255671521,74 6	118,604	,000
placebirth	208384040184 8,347	5	416768080369,6 69	674,763	,000
education	265337986003 8,330	2	1326689930019, 165	2147,960	,000
occu_new	405356365511 4,763	4	1013390913778, 691	1640,717	,000
sexp	215807324740 2,404	1	2158073247402, 404	3493,999	,000
cma	961827109118, 983	2	480913554559,4 91	778,617	,000
agep	484259151253 3,480	1	4842591512533, 480	7840,333	,000
Error	478661210309 41,100	77497	617651277,223		
Total	192950514118 909,000	77513			
Corrected Total	675794368630 83,300	77512			

a R Squared = ,302 (Adjusted R Squared = ,302)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	10603,921	442,260	23,977	,000	9464,705	11743,137
[placebirth=1,00]	-5368,743	387,198	-13,866	,000	-6366,124	-4371,362
[placebirth=2,00]	-14342,541	733,070	-19,565	,000	-16230,852	-12454,231
[placebirth=3,00]	-15069,020	294,987	-51,084	,000	-15828,875	-14309,164
[placebirth=4,00]	-12962,104	681,711	-19,014	,000	-14718,118	-11206,090
[placebirth=5,00]	-10314,809	486,536	-21,201	,000	-11568,073	-9061,544
[placebirth=6,00]	0(a)	.	.	.	.	.
[education=1,00]	14930,314	235,301	63,452	,000	14324,203	15536,424
[education=2,00]	5429,674	241,850	22,451	,000	4806,694	6052,654
[education=3,00]	0(a)	.	.	.	.	.
[occu_new=1,00]	21706,508	358,742	60,507	,000	20782,427	22630,589
[occu_new=2,00]	2309,492	316,535	7,296	,000	1494,130	3124,853
[occu_new=3,00]	9140,906	355,785	25,692	,000	8224,441	10057,371
[occu_new=4,00]	-1651,311	324,969	-5,081	,000	-2488,396	-814,225
[occu_new=5,00]	0(a)	.	.	.	.	.
[sexp=1]	-11575,894	195,836	-59,110	,000	-12080,347	-11071,441
[sexp=2]	0(a)	.	.	.	.	.
[cma=1,00]	-8192,747	207,784	-39,429	,000	-8727,975	-7657,519
[cma=2,00]	-3893,542	246,239	-15,812	,000	-4527,828	-3259,256
[cma=3,00]	0(a)	.	.	.	.	.
agep	750,790	8,479	88,546	,000	728,949	772,632

a This parameter is set to zero because it is redundant.

Appendix 3.3.5 *The Fragment of the GLM model for Paid Workers (Salaries – the Dependent Variable) at 0.01 level, calculated for the mean age of 38.1. Source: Statistics Canada, PUMF (Individuals), 2001.*

	B, $	t	Sig.
[education=1,00] * agep	478,5	22,61	0,00
[education=2,00] * agep	102,9	4,78	0,00
[education=3,00] * agep	ref .	.	
[occupation=1,00] * [cma=1,00]	-5184,7	-6,29	0,00
[occupation=1,00] * [cma=2,00]	-4931,0	-5,18	0,00
[occupation=1,00] * [cma=3,00]	0,0.	.	
[occupation=2,00] * [cma=1,00]	-2108,6	-2,91	0,00
[occupation=2,00] * [cma=2,00]	-769,2	-0,90	0,37
[occupation=2,00] * [cma=3,00]	ref .	.	
[occupation=3,00] * [cma=1,00]	-337,1	-0,41	0,68
[occupation=3,00] * [cma=2,00]	357,0	0,37	0,71
[occupation=3,00] * [cma=3,00]	ref .	.	
[occupation=4,00] * [cma=1,00]	-948,2	-1,27	0,20
[occupation=4,00] * [cma=2,00]	-132,1	-0,15	0,88
[occupation=4,00] * [cma=3,00]	ref .	.	
[occupation=5,00] * [cma=1,00]	ref .	.	
[occupation=5,00] * [cma=2,00]	ref .	.	
[occupation=5,00] * [cma=3,00]	ref .	.	
[occupation=1,00] * [sexp=1]	-6364,3	-6,00	0,00
[occupation=1,00] * [sexp=2]	0,0.	.	
[occupation=2,00] * [sexp=1]	1108,4	1,12	0,26
[occupation=2,00] * [sexp=2]	ref .	.	
[occupation=3,00] * [sexp=1]	-1385,0	-1,32	0,19
[occupation=3,00] * [sexp=2]	ref .	.	
[occupation=4,00] * [sexp=1]	-222,9	-0,22	0,82
R Square		0,33	
F		372,2	
Number of Respondents		77,0	

Appendix 3.3.6 *The GLM models for Paid Workers (Salaries – the Dependent Variable) at 0.01 level, calculated for the mean age of 38.1 based on the Nativity & Language at Work Variable. Source: Statistics Canada, PUMF (Individuals), 2001.*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	18600404267143,300(a)	11	1690945842467,573	2678,379	,000
Intercept	154267630102,490	1	154267630102,490	244,353	,000
nat_lang_w	1820253306449,597	3	606751102149,866	961,065	,000
education	2448907699185,837	2	1224453849592,919	1939,477	,000
occu_new	3968267672022,683	4	992066918005,671	1571,387	,000
sexp	2085815814296,578	1	2085815814296,578	3303,834	,000
agep	4771957761733,130	1	4771957761733,130	7558,557	,000
Error	46791161095049,600	74115	631331863,928		
Total	187559473236727,000	74127			
Corrected Total	65391565362192,900	74126			

a R Squared = ,284 (Adjusted R Squared = ,284)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	8806,938	449,751	19,582	,000	7648,426	9965,449
[nat_lang_w=1,00]	-20822,806	716,747	-29,052	,000	-22669,072	-18976,540
[nat_lang_w=2,00]	-10898,749	241,764	-45,080	,000	-11521,506	-10275,991
[nat_lang_w=3,00]	-6924,105	223,257	-31,014	,000	-7499,192	-6349,018
[nat_lang_w=4,00]	0(a)	.	.	.	.	.
[education=1,00]	14674,624	243,695	60,217	,000	14046,891	15302,357
[education=2,00]	5353,507	250,271	21,391	,000	4708,836	5998,178
[education=3,00]	0(a)	.	.	.	.	.
[occu_new=1,00]	21743,079	369,976	58,769	,000	20790,059	22696,098
[occu_new=2,00]	2171,244	326,796	6,644	,000	1329,452	3013,036
[occu_new=3,00]	8747,885	367,401	23,810	,000	7801,499	9694,270
[occu_new=4,00]	-2011,835	336,291	-5,982	,000	-2878,085	-1145,586
[occu_new=5,00]	0(a)	.	.	.	.	.
[sexp=1]	-11636,173	202,442	-57,479	,000	-12157,642	-11114,703
[sexp=2]	0(a)	.	.	.	.	.
agep	762,263	8,768	86,940	,000	739,678	784,848

a This parameter is set to zero because it is redundant.

Appendix 3.3.7 *Pearson Correlation Table for Self-Employed Workers with 1-tailed Sig. Levels. Source: Statistics Canada, PUMF (Individuals), 2001.*

	Salaries or Self-Employment Income	Place of Birth	Education	Occupations	CMA	Age	SEX	Nativity & Language at Work
Salaries or Self-Employment Income	1,000							
Place of Birth	0,137	1,000						
Education	-0,239	0,014	1,000					
Occupations	-0,118	-0,051	0,229	1,000				
CMA	0,064	-0,277	-0,059	0,013	1,000			
Age	0,137	0,056	-0,011	-0,071	-0,050	1,000		
Sex	0,144	-0,013	0,054	0,124	0,008	0,040	1,000	
Nativity & Language at Work	-0,151	-0,319	0,123	0,008	-0,301	0,028	-0,013	1,000
Salaries or Self-Employment Income	.							
Place of Birth	0,000	.						
Education	0,000	0,094	.					
Occupations	0,000	0,000	0,000	.				
CMA	0,000	0,000	0,000	0,111	.			
Age	0,000	0,000	0,154	0,000	0,000	.		
Sex	0,000	0,111	0,000	0,000	0,233	0,000	.	
Nativity & Language at Work	0,000	0,000	0,000	0,239	0,000	0,004	0,109	.

Appendix 3.3.8 *Class of Worker * Age Crosstabulation. Source: Statistics Canada, PUMF (Individuals), 2001.*

Count

		Age				Total
		15 - 30 yo	31 - 40 yo	41 - 50 yo	51 - 65 yo	
Class of Worker	Self-Employed Unincorporated	687	1736	1792	1145	5360
Total		687	1736	1792	1145	5360

Appendix 3.3.9

The GLM models for Incorporated Self-Employed Workers (Salaries & Self-Employment Income – the Dependent Variable) at 0.01 level, calculated for the mean age of 42.9

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	796839809964,932(a)	15	53122653997,662	34,945	,000
Intercept	31564880351,315	1	31564880351,315	20,764	,000
placebirth	247239542033,274	5	49447908406,655	32,527	,000
education	137010574457,258	2	68505287228,629	45,064	,000
occu_new	75501517232,566	4	18875379308,141	12,416	,000
cma	34705289735,120	2	17352644867,560	11,415	,000
sexp	94087680543,596	1	94087680543,596	61,892	,000
agep	51649448142,428	1	51649448142,428	33,976	,000
Error	5326749616968,230	3504	1520191100,733		
Total	14669168126369,000	3520			
Corrected Total	6123589426933,160	3519			

a R Squared = ,130 (Adjusted R Squared = ,126)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	25520,082	3709,193	6,880	,000	15960,626	35079,538
[placebirth=1,00]	-12663,737	2545,038	-4,976	,000	-19222,894	-6104,580
[placebirth=2,00]	-19199,071	3829,305	-5,014	,000	-29068,083	-9330,060
[placebirth=3,00]	-24022,357	2154,005	-11,152	,000	-29573,729	-18470,985
[placebirth=4,00]	-15253,118	4453,098	-3,425	,001	-26729,789	-3776,447
[placebirth=5,00]	-18588,568	4638,581	-4,007	,000	-30543,273	-6633,863
[placebirth=6,00]	0(a)	.	.	.	.	.
[education=1,00]	14694,602	1695,230	8,668	,000	10325,599	19063,604
[education=2,00]	2514,447	1861,319	1,351	,177	-2282,606	7311,499
[education=3,00]	0(a)	.	.	.	.	.
[occu_new=1,00]	10209,028	2097,475	4,867	,000	4803,345	15614,711
[occu_new=2,00]	10858,761	2455,742	4,422	,000	4529,740	17187,781
[occu_new=3,00]	16330,743	2706,535	6,034	,000	9355,371	23306,114
[occu_new=4,00]	2094,740	2693,560	,778	,437	-4847,191	9036,672
[occu_new=5,00]	0(a)	.	.	.	.	.
[cma=1,00]	-7203,944	1567,074	-4,597	,000	-16837,670	-8528,015
[cma=2,00]	-945,659	1719,841	-,550	,582	.	.
[cma=3,00]	0(a)	.	.	.	-11242,660	-3165,228
[sexp=1]	-12682,842	1612,127	-7,867	,000	-5378,091	3486,774
[sexp=2]	0(a)	.	.	.	.	.
agep	421,939	72,388	5,829	,000	235,378	608,499

a This parameter is set to zero because it is redundant.

Appendix 3.3.10 *The GLM models for Unincorporated Self-Employed Workers (Salaries & Self-Employment Income – the Dependent Variable) at 0.01 level, calculated for the mean age of 42.1. Source: Statistics Canada, PUMF (Individuals), 2001.*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2057134918695,674(a)	15	137142327913,045	93,274	,000
Intercept	6290975057,584	1	6290975057,584	4,279	,039
placebirth	277221141976,065	5	55444228395,213	37,709	,000
education	302680814045,890	2	151340407022,945	102,931	,000
occu_new	376483296939,710	4	94120824234,928	64,014	,000
cma	172773159312,352	2	86386579656,176	58,754	,000
sexp	248186752645,269	1	248186752645,269	168,798	,000
agep	140768802530,031	1	140768802530,031	95,741	,000
Error	7857359446312,230	5344	1470314267,648		
Total	19199598225638,000	5360			
Corrected Total	9914494365007,900	5359			

a R Squared = ,207 (Adjusted R Squared = ,205)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	17341,470	2752,829	6,300	,000	10248,118	24434,821
[placebirth=1,00]	-11400,672	1895,036	-6,016	,000	-16283,706	-6517,638
[placebirth=2,00]	-12812,436	3129,166	-4,095	,000	-20875,512	-4749,359
[placebirth=3,00]	-20995,710	1697,300	-12,370	,000	-25369,227	-16622,193
[placebirth=4,00]	-12917,395	3970,310	-3,253	,001	-23147,889	-2686,901
[placebirth=5,00]	-13403,924	3285,291	-4,080	,000	-21869,298	-4938,551
[placebirth=6,00]	0(a)	.	.	.	.	.
[education=1,00]	15789,971	1418,086	11,135	,000	12135,919	19444,023
[education=2,00]	-2041,979	1486,516	-1,374	,170	-5872,357	1788,399
[education=3,00]	0(a)	.	.	.	.	.
[occu_new=1,00]	6299,828	1796,210	3,507	,000	1671,444	10928,213
[occu_new=2,00]	13081,123	1710,917	7,646	,000	8672,518	17489,729
[occu_new=3,00]	28846,719	1969,615	14,646	,000	23771,514	33921,923
[occu_new=4,00]	2892,317	1906,999	1,517	,129	-2021,543	7806,176
[occu_new=5,00]	0(a)	.	.	.	.	.
[cma=1,00]	-12998,804	1249,607	-10,402	,000	-18567,352	-12421,366
[cma=2,00]	-8952,782	1371,668	-6,527	,000	.	.
[cma=3,00]	0(a)	.	.	.	-16218,727	-9778,881
[sexp=1]	-15494,359	1192,585	-12,992	,000	-12487,226	-5418,338
[sexp=2]	0(a)	.	.	.	.	.
agep	531,208	54,290	9,785	,000	391,317	671,098

a This parameter is set to zero because it is redundant.

Appendix 3.3.11

CMA * Occupations.. Crosstabulation for Incorporated Self-Employed Workers

% within CMA

		Occupations..					Total
		Management	Social Sciences & Art	Applied Sciences & Health	Services & Retail Trade	Trades and Transport	
CMA	Montréal	41,2%	20,8%	10,9%	11,5%	15,6%	100,0%
	Vancouver	38,0%	23,3%	16,0%	10,9%	11,8%	100,0%
	Toronto	41,3%	19,8%	13,1%	10,5%	15,2%	100,0%
Total		40,5%	20,9%	13,0%	10,9%	14,6%	100,0%

CMA * Occupations.. Crosstabulation for Unincorporated Self-Employed Workers

% within CMA

		Occupations..					Total
		Management	Social Sciences & Art	Applied Sciences & Health	Services & Retail Trade	Trades and Transport	
CMA	Montréal	18,3%	32,7%	14,0%	17,8%	17,2%	100,0%
	Vancouver	17,6%	32,5%	14,2%	14,2%	21,5%	100,0%
	Toronto	16,3%	33,5%	18,1%	12,7%	19,4%	100,0%
Total		17,2%	33,0%	16,0%	14,6%	19,2%	100,0%

Appendix 3.3.12 *The GLM models for Incorporated Self-Employed Workers (Salaries & Self-Employment Income – the Dependent Variable) at 0.01 level, calculated for the mean age of 42.1 based on Nativity & Language at Work. Source: Statistics Canada, PUMF (Individuals), 2001.*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	721973830025,440 (a)	11	65633984547,767	42,586	,000
Intercept	53976418344,324	1	53976418344,324	35,022	,000
nativity_lang_w	208476227255,137	3	69492075751,712	45,089	,000
education	129519786566,409	2	64759893283,204	42,019	,000
occu_new	72460277817,321	4	18115069454,330	11,754	,000
sexp	90705244985,762	1	90705244985,762	58,853	,000
agep	48180416692,174	1	48180416692,174	31,261	,000
Error	5181561483154,550	3362	1541214004,508		
Total	14270478945098,000	3374			
Corrected Total	5903535313179,990	3373			

a R Squared = ,122 (Adjusted R Squared = ,119)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	25322,016	3778,362	6,702	,000	15584,073	35059,960
[nativity_lang_w=1,00]	-24480,720	3896,273	-6,283	,000	-34522,556	-14438,884
[nativity_lang_w=2,00]	-18492,338	1748,449	-10,576	,000	-22998,603	-13986,072
[nativity_lang_w=3,00]	-6265,828	1688,643	-3,711	,000	-10617,954	-1913,702
[nativity_lang_w=4,00]	0(a)	.	.	.	.	.
[education=1,00]	14777,843	1753,525	8,428	,000	10258,496	19297,189
[education=2,00]	2910,069	1916,159	1,519	,129	-2028,433	7848,571
[education=3,00]	0(a)	.	.	.	.	.
[occu_new=1,00]	9519,756	2155,907	4,416	,000	3963,354	15076,158
[occu_new=2,00]	10425,111	2519,826	4,137	,000	3930,782	16919,440
[occu_new=3,00]	15826,180	2769,502	5,714	,000	8688,363	22963,998
[occu_new=4,00]	704,460	2798,241	,252	,801	-6507,425	7916,344
[occu_new=5,00]	0(a)	.	.	.	.	.
[sexp=1]	-12667,025	1651,163	-7,672	,000	-16922,555	-8411,496
[sexp=2]	0(a)	.	.	.	.	.
agep	415,121	74,246	5,591	,000	223,768	606,473

a This parameter is set to zero because it is redundant.

Appendix 3.3.13 *The GLM models for Unincorporated Self-Employed Workers (Salaries & Self-Employment Income – the Dependent Variable) at 0.01 level, calculated for the mean age of 42.1 based on Nativity & Language at Work. Source: Statistics Canada, PUMF (Individuals), 2001.*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1910011146633,181(a)	11	173637376966,653	114,644	,000
Intercept	19363831777,581	1	19363831777,581	12,785	,000
nativity_lang_w	257494548503,069	3	85831516167,690	56,670	,000
education	302674023076,154	2	151337011538,077	99,921	,000
occu_new	370417812329,071	4	92604453082,268	61,142	,000
sexp	243478433814,243	1	243478433814,243	160,757	,000
agep	135708637147,413	1	135708637147,413	89,602	,000
Error	7747046902158,370	5115	1514574174,420		
Total	18789677166092,000	5127			
Corrected Total	9657058048791,550	5126			

a R Squared = ,198 (Adjusted R Squared = ,196)

Parameter Estimates

Dependent Variable: Salaries or Self-Employment Income

Parameter	B	Std. Error	t	Sig.	99% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	14638,614	2808,384	5,212	,000	7401,996	21875,231
[nativity_lang_w=1,00]	-21346,983	2921,386	-7,307	,000	-28874,783	-13819,184
[nativity_lang_w=2,00]	-15418,345	1395,159	-11,051	,000	-19013,377	-11823,313
[nativity_lang_w=3,00]	-10862,205	1385,412	-7,840	,000	-14432,122	-7292,288
[nativity_lang_w=4,00]	0(a)	.	.	.	.	.
[education=1,00]	15809,535	1485,702	10,641	,000	11981,192	19637,878
[education=2,00]	-2633,970	1543,930	-1,706	,088	-6612,355	1344,416
[education=3,00]	0(a)	.	.	.	.	.
[occu_new=1,00]	5095,870	1877,407	2,714	,007	258,185	9933,556
[occu_new=2,00]	12724,250	1776,080	7,164	,000	8147,664	17300,837
[occu_new=3,00]	28665,287	2042,731	14,033	,000	23401,598	33928,977
[occu_new=4,00]	2203,455	1994,410	1,105	,269	-2935,724	7342,634
[occu_new=5,00]	0(a)	.	.	.	.	.
[sexp=1]	-15685,955	1237,160	-12,679	,000	-18873,858	-12498,051
[sexp=2]	0(a)	.	.	.	.	.
agep	532,442	56,249	9,466	,000	387,501	677,384

a This parameter is set to zero because it is redundant.

Appendix 3.3.14 *The GLM models for Unincorporated Self-Employed Workers (Salaries & Self-Employment Income – the Dependent Variable) at 0.05 level*

Tests of Between-Subjects Effects

Dependent Variable: Salaries or Self-Employment Income

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2277083866355,294(a)	65	35032059482,389	24,283	,000
Intercept	20069009909,978	1	20069009909,978	13,911	,000
placebirth * education	366960500216,986	12	30580041684,749	21,197	,000
placebirth * occu_new	375016982689,482	24	15625707612,062	10,831	,000
placebirth * cma	178401222885,851	12	14866768573,821	10,305	,000
placebirth * sexp	269654871877,998	6	44942478646,333	31,153	,000
placebirth * agep	161988097790,276	6	26998016298,379	18,714	,000
Error	7637410498652,610	5294	1442654042,058		
Total	19199598225638,000	5360			
Corrected Total	9914494365007,900	5359			

a R Squared = ,230 (Adjusted R Squared = ,220)

Parameter Estimates

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	10626,270	3180,083	3,342	,001	4391,996	16860,544
[placebirth=1,00] * [education=1,00]	4110,960	9797,307	,420	,675	-15095,799	23317,719
[placebirth=1,00] * [education=2,00]	1008,035	9321,792	,108	,914	-17266,520	19282,590
[placebirth=1,00] * [education=3,00]	7001,812	9433,146	,742	,458	-11491,042	25494,667
[placebirth=2,00] * [education=1,00]	6752,515	18452,684	,366	,714	-29422,352	42927,382
[placebirth=2,00] * [education=2,00]	12066,104	16706,940	,722	,470	-20686,385	44818,592
[placebirth=2,00] * [education=3,00]	14305,366	16334,888	,876	,381	-17717,747	46328,479
[placebirth=3,00] * [education=1,00]	21913,651	8687,109	2,523	,012	4883,337	38943,964
[placebirth=3,00] * [education=2,00]	13877,619	9004,383	1,541	,123	-3774,683	31529,921
[placebirth=3,00] * [education=3,00]	16163,878	8544,405	1,892	,059	-586,677	32914,433
[placebirth=4,00] * [education=1,00]	11423,635	24018,683	,476	,634	-35662,883	58510,154
[placebirth=4,00] * [education=2,00]	-7796,205	23085,070	-,338	,736	-53052,458	37460,048
[placebirth=4,00] * [education=3,00]	10382,164	24552,102	,423	,672	-37750,077	58514,405
[placebirth=5,00] * [education=1,00]	28783,729	18222,998	1,580	,114	-6940,859	64508,318
[placebirth=5,00] * [education=2,00]	18656,372	17166,270	1,087	,277	-14996,592	52309,337
[placebirth=5,00] * [education=3,00]	24240,045	17740,621	1,366	,172	-10538,885	59018,976
[placebirth=6,00] * [education=1,00]	22039,479	1725,505	12,773	,000	18656,778	25422,179
[placebirth=6,00] * [education=2,00]	-47,254	1730,573	-,027	,978	-3439,891	3345,383
[placebirth=6,00] * [education=3,00]	0(a)	.	.	.	.	.
[placebirth=1,00] * [occu_new=1,00]	2468,389	5693,876	,434	,665	-8693,954	13630,732
[placebirth=1,00] * [occu_new=2,00]	7513,301	5588,001	1,345	,179	-3441,484	18468,086
[placebirth=1,00] * [occu_new=3,00]	31383,611	5680,274	5,525	,000	20247,933	42519,289
[placebirth=1,00] * [occu_new=4,00]	2574,508	6289,518	,409	,682	-9755,540	14904,557
[placebirth=1,00] * [occu_new=5,00]	0(a)	.	.	.	.	.
[placebirth=2,00] * [occu_new=1,00]	6421,544	8048,036	,798	,425	-9355,925	22199,012
[placebirth=2,00] * [occu_new=2,00]	-2288,818	11210,015	-,204	,838	-24265,068	19687,433
[placebirth=2,00] * [occu_new=3,00]	35753,543	12628,978	2,831	,005	10995,541	60511,544
[placebirth=2,00] * [occu_new=4,00]	-9650,655	9905,501	-,974	,330	-29069,520	9768,210
[placebirth=2,00] * [occu_new=5,00]	0(a)	.	.	.	.	.
[placebirth=3,00] * [occu_new=1,00]	5295,967	4621,835	1,146	,252	-3764,736	14356,669
[placebirth=3,00] * [occu_new=2,00]	4966,959	5033,985	,987	,324	-4901,727	14835,645
[placebirth=3,00] * [occu_new=3,00]	19957,657	5692,175	3,506	,000	8798,648	31116,666
[placebirth=3,00] * [occu_new=4,00]	-257,370	5065,805	-,051	,959	-10188,437	9673,697

[placebirth=3,00] * [occu_new=5,00]	0(a)	.	.	.	.	.
[placebirth=4,00] * [occu_new=1,00]	6727,529	13336,572	,504	,614	-19417,650	32872,707
[placebirth=4,00] * [occu_new=2,00]	10975,245	12761,199	,860	,390	-14041,965	35992,455
[placebirth=4,00] * [occu_new=3,00]	41432,747	13681,795	3,028	,002	14610,789	68254,704
[placebirth=4,00] * [occu_new=4,00]	-1031,751	14149,786	-,073	,942	-28771,164	26707,662
[placebirth=4,00] * [occu_new=5,00]	0(a)	.	.	.	.	.
[placebirth=5,00] * [occu_new=1,00]	-3083,843	10249,659	-,301	,764	-23177,400	17009,714
[placebirth=5,00] * [occu_new=2,00]	5998,071	9823,481	,611	,542	-13260,001	25256,144
[placebirth=5,00] * [occu_new=3,00]	7179,142	11448,031	,627	,531	-15263,717	29622,001
[placebirth=5,00] * [occu_new=4,00]	-7421,941	10544,851	-,704	,482	-28094,196	13250,314
[placebirth=5,00] * [occu_new=5,00]	0(a)	.	.	.	.	.
[placebirth=6,00] * [occu_new=1,00]	6399,113	2234,462	2,864	,004	2018,645	10779,580
[placebirth=6,00] * [occu_new=2,00]	14042,479	2044,856	6,867	,000	10033,717	18051,240
[placebirth=6,00] * [occu_new=3,00]	29147,413	2385,109	12,221	,000	24471,617	33823,209
[placebirth=6,00] * [occu_new=4,00]	4535,720	2309,948	1,964	,050	7,270	9064,170
[placebirth=6,00] * [occu_new=5,00]	0(a)	.	.	.	.	.
[placebirth=1,00] * [cma=1,00]	-7929,772	5269,059	-1,505	,132	-18259,299	2399,756
[placebirth=1,00] * [cma=2,00]	-1118,626	4617,517	-,242	,809	-10170,863	7933,612
[placebirth=1,00] * [cma=3,00]	0(a)	.	.	.	.	.
[placebirth=2,00] * [cma=1,00]	-7299,345	6883,497	-1,060	,289	-20793,837	6195,147
[placebirth=2,00] * [cma=2,00]	10549,377	9081,227	1,162	,245	-7253,571	28352,325
[placebirth=2,00] * [cma=3,00]	0(a)	.	.	.	.	.
[placebirth=3,00] * [cma=1,00]	-8936,778	5896,421	-1,516	,130	-20496,194	2622,637
[placebirth=3,00] * [cma=2,00]	-2434,790	3224,638	-,755	,450	-8756,409	3886,830
[placebirth=3,00] * [cma=3,00]	0(a)	.	.	.	.	.
[placebirth=4,00] * [cma=1,00]	-17101,149	9387,117	-1,822	,069	-35503,767	1301,469
[placebirth=4,00] * [cma=2,00]	-7836,199	13143,646	-,596	,551	-33603,163	17930,765
[placebirth=4,00] * [cma=3,00]	0(a)	.	.	.	.	.
[placebirth=5,00] * [cma=1,00]	-4584,444	7793,592	-,588	,556	-19863,096	10694,208
[placebirth=5,00] * [cma=2,00]	-6115,619	10410,183	-,587	,557	-26523,868	14292,629
[placebirth=5,00] * [cma=3,00]	0(a)	.	.	.	.	.
[placebirth=6,00] * [cma=1,00]	-13931,525	1392,609	-10,004	,000	-16661,613	-11201,436
[placebirth=6,00] * [cma=2,00]	-11750,524	1659,326	-7,082	,000	-15003,487	-8497,562
[placebirth=6,00] * [cma=3,00]	0(a)	.	.	.	.	.
[placebirth=1,00] * [sexp=1]	-6793,314	4250,237	-1,598	,110	-15125,530	1538,903
[placebirth=1,00] * [sexp=2]	0(a)	.	.	.	.	.
[placebirth=2,00] * [sexp=1]	-4063,102	8316,205	-,489	,625	-20366,291	12240,087
[placebirth=2,00] * [sexp=2]	0(a)	.	.	.	.	.
[placebirth=3,00] * [sexp=1]	-3664,006	3356,097	-1,092	,275	-10243,339	2915,327
[placebirth=3,00] * [sexp=2]	0(a)	.	.	.	.	.
[placebirth=4,00] * [sexp=1]	-11416,036	9775,620	-1,168	,243	-30580,281	7748,209
[placebirth=4,00] * [sexp=2]	0(a)	.	.	.	.	.
[placebirth=5,00] * [sexp=1]	-8117,465	8182,047	-,992	,321	-24157,650	7922,720
[placebirth=5,00] * [sexp=2]	0(a)	.	.	.	.	.
[placebirth=6,00] * [sexp=1]	-18545,295	1380,054	-13,438	,000	-21250,769	-15839,821
[placebirth=6,00] * [sexp=2]	0(a)	.	.	.	.	.
[placebirth=1,00] * agep	416,626	195,194	2,134	,033	33,966	799,287
[placebirth=2,00] * agep	212,321	350,537	,606	,545	-474,876	899,518
[placebirth=3,00] * agep	-124,382	167,603	-,742	,458	-452,954	204,189
[placebirth=4,00] * agep	370,118	504,894	,733	,464	-619,683	1359,918
[placebirth=5,00] * agep	-16,076	395,863	-,041	,968	-792,130	759,977
[placebirth=6,00] * agep	638,705	61,957	10,309	,000	517,243	760,166

a This parameter is set to zero because it is redundant.

Appendix 3.3.15 *The comparison of the R Squared changes of the models with aggregated and original categories for unincorporated self-employed workers (Dependent Variable: Salaries or Self-Employment Income)*

Tests of Between-Subjects Effects (Aggregated Categories)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	820165760887,627(a)	2	410082880443,814	241,559	,000
Intercept	7167925057673,960	1	7167925057673,960	4222,255	,000
education	820165760887,687	2	410082880443,844	241,559	,000
Error	9094328604120,280	5357	1697653276,857		
Total	19199598225638,000	5360			
Corrected Total	9914494365007,900	5359			

a R Squared = ,083 (Adjusted R Squared = ,082)

Parameter Estimates

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	29527,298	1074,282	27,486	,000	27421,269	31633,327
[education=1,00]	25052,534	1348,527	18,578	,000	22408,872	27696,195
[education=2,00]	608,875	1557,782	,391	,696	-2445,012	3662,761
[education=3,00]	0(a)	.	.	.	.	.

a This parameter is set to zero because it is redundant.

Tests of Between-Subjects Effects (Original Categories)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1257630479454,279(a)	13	96740806111,868	59,742	,000
Intercept	3338018216653,771	1	3338018216653,771	2061,375	,000
hlosp	1257630479454,291	13	96740806111,869	59,742	,000
Error	8656863885553,620	5346	1619316102,797		
Total	19199598225638,000	5360			
Corrected Total	9914494365007,900	5359			

a R Squared = ,127 (Adjusted R Squared = ,125)

Parameter Estimates

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	59690,672	4916,187	12,142	,000	50052,940	69328,404
[hlosp=1]	-29048,672	8944,685	-3,248	,001	-46583,901	-11513,442
[hlosp=2]	-35155,025	6028,616	-5,831	,000	-46973,570	-23336,480
[hlosp=3]	-29256,298	5206,000	-5,620	,000	-39462,183	-19050,414
[hlosp=4]	-31633,990	5187,375	-6,098	,000	-41803,360	-21464,620
[hlosp=5]	-24139,328	5824,415	-4,145	,000	-35557,558	-12721,099
[hlosp=6]	-29954,327	5403,502	-5,544	,000	-40547,394	-19361,260
[hlosp=7]	-29541,643	5360,070	-5,511	,000	-40049,567	-19033,720
[hlosp=8]	-29365,487	5160,776	-5,690	,000	-39482,713	-19248,262
[hlosp=9]	-24813,606	5594,859	-4,435	,000	-35781,811	-13845,400
[hlosp=10]	-27416,175	5291,226	-5,181	,000	-37789,135	-17043,215
[hlosp=11]	4297,443	5040,903	,853	,394	-5584,783	14179,668
[hlosp=12]	1900,503	5639,786	,337	,736	-9155,777	12956,783
[hlosp=13]	-5699,498	5403,502	-1,055	,292	-16292,564	4893,569
[hlosp=14]	0(a)	.	.	.	.	.

Appendix 3.3.16

Place of Birth Means for Paid Workers

Dependent Variable: Salaries or Self-Employment Income

Place of Birth	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
The United States and Europe	37131,104(a)	375,435	36395,253	37866,955
West Central Asia & Middle East	28157,306(a)	727,712	26730,994	29583,617
Southern and Eastern Asia	27430,827(a)	277,097	26887,718	27973,936
Africa	29537,743(a)	677,050	28210,729	30864,757
Central and Latin America	32185,038(a)	479,202	31245,804	33124,272
Canada	42499,847(a)	116,568	42271,375	42728,319

a Covariates appearing in the model are evaluated at the following values: Age = 38,13.

Place of Birth Means for Unincorporated Self-Employed Workers

Dependent Variable: Salaries or Self-Employment Income

Place of Birth	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
The United States and Europe	28052,965(a)	1812,537	24499,654	31606,277
West Central Asia & Middle East	26641,202(a)	3085,506	20592,352	32690,052
Southern and Eastern Asia	18457,928(a)	1580,643	15359,223	21556,632
Africa	26536,243(a)	3939,451	18813,312	34259,173
Central and Latin America	26049,713(a)	3242,299	19693,485	32405,942
Canada	39453,638(a)	715,771	38050,435	40856,841

a Covariates appearing in the model are evaluated at the following values: Age = 42,11.

SUPPLEMENTARY MATERIAL

(Chapter 3.2, Count Tables)

Figure 3.2.2

		SEX		Total
		Female	Male	
Class of Worker	Paid Workers	39612	47236	86848
	Self-Employed Incorporated	901	2825	3726
	Self-Employed Unincorporated	1814	3891	5705
Total		42327	53952	96279

Table 3.2.1

CMA			Highest Level of Schooling			Total
			High School or Less	College	University Degree	
Montréal	Class of Worker	Paid Workers	10969	8893	11170	31032
		Self-Employed Incorporated	411	296	547	1254
		Self-Employed Unincorporated	577	436	781	1794
	Total		11957	9625	12498	34080
Toronto	Class of Worker	Paid Workers	11814	10742	17247	39803
		Self-Employed Incorporated	432	386	806	1624
		Self-Employed Unincorporated	710	622	1321	2653
	Total		12956	11750	19374	44080
Vancouver	Class of Worker	Paid Workers	4507	4831	6675	16013
		Self-Employed Incorporated	213	222	413	848
		Self-Employed Unincorporated	360	351	547	1258
	Total		5080	5404	7635	18119

Figure 3.2.6

	Place of Birth					
	Canada	The United States and Europe	West Central Asia & Middle East	Southern and Eastern Asia	Africa	Central and Latin America
Paid Workers	63423	5193	1356	11645	1614	3617
Self-Employed Incorporated	2711	275	117	457	85	81
Self-Employed Unincorporated	4055	510	172	705	102	161
Total	70189	5978	1645	12807	1801	3859

Table 3.2.2

Class of Worker			Highest Level of Schooling			Total
			High School or Less	College	University Degree	
Paid Workers	Place of Birth	Canada	19938	19220	24265	63423
		The United States and Europe	1303	1305	2585	5193
		West Central Asia & Middle East	353	235	768	1356
		Southern and Eastern Asia	3835	2137	5673	11645
		Africa	368	395	851	1614
		Central and Latin America	1493	1174	950	3617
	Total		27290	24466	35092	86848
Self-Employed Incorporated	Place of Birth	Canada	757	700	1254	2711
		The United States and Europe	60	70	145	275
		West Central Asia & Middle East	35	21	61	117
		Southern and Eastern Asia	158	62	237	457
		Africa	18	21	46	85
		Central and Latin America	28	30	23	81
	Total		1056	904	1766	3726
Self-Employed Unincorporated	Place of Birth	Canada	1145	1062	1848	4055
		The United States and Europe	112	153	245	510
		West Central Asia & Middle East	62	25	85	172
		Southern and Eastern Asia	246	107	352	705
		Africa	25	24	53	102
		Central and Latin America	57	38	66	161
	Total		1647	1409	2649	5705

Table 3.2.3

Class of Worker		Occupations					Total
		Management Occupations	Social Sciences & Sport	Applied Sciences & Health	Services & Retail Trade	Trades and Transport	
Paid Workers	Canada	8 812	23 390	7 869	11 070	8 262	59 403
	The United States and Europe	591	1 404	1 090	840	766	4 691
	West Central Asia & Middle East	176	313	310	270	162	1 231
	Southern and Eastern Asia	907	2 820	1 921	2 466	1 089	9 203
	Africa	159	488	329	274	173	1 423
	Central and Latin America	200	1 056	402	703	520	2 881
Self-Employed Incorporated	Canada	1 028	632	338	255	374	2 627
	The United States and Europe	98	40	57	27	51	273
	West Central Asia & Middle East	57	12	12	12	21	114
	Southern and Eastern Asia	213	56	47	77	46	439
	Africa	45	8	11	11	9	84
	Central and Latin America	21	14	8	16	17	76
Self-Employed Unincorporated	Canada	580	1 479	625	539	677	3 900
	The United States and Europe	82	113	101	68	129	493
	West Central Asia & Middle East	54	20	18	26	47	165
	Southern and Eastern Asia	190	137	92	133	124	676
	Africa	18	26	20	15	21	100
	Central and Latin America	23	36	17	26	46	148

Table 3.2.4

Class of Worker	Place of Birth	Salaries & Self-Employment Income				Total
		$0 - $14'000	$14'001 - $31'000	$31'000 - $48'000	$48'001 & More	
Paid Workers	Canada	8825	17422	17537	19639	63423
	The United States and Europe	902	1591	1292	1408	5193
	West Central Asia & Middle East	386	453	273	244	1356
	Southern and Eastern Asia	3055	4591	2411	1588	11645
	Africa	399	577	351	287	1614
	Central and Latin America	851	1487	879	400	3617
		14418	26121	22743	23566	86848
Self-Employed Incorporated	Canada	340	692	571	1108	2711
	The United States and Europe	41	92	60	82	275
	West Central Asia & Middle East	31	44	22	20	117
	Southern and Eastern Asia	131	160	86	80	457
	Africa	20	24	17	24	85
	Central and Latin America	21	28	22	10	81
		584	1040	778	1324	3726
Self-Employed Unincorporated	Canada	948	1267	655	1185	4055
	The United States and Europe	123	192	86	109	510
	West Central Asia & Middle East	64	58	23	27	172
	Southern and Eastern Asia	275	250	95	85	705
	Africa	35	36	13	18	102
	Central and Latin America	37	70	23	31	161
		1482	1873	895	1455	5705

Table 3.2.6

	Nativity & Language at Work	Highest Level of Schooling			Total
		High School or Less	College	University Degree	
Paid Workers	CB - English	11 117	12 156	16 801	40 074
	FB - English	5 508	4 550	9 296	19 354
	CB - French	8 208	6 499	6 935	21 642
	FB - Non-Official	1 180	269	519	1 968
Self-Employed Incorporated	CB - English	438	477	881	1 796
	FB - English	202	165	433	800
	CB - French	303	210	342	855
	FB - Non-Official	62	15	43	120
Self-Employed Unincorporated	CB - English	680	729	1 343	2 752
	FB - English	338	283	646	1 267
	CB - French	439	311	482	1 232
	FB - Non-Official	118	32	73	223

Table 3.2.7

Class of Worker	Nativity & Language at Work	Occupations					Total
		Management	Social Sciences & Art	Applied Sciences & Health	Services & Retail Trade	Trades and Transport	
Paid Workers	CB - English	6369	15123	4900	6844	4728	37964
	FB - English	1718	5134	3531	3516	2242	16141
	CB - French	2242	7650	2782	3828	3323	19825
	FB - Non-Official	147	314	151	576	250	1438
		10845	29471	11921	15623	10972	78832
Self-Employed Incorporated	CB - English	700	434	227	162	221	1744
	FB - English	343	99	121	101	115	779
	CB - French	305	188	105	82	146	826
	FB - Non-Official	57	17	5	22	12	113
		1462	762	473	398	518	3613
Self-Employed Unincorported	CB - English	367	1050	464	299	462	2642
	FB - English	248	258	218	189	293	1206
	CB - French	200	415	152	225	197	1189
	FB - Non-Official	71	43	11	48	35	208
		947	1811	873	807	1044	5482

Table 3.2.8

Class of Worker	Nativity & Language at Work	Salaries & Self-Employment Income				Total
		$0 - $14'000	$14'001 - $31'000	$31'000 - $48'000	$48'001 & More	
Paid Workers	CB - English	5135	9837	11156	13946	40074
	FB - English	4045	6977	4543	3581	19146
	CB - French	3394	6993	5942	5313	21642
	FB - Non-Official	835	810	231	91	1967
		14418	26121	22743	23566	86848
Self-Employed Incorporated	CB - English	210	400	384	802	1796
	FB - English	178	265	163	189	795
	CB - French	123	267	175	290	855
	FB - Non-Official	38	40	27	15	120
		584	1040	778	1324	3726
Self-Employed Unincorporated	CB - English	551	831	454	916	2752
	FB - English	370	456	199	228	1253
	CB - French	377	409	191	255	1232
	FB - Non-Official	98	83	20	22	223
		1482	1873	895	1455	5705