ECONOMIC RETURNS OF PARTICIPATION IN THE ENCLAVE AND MAINSTREAM ECONOMY FOR CHINESE AND SOUTH ASIAN IMMIGRANTS IN CANADA

A Thesis Submitted to the College of

Graduate Studies and Research

in Partial Fulfillment of the Requirements

for the Degree of Doctor of Philosophy

in the Department of Sociology

Saskatoon

By

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ABSTRACT

Economic integration of immigrants has been studied from three theoretical perspectives: assimilation theory, social capital theory and immigrant enclave economy thesis. These theoretical perspectives differ on whether immigrants' ethnic attachments are seen as advancing or limiting their economic interests. The enclave economy thesis suggests that immigrants benefit from enclave participation by making use of common ethnic language and cultural ties to advance their economic interests. Using individual data from the 2006 Census of Canada, this thesis investigates whether Chinese and South Asian immigrants who participate in the enclave economy have better or worse returns compared to their counterparts in the mainstream economy.

There are several major general findings. First, Chinese and South Asian immigrants who immigrated to Canada at an older age, those with less human capital, and those who lived in large metropolitan centres are more likely to participate in the enclave economy. Second, the returns for Chinese and South Asian immigrants in the enclave are lower than the returns of their counterparts in the mainstream economy, but the relative enclave earnings disadvantage is smaller for self-employed than for wage workers. Third, the returns to human capital for Chinese and South Asian in the enclave tend to be lower. Fourth, when the interaction terms measuring unequal human capital returns are further controlled, there is a positive effect associated with enclave participation. Such an effect indicates unmeasured positive influences associated with enclave participation after variations in other factors and unequal returns to human capital have been controlled. The positive effect may be understood as results of ethnic solidarity and cultural attachment. At the same time, the study suggests that the enclave economy provides an alternative opportunity to some immigrants, but such an opportunity is not as good as the opportunity in the mainstream economy.

ACKNOWLEDGEMENTS

It would not have been possible for me to write this thesis without the support of several people.

My supervisor Dr. Peter Li has guided me with patience to develop the research project. I have learned much from his extensive academic experience and rich knowledge. I am also grateful for the opportunity to work as his research assistant in several research projects and to co-author with Dr. Li. Dr. Mobinul Huq of the Department of Economics is a member of the Advisory Committee. He has provided invaluable advice and guidance on statistical modeling, analyses, and interpretation. Dr. Li Zong of the Department of Sociology, another member of the Advisory Committee, has been most supportive and kind in encouraging me every step of the way. Dr. Hongming Cheng of the Department of Sociology, another member of the Committee, read the thesis with care and provided me with constructive advice. I would like to thank the external examiner, Dr Lori Wilkinson, University of Manitoba, for providing solid suggestions and valuable comments on the theoretical framework. I appreciate the advice of Dr. Patience Elabor-Idemudia, who was the Chair of Graduate Studies Committee, for guiding me in the graduate program.

Other faculty members in the Department of Sociology have been very supportive; in particular I would like to thank Dr. Terry Wotherspoon, Head of the Department of Sociology, for teaching me sociological theory and for expanding my knowledge in this area. I also wish to thank the Department of Sociology for giving me financial assistance to allow me to complete my research.

The staff members of the Department of Sociology, including Ms. Lori Giles, Ms. Barb Wotherspoon, and Ms. Kristen Harms, have been very supportive and helpful.

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1. INTRODUCTION

Immigration is important to Canada for several reasons. First, immigrants made up 19.8 percent of Canada's population in 2006 (Statistics Canada, 2007); in other words, one in five of the people in Canada had immigrated to Canada in their life time. Second, Canada now depends heavily on immigration as a source of growth in population and labor force (Li, 2003). Canada's fertility rate is expected to stay low and the population 65 and over will continue to rise and the population under 15 will continue to decline (Statistics Canada, 2010a). The result is that international net migration will account for most of the growth in Canada's population (Statistics Canada, 2010b). Third, immigration increases the diversity in Canada's population. Statistics Canada (2010b) predicts that by 2031, 71 percent of first-generation immigrants and 48 percent of the second generation immigrants will belong to a visible minority group. Fourth, Canada admits a large number of immigrants every year, second only to Australia among OECD countries (Li, 2003). In the 10 year period between 2000 and 2010, Canada admitted on average 270,000 new immigrants every year (Citizenship and Immigration Canada, 2011). Fifth, a large number of immigrants who come to Canada every year belongs to the economic class, or immigrant class selected for the labor force. In 2011, Canada accepted over 60 percent of new immigrants as economic immigrants, that is, those selected based on human capital and labor market needs (Citizenship and Immigration Canada, 2012). The above reasons explain why there has been growing academic and policy interests to study immigrants and their integration.

1.1. Research Question

This thesis is about the economic integration of immigrants in Canada. From Canada's policy perspective, integration is a two-way street that involves immigrants making adjustments and Canadian society making changes to assist immigrants to become contributing members of society (Li, 2003a). Academically, economic integration is often studied in terms of economic performance of immigrants in the labor market. Even though the topic of economic integration of immigrants has been widely studied, the focus tends to be narrow. A lot of attention has been put on the question of why recent cohorts of immigrants do not earn as much as earlier cohorts compared to the earnings of Canadians (Bloom, Grenier, and Gunderson, 1995; Aydemir and Skuterud, 2005).

This thesis takes a different approach. It studies how immigrants who enter the labor market in different ways, that is, in different attachments to their ethnic community end up with similar or different labor market outcomes. Specifically, the thesis examines two groups of visible minority immigrants to see how well they perform in Canada's labor market. The research is on whether those immigrants who maintain a strong ethnic attachment end up doing as good as those who do not. This research is guided by debates in the literature regarding the usefulness of ethnic social capital and the importance of the immigrant enclave economy (Li, 2004; Li and Dong, 2007; Nee, Sanders and Sernau, 1994; Sanders and Nee, 1987; Portes 1998; Portes and Sensenbrenner, 1993). The two groups of visible minority immigrants focused in this thesis are Chinese and South Asians. These are the largest visible minority groups in Canada, and they have an established enclave economy in Canada (Buchignani and Indra, 1985; Johnston, 1984; Li, 1988; Li and Li).

Empirically, I study (1) what types of immigrants are more likely to participate in the enclave economy; and (2) whether immigrants who participant in the enclave economy perform comparably to those who participate in the mainstream economy. This analysis allows me to test empirically whether ethnic attachment in the form of participation in the enclave economy enhances or hinders the economic performance of immigrants. In my analysis, I consider the relationship between ethnic attachment and economic outcomes taking into account specific visible minority groups. The inclusion of Chinese and South Asians is to see whether such a relationship works the same in two different groups.

The study of how ethnic attachment affects economic outcomes of immigrants has a long history in sociology. However, different theories have predicted different results regarding whether ethnic attachment helps or hinders economic integration. The assimilation theory has suggested that the attachment of immigrants to ethnic culture slows down assimilation, and immigrants suffer economically as a result (Park, 1950; Gordon, 1964). Recently, social capital theory has gained importance. In general, social capital is believed to be useful to people and it has the potential to help people to advance their economic interests (Granovetter, 1985; Lin, Cook, and Burt, 2001; Portes and Sensenbrenner, 1993; Portes, 1998). This theory has been applied to immigrants to study the effects of ethnic social capital (Li, 2004; Nakhaie, 2007; Li, 2008). However, the findings are very mixed (Kolankiewicz, 1996; Podolny & Baron, 1997; Fernandez, Castilla, & Moore, 2000; Putnam, 2000; Reitz, 2007). It is not clear whether ethnic social capital can help immigrants and increase their economic interests. In the U.S., the development of the immigrant enclave thesis has contributed to this debate. According to this thesis, the immigrant enclave economy can be an alternative path of mobility for immigrants (Wilson and Portes, 1980; Portes and Jensen, 1989; Logan, Alba, and Stults, 2003; Waldinger,

1994). The reason is that immigrants make use of ethnic culture, language similarity, and ethnic social ties to develop a specialized economic market. As a result those immigrants who participate in it benefit from this protected economy, and enjoy a relatively high economic return. If this is true, it would provide support to the idea that ethnic social capital is useful or helpful to immigrants. Despite the growing interest in the immigrant enclave, there has been very little study in Canada on this topic. The work of Li and Dong (2007) based on 2001 Census in Canada has made important contributions to the understanding of the Chinese enclave, but the study is limited to one group, and the data are now dated. In this study, I plan to extend the work of Li and Dong (2007) to use the 2006 Census to study the effects of enclave participation among Chinese and South Asian immigrants.

My study will help to clarify the debate on the immigrant enclave economy. The debate has several aspects. The first one is about whether everyone in the enclave can benefit from the protected economy. The literature has suggested that immigrant employers and immigrant workers perform quite differently even though both groups are found in the enclave (Sanders and Nee, 1987). The second debate has to do with whether returns to past human capital investment are as good in the enclave as in the mainstream economy (Nee, Sanders and Sernau, 1994). Studies based on the U.S. have produced mixed results (Logan and Stults, 2003; Sanders and Nee, 1987; Wilson and Portes, 1980; Zhou and Logan, 1989). My study will help to clarify these debates using Canadian data.

In summary, the general research question of this thesis is to explore whether immigrants who are more attached to their ethnic community perform economically as well as those who are not. On the theoretical level, the question has to do with whether ethnic attachment helps or hinders immigrants' economic integration. On the empirical level, the inquiry is about whether

those who participate in the enclave economy, as workers and entrepreneurs, receive higher or lower returns compared to their counterparts in the mainstream economy.

My findings will have both academic and policy implications. If immigrants who participate in the enclave economy end up performing as well as those who participate in the mainstream economy, then one way to assist immigrants is to help them to integrate into different economic sectors. However, if enclave participation brings poor earnings or returns, then it would suggest a need to help those immigrants who are limited to enclave participation. A sound policy cannot be developed unless there are sound data and analysis. I am hoping that my thesis can contribute to useful policy development as well as to resolve some academic debates.

2. LITERATURE REVIEW: THEORY ON ECONOMIC ADJUSTMENT AND PERFORMANCE OF IMMIGRANTS

The issue of how well immigrants are integrated economically in Canada has been an academic and policy concern. In this discussion, the term integration has been used to describe the process of immigrants adjusting to Canadian society. Despite the term being used widely, the meaning of integration is imprecise (Li, 2003). Conceptually, the term is used to describe an ideal of a social process by which immigrants become desirable members of the host society (Li, 2003). In reality, the assessment of this process is based on "a narrow understanding and a rigid expectation that treat integration solely in terms of the degree to which immigrants converge to the average performance of native-born Canadians and their normative and behavioral standards" (Li, 2003: 316). In general, the study of integration of immigrants has been the study of assimilation (Alba and Nee, 1997, 2003). The focus of this thesis is on economic integration. This chapter describes the three major theoretical perspectives that have been used to study the economic integration of immigrants. In many ways, they all have to do with the issue of ethnic attachment and its effects on immigrants. In addition to these three theoretical perspectives, empirical studies dealing with economic integration in Canada are also briefly reviewed. The chapter ends with an explanation of what this thesis is trying to accomplish.

Three broad types of theories have guided the understanding of immigrants' economic performance in North America: assimilation theory, social capital theory and immigrant enclave economy thesis. Assimilation theory was advanced in the 1920s and 1930s by Robert Park and his associates in what is called the Chicago School of Sociology (Bulmer, 1984). Since then, it has been used widely to explain ethnic relations and immigrants' adaptation and integration

(Park, 1950; Gordon, 1964; Glazer and Moynihan, 1970; Kuper, 1975; Li, 1999; Lyman, 1968; Wirth, 1956; Lee, 1960; Bolaria and Li, 1988; Lewis, 1959; Rosen, 1959). According to this perspective, over time immigrants would assimilate into American society and those who assimilate fast would end up benefiting quickly from the opportunities of the New World. The second type of theory that has been used is the theory of social capital that became popular in recent years (Putnam, 2000; Fukuyama, 1995, 1996; Li, 2004; Portes and Landolt, 1996; Woolcook, 2001; Nakhaie, 2007; Li, 2008). The idea here is that a person's ties to a social group can be useful in helping the person to gain economic benefits. The idea of social capital has been used to understand ethnic minorities. The basic understanding is that ethnic social connection, or ethnic social capital, is useful to immigrants in providing them with resources to settle in the host society. But social capital has its downside and it can limit rather than advance the opportunities of an individual (Portes and Landolt, 1996). The third type of theoretical understanding that has been used in recent years is the immigrant or ethnic enclave economy thesis (Wilson and Portes, 1980; Portes and Jensen, 1989; Logan, Alba, and Stults, 2003; Waldinger, 1994; Li and Dong, 2007). This thesis was mainly developed by American sociologists (Wilson and Portes, 1980; Portes and Jensen, 1989 and its application in Canada has been limited (Li and Dong, 2007). According to this thesis, some minority groups are able to mobilize ethnic-based resources to develop a sub-economy. Such an immigrant enclave economy offers attractive economic returns, significant returns to past human capital, and an alternative route of mobility for immigrants. However, there have been disagreements in the literature over whether the enclave economy offers higher or lower returns to those immigrants who participate in it as compared to those who participate in the mainstream economy. In other words, research disagrees over whether immigrants really enjoy positive economic returns under

the enclave economy by making use of ethnic language, ethnic cohesion, and cultural distinctiveness. All three theories discuss the issue of integration by stressing the usefulness or limitation of ethnic ties and the reliance on the ethnic community. But the three theoretical positions lead to different expectations regarding whether ethnic attachment helps or hinders economic integration in the host society. The assimilation school clearly suggests that the stronger the ethnic attachment, the greater is the hindrance to economic success; whereas the social capital theory implies that social ties and connections are instrumental in advancing the economic interests of immigrants. Finally, the immigrant enclave thesis suggests that attachments to the enclave can provide an advantage in social mobility and economic outcomes. However, empirical studies have produced mixed results about whether ethnic attachment advances or limits the economic interests of immigrants. Research on immigrants' economic integration in Canada has been influenced in different degrees by these three types of theories. In this chapter, the three types of theories are reviewed, and research on immigrants' economic integration in Canada is summarized and assessed.

2.1. Assimilation and Transplanted Culture

A well-known theory that has dominated sociology until recent decades is the theory of assimilation. The race relations cycle of Robert Park best summarizes the concept of assimilation (Park, 1950). Park's race relations cycle has four stages: contact, competition, accommodation and assimilation. This cycle is used to understand the process of how ethnic groups come into contact with each other and eventually work out differences to live together in harmony. It begins with the first stage of initial contact between two ethnic groups. The initial

contact of two ethnic groups leads to competition over limited resources and opportunities. Eventually, both groups realize the need to accommodate to each other, and finally, members of the two groups work out differences and become one assimilated group. Park's cycle has been used to study immigrants to America to explain how immigrants have to go through different stages to be assimilated in North American society. It is also based on the notion of the "melting pot" in which ethnic groups of different cultures bring differences to North America, but over time, these differences melt or become assimilated in the larger society. The idea of the melting pot suggests that people from different cultures eventually are blended in the same one society and become assimilated into one single culture.

The implication of this theory is that those immigrants who are quick to assimilate end up like the rest of the members of society and enjoy the success of assimilation. In contrast, those immigrants who hold on to the Old World culture and way of life end up staying longer in the ethnic ghetto and not being able to take advantage of the opportunities of mainstream society. Thus, assimilation theory and transplanted cultural theory are really two sides of the same theory.

Milton Gordon further develops the idea of assimilation and outlines seven stages of assimilation: acculturation, structural assimilation, marital assimilation, identification assimilation, attitude reception assimilation, behavior reception assimilation, and civic assimilation (Gordon, 1964). Each stage of assimilation represents a higher level of assimilating to mainstream society. However, Gordon does not think this is a straight-line process because there are different outcomes possible. He distinguishes three different models of assimilation, each with a different emphasis: Anglo-conformity, melting pot, and pluralism. The Anglo-conformity model uses Anglo-Saxon culture as a reference and it expects other later comers to conform to the dominant Anglo-Saxon framework. Assimilation in this model means becoming

like Anglo-Saxons. The melting pot model is the model that is most widely adopted in America. It essentially suggests that each cultural group has something to contribute to the American pot, but in the end, all cultural differences are melted into one single pot. The model of pluralism implies that there is something in common among different ethnic or cultural groups which they share in society, but at the same time, each group maintains some degree of completeness to function by itself in society. This model has been used to describe the ethnic differences in Africa (Kuper, 1975). The idea of melting pot has been further refined by Glazer and Moynihan (1970) who show that there are really three melting pots in America, separated by Catholic, Protestant and Jewish religions.

Although researchers have different opinions about the process of assimilation, the model implies that immigrants or immigrant groups have to give up their cultural traits in order to assimilation into the New World. In other words, the old cultural traits are considered a handicap or obstacle in the process of assimilation. The term assimilation is used to describe the process by which an outsider, an immigrant, or a subordinate group becomes fully integrated into the dominant host society. Assimilation also implies that the subordinate group actually comes to accept and internalize the values and culture of the dominant group.

From the assimilation perspective, ethnicity and race are seen as essential factors associated with people at birth that influence their culture and behaviors. From this point of view, the most important factor to understand immigrant groups in North America is their ethnicity or race, and by implication, the culture they represent. When immigrant groups came to North America, they established new communities in the New World. These communities are often seen as extensions of the Old World. This is why this perspective is sometimes referred to as the transplanted cultural thesis (Li, 1999). The thesis suggests that traditional values, culture

and social organization transplanted from the Old World influence how immigrants build their new community. The reason that some immigrant groups are successful in establishing themselves in the New World initially is because they are endowed with values and social organizations that help them to establish themselves in the new land even in the face of many difficulties. But transplanted culture and organization may only help immigrants to establish themselves quickly when they first arrive. In the long run, the theory suggests that they have to abandon the old culture and become assimilated in the new society in order to do well. Thus, the transplanted cultural thesis also suggests the price of not assimilating into mainstream society.

There are many problems with the assimilation theory. Lyman (1968) has pointed out several weaknesses of this perspective. He cites many examples to show that the race relations cycle described by Park does not necessarily follow in many empirical cases (Lyman, 1968). The most obvious example is the absence of interracial harmony in the history of America. In fact, according to Lyman (1968), Park never presented a single case in which his model would apply well. Louis Wirth has tried to apply the cycle to study Blacks in America and concluded that they were not assimilated due to many structural obstacles (Wirth, 1956). Similar, Rose Hum Lee has done the same in applying Park's theory to the study of Chinese in America and found that they too were not assimilated despite being in America for a long time (Lee, 1960).

In their critique of the assimilation school, Bolaria and Li (1988) argue that the perspective stress "the distinctiveness of cultural origin" and its determination of ethnic and racial differences. In other words, the assimilation perspective has a tendency to view ethnicity and race as basic features of people. A frequent argument used to explain ethnic and racial inequality is the lack of assimilation of some groups. The cultural uniqueness of each group is often used to explain why a group succeeds or fails (Bolaria and Li, 1988). Notions like "culture

of poverty" (Lewis, 1959) and "achievement syndrome" (Rosen, 1959) have been used to explain the cultural flaws of some minority groups, which then explain why they do not perform well in American society. Bolaria and Li (1988) also suggest that the above argument is a conceptual tautology, that is, using the same term as a cause and a consequence. Others have also criticized the assimilation model as mechanical and rigid, ethnocentric and theoretically confusing (Price, 1969).

There has been no shortage of criticism of the assimilation model and what it implies. However recently, there has been a serious attempt to revise the concept. In their paper entitled "Rethinking Assimilation Theory for a New Era of Immigration", Alba and Nee (1997) argue that some of the ideas of assimilation school are problematic, but its basic concept still proves to be useful given the evidence reviewed by them. Some of the problems of the classical version of assimilation include treating the middle-class cultural patterns of WASP (White, Anglo-Saxon, Protestants) as the core culture, seeing the process as straight-line assimilation, and overlooking the effect of ethnic group structures on the individual (Alba and Nee, 1997, 2003). Alba and Nee (1997, 2003) further argue that even the assimilation of the second generation of non-European immigrants is only partial, and it would take three or four generations to complete the process. However, the socioeconomic attainment of the post-1965 immigrants in terms of school to job transition is similar between new immigrants and native-born Americans. In terms of the ethnic economy, it has provided some ethnic groups a shelter in the past and allowed them to provide educational opportunities for the second generation. But the positive effect of the ethnic economy seems to continue to work only for some groups with a heavy concentration, such as Cubans in Miami and Koreans in Los Angeles (Alba and Nee, 1997, 2003). They also suggest that post-1965 immigrants face difficulties mainly due to limited human capital and not racial

factors, and if anything, the economic integration of new immigrants, mainly non-white, has been progressing faster than that experienced by earlier European immigrants (Alba and Nee, 1997, 2003). They also examine the evidence on residential patterns and discover that many new immigrants are moving to suburbs. In sum, Alba and Nee (1997, 2003) conclude that the concept of assimilation is still powerful in understanding American ethnic groups.

2.2. Social Capital Theories

A recent theory that stresses ethnic solidarity and its usefulness has gained importance. This theory is based on the notion of social capital. It argues that social networks and social ties people develop in a social group can be useful in helping individuals to advance their economic interests (Granovetter, 1985; Lin, Cook, and Burt, 2001; Portes and Sensenbrenner, 1993; Portes, 1998). In the case of an ethnic minority, ethnic solidarity is a form of social capital that can help members of an ethnic group to overcome hardships (Li, 2004). In other words, such ethnic ties are useful or resourceful to its members in helping them to overcome economic and other difficulties. Unlike assimilation theory that suggests the limitation of ethnic culture, social capital theory stresses the usefulness of ethnic ties and values in strengthening the solidarity of an ethnic group and allowing its members to use group-based resources for individual gains (Li, 2004).

Many writers have suggested the advantages of social capital. Putnam (2000) in particular has argued that social capital or trust can contribute to the wealth and stability of a nation. Fukuyama (1995, 1996) also argues that social capital is a virtue and it can bring prosperity to nations in the world. However, Li (2004) has criticized this perspective and he

points out that the notion of social capital is ambiguous. The term "social capital" has been used in many ways to refer to different things, including trust, social networks, values such as reciprocity and trustworthiness, and collective resources (Li, 2004). Others have argued that there are downsides of social capital such as the tendency to exclude others who are not members of the group and to force individuals to conform (Portes and Landolt, 1996). For these reasons, Woolcook (2001) points out that social capital should be seen as both an asset and a liability.

In his review of the literature on social capital as applied to minorities, Li (2004) shows that the emphasis on the usefulness of ethnic social capital is uneven in the literature. Li (2004) redefines the notion of social capital in three elements: (1) a person's attachment to a social group can be resourceful to the person, and thus becomes a form of capital; (2) the effectiveness of social capital depends on how resourceful the group is and how intensive and extensive the ties are; and (3) there is a cost to individual to have to invest in social relations (Li, 2004).

Li (2004) discusses four theoretical perspectives: ethnic attachment, ethnic mobility entrapment, ethnic enclave, and ethnic transnationalism. In the vast literature on ethnic attachment, the conclusion is that ties to one's own ethnic group slow assimilation, and individuals with strong ethnic attachments suffer economically. The ethnic mobility entrapment thesis suggests that ethnic ties may be useful to newcomers at the beginning, but in the long run, individuals are trapped in the ethnic community and they do not have good access to job, information and other opportunities in mainstream society. According to Li (2004), recent studies using the model of ethnic enclave stress the strength of ethnic solidarity, especially regarding how ethnic members are able to take advantage of ethnic affinity, common language and ethnic ties to build a protected sub-economy. The emphasis of the enclave thesis is not on transplanted culture, but on the internal organization of ethnic communities in North America

and the ability of some communities to use ethnic sameness to build a sheltered economy (Li, 2004). Finally, studies of ethnic transnationalism stress the strength of ethnic networks in the global age to allow members of transnational communities scattered in different parts of the world to connect with each other and to benefit from information flow and capital accumulation (Li, 2004). As an example of this perspective, Li (2004) cites many studies that suggest that overseas Chinese and their transnational networks play a role in the economic development of China since the 1980s.

Despite the growing interests on ethnic social capital, the literature has produced conflicting findings. It has been shown that ethnic social capital makes a small difference in improving the earnings of immigrants (Nakhaie, 2007). Nakhaie (2007) shows that social capital exerts an independent effect on earnings, but the effect of social capital varies by ethnoracial origins, types of social capital, nativity, and gender. Thus, Nakhaie shows that social capital is a characteristic that should be considered in studying economic performance.

However, Li (2008) shows that when ethnic social capital is considered with human capital, it produces no effect in allowing immigrants with credential deficits to offset the disadvantages of human capital. Li (2008) uses the term "credential deficits" to refer to the foreign degrees held by non-white immigrants that typically bring lower returns compared to Canadian degrees. In another study, Li and Dong (2007) also show that for Chinese immigrants who work or run business in the Chinese enclave, their earnings are in fact lower than their counterparts who work or run business in the mainstream economy, even when other differences have been controlled.

The literature on social capital has generally supported the idea of the usefulness of ethnic ties and networks, but the emphasis is different depending on the theoretical perspective.

The theory of social capital has been criticized as imprecise and vague. Empirically too, the findings are very mixed regarding whether ethnic social capital can help minority immigrants to overcome economic hardships. In particular, an individual's reliance on social capital can obligate the person to the group and in the long run, the person may be trapped in the group and be deprived of other open opportunities in society.

2.3. The Immigrant Enclave Economy Thesis

According to the literature, an immigrant enclave economy is understood as a sub-economy or a niche economy in which immigrants of an ethnic origin develop interrelated businesses that are sheltered from the mainstream economy (Li, 2004). Common language, ethnic sameness and cultural similarity help the immigrant economy to develop, and the large supply of immigrant workers and the growth of the immigrant consumer market sustain it (Li and Dong, 2007). Wilson and Portes (1980) first developed the immigrant enclave economy thesis to study the immigrant groups in North America. They suggest that some immigrants in the U.S. use immigrant labor, ethnic urban concentration and cultural affinity to form a protected economy. In other words, immigrants are able to advance their economic interests in the enclave economy by making use of ethnic language, ethnic cohesion, and cultural distinctiveness; in the past these factors are seen as handicaps in terms of the integration of immigrants into the mainstream society. Other studies of immigrant enclave (Wilson and Portes, 1980; Portes and Jensen, 1989; Logan, Alba, and Stults, 2003; Waldinger, 1994) also argue that the immigrant enclave offers immigrants with resources to do well in immigrant businesses. These resources include immigrant labor, ethnic consumer market and ethnic social capital. In terms of this

understanding, the enclave economy is seen as an alternative mobility avenue for immigrants because those who participate in it take advantage of ethnic resources and organization, and as a result, enjoy economic returns that are at least as good as those who participate in the mainstream economy.

However, there have been debates in the literature regarding whether the enclave economy offers significant returns to those immigrants who participate in it. In the U.S., there have been findings that both support and reject the advantage of participating in the enclave economy (Wilson and Portes, 1980; Sander and Nee, 1987). One source of debate is the measurement of participation in the enclave. Li and Dong (2007) have pointed out that the U.S. does not provide a good measurement of enclave participation, and in the past, researchers have to use the "place of residence" or the "place of work" to determine whether a person works in the enclave or not. For example, if an immigrant lives or works in a given city, past research would assume that such an immigrant participates in the ethnic enclave in the city (Jensen and Portes, 1992; Portes and Jensen, 1992; Sanders and Nee, 1992). The debate also involves whether everyone in the enclave enjoys the same good returns, since it has been shown that immigrant employers do much better than immigrant workers (Sanders and Nee, 1987).

In Canada, Li and Dong (2007) have attempted to test the enclave economy thesis among Chinese immigrants. They compare how Chinese immigrants who were wage workers and employers performed in the Chinese enclave economy and the mainstream economy. They find that Chinese immigrants had lower earnings in the enclave economy compared to their counterparts in the mainstream economy even after controlling for human capital and other variables. They conclude that the positive view towards enclave participation in the U.S. cannot

be supported by data for Chinese immigrants in Canada. But the study is limited to the Chinese as one immigrant group in Canada.

The immigrant enclave thesis offers a new perspective in understanding ethnic culture and networks. Under this perspective, ethnic culture and ties are used as resources by immigrants to construct a sub-economy, and the success of such an economy provides significant returns to its participants. The main problem of the immigrant enclave thesis is that there have been inconclusive findings. It is still too early to say whether the immigrant enclave helps or limits the mobility opportunities of immigrants. Theoretically the immigrant enclave thesis tends to promote too much the advantages of participating in the enclave, and ignores some of the potential limitations. Some examples of limitations include the problem of labor exploitation based on the same ethnic origin, keen internal competition in the enclave and the typically small operations of ethnic businesses. All of these limitations can lead to lower returns for immigrants who participate in it.

2.4. Economic Integration of Immigrants in Canada

Studies of economic integration of immigrants in Canada have mainly focused on earnings disparity between immigrants and native-born Canadians. As Li (2003a) points out, successful integration is interpreted as immigrants performing similarly to native-born Canadians. Immigrants who earn less than native-born Canadians are considered less integrated and immigrants whose average earnings are similar to that of native-born Canadians are considered well integrated (Li, 2003b). This is essentially an assimilation perspective that defines immigrants' successful integration as being similar to reaching the earnings of native-

born Canadians, and much effect in studying immigrants' integration has to do with the process of assimilation (Li, 2003a).

Many empirical studies of economic integration of immigrants have followed this mode of thinking. For example, Richmond and Kalback (1980) compare native-born and foreign-born populations of Canada and show that post-war immigrant cohorts between 1946 and 1960 had similar or even higher earnings than native-born Canadians in the 1961 and 1971 census after controlling for age and gender. Kalback and Richard (1990) show that assimilation level affects economic status; specifically, first-generation immigrants who were more attached to ethnic churches had lower socioeconomic status. A longitudinal study of immigrants that followed a 1969 cohort of immigrants to Canada for three years concludes that after three years, the difference between immigrants and native-born Canadians on many economic measures had become very small (Manpower and Immigration Canada, 1974d). These studies have adopted the theoretical position that immigrants who perform similarly to native-born Canadians are better integrated and immigrants who are less attached to their ethnic groups and therefore more assimilated are doing better economically.

Studies of economic integration of immigrants who came to Canada after the 1970s are mainly concerned with comparing immigrants' earnings to the average earnings of native-born Canadians to see if immigrants perform as well as native-born Canadians. Many studies have shown that immigrants who came to Canada in the 1980s and 1990s, compared to those who came earlier, earned less than native-born Canadians (Bloom and Gunderson ,1991; Bloom, Grenier and Gunderson, 1995; Coulson and Devoretz, 1993). Other studies have indicated that the relative earnings of recent cohorts of immigrants have become worse than earlier ones (Aydemir and Skuterud, 2004; Frenette and Mordissette, 2003; Schaafsma and Sweetman, 2001).

Besides showing the declining earnings of recent cohorts of immigrants, some studies have tried to understand the factors that explain this decline. The best known reason cited is the devaluation of foreign credentials of immigrants (Aydemir and Skuterud, 2005; Li, 2001; Reitz, 2001b). The shift of immigrant source countries from European to non-European regions has also been cited as another reason (Aydemir and Skuterud, 2005).

These studies have focused on studying economic integration of immigrants in terms of whether their earnings are similar to native-born Canadians. The underlying assumption of successful economic integration is that immigrants should perform at the same level as compared to native-born Canadians in earnings.

2.5. Unanswered Question in the Literature

The three theoretical perspectives reviewed in this chapter have provided opposing views regarding whether ethnic attachment helps or hinders immigrants' economic integration. The assimilation perspective clearly suggests that immigrants who are more attached to their ethnic group end up doing worse economically. From the assimilation perspective, ethnic attachment hinders economic integration. In their review of the literature of assimilation, Reitz and Sklar (1997) conclude that ethnic members pay heavy costs in maintaining ethnic identity, social networks and institutional affiliations; such costs are in lost opportunities in good jobs and in earnings.

Both the social capital theory and the ethnic enclave thesis suggest that ethnic network and attachment can be resourceful to immigrants in helping them to develop economic opportunities. The classic study by Light (1972) shows that Asians in America were able to

develop ethnic businesses despite racial discrimination because of ethnic solidarity and ethnic community organization. Many studies in Canada have produced descriptive evidence to show the collective resources of ethnic groups help them to succeed economically. For example, the study of Chinese in Canada (Li, 1998) shows that in the absence of the immediate family, Chinese immigrants before WWII were able to make use of ethnic ties to pool labor and capital to develop small businesses; such businesses allowed them to survive in the face of racial discrimination and economic recession. For the post-WWII period, a study by Chan and Cheung (1985) of Chinese businesses in Toronto shows that Chinese business owners continued to benefit from group solidarity, ethnic customers and ethnic workers of the Chinese community. Another study (Marger and Hoffman, 1992) discovers that the size of the Chinese consumer market and the strategy to focus on labor-intensive industries that made use of ethnic institutions helped Hong Kong entrepreneurs to succeed in Ontario. Another study by Marger (1989) also reports that ethnic networks and community ties were important in helping East Indian entrepreneurs to develop businesses in Toronto. However, another study of Indo-Canadian owned construction businesses in Vancouver shows that even though ethnic-based economic strategies helped the growth of East Indian construction businesses in Vancouver, ethnic social networks often forced immigrants without formal educational qualifications to accept flexible working hours and low wages (Walton-Roberts and Hiebert, 1997). The same study also discovers that successful Indo-Canadian entrepreneurs tended to move beyond the boundaries of the ethnic market (Walton-Roberts and Hiebert, 1997). In short, it is not clear from the literature whether ethnic attachment helps or hinders the economic integration of immigrants.

A summary of the three theories is provided in Figure 2.1. The focus of the assimilation theory is on ethnic culture, and how it hinders assimilation and social mobility. The

measurement of ethnic attachment tends to be vague, and empirical confirmation of the theory of assimilation is lacking. The social capital theory stresses social connection or ties to an ethnic group and argues the usefulness of ethnic connection in advancing economic interests. However, the concept of social capital is imprecise and notions such as ties, trust, reciprocity and mutual aid have been used to measure social capital. The findings about whether social capital helps or hinders economic interests are mixed. The enclave economy thesis focuses on the advantages of enclave participation, especially in bringing positive returns to past human capital investment in the same way as in the mainstream economy. But in the past, the measurement of enclave participation in the U.S. is weak, and the empirical findings are also mixed. It is also not clear whether everyone in the enclave enjoys the same economic benefits, or whether only employers but not workers enjoy such benefits.

If the assimilation perspective is correct, then ethnic attachment clearly hinders the economic success of immigrants and slows down their reaching the same earnings level as the native-born. If the social capital theory or the ethnic enclave thesis is correct, then ethnic attachment helps immigrants in providing them with additional resources and to find an alternative avenue of mobility. Descriptive studies of the effect of ethnic attachment in Canada in general suggest that ethnic attachment has been helpful to immigrants, although there is also the suggestion that ethnic attachment may limit their opportunities in the long run.

This thesis attempts to resolve the apparent contradictory understanding of whether ethnic attachment helps or hinders immigrants' economic integration. Specifically, the main focus is to study whether immigrants who participate in the ethnic enclave economy, and therefore maintain a strong ethnic attachment, are able to earn as much as those who participate in the mainstream economy, that is, those who maintain a weak ethnic attachment. If those who

participate in the ethnic enclave economy indeed earn as much as those in the mainstream economy, then there is evidence to support what the social capital theory and the ethnic economy thesis suggest. However if those immigrants who participate in the ethnic enclave economy consistently earn less than those in the mainstream economy, then the evidence would suggest that the assimilation is still at work.

Table 2.1. Summary of three main theories on economic integration of immigrants.

Theory	Key focus of ethnic attachment	Theoretical expectation of attachment	Empirical confirmation	Measurement of attachment
Assimilation theory	ethnic culture	hinders assimilation and mobility	lacking	vague
Social capital theory	social ties	advances economic interests	mixed	ties, trust, bond, mutual aid
Enclave economy thesis	enclave participation	brings good returns to past human capital investment	mixed	place of work or residence

3. METHOD AND DATA SOURCE

Past research on the immigrant enclave economy was largely based on census data, mainly from the U.S.. Both the Canadian and U.S. census offer a comprehensive data source that allows an analysis of immigrants' income as a labour market outcome. However, data from the U.S. census do not provide a good measurement to separate immigrants who participate in the enclave economy and the mainstream economy. In the past, researchers have used either the place of residence or the place of work of the respondent to measure whether the respondent participate in the enclave or not (Portes and Jensen, 1989; Logan, Alba and Stults, 2003). For example, if a Cuban immigrant lived in Miami, the immigrant is sometimes considered to participate in the Miami Cuban enclave (Portes and Jensen, 1989). This is a crude measurement, and it is likely to have a large measurement error (Li and Dong, 2007). Since 2001, the Census of Canada has included a key variable that measures the language used most often at work, and this variable has been shown to be far more superior than variables on "place of residence" or "place of work" that have been used in measuring enclave participation (Li and Dong, 2007).

This analysis is based on data from the 2006 Census of Canada, released by Statistics Canada. For the 2006 Census, Statistics Canada continues to offer a Public Use Microdata File (PUMF) on individuals that contains a 2.7 percent sample of the population (Statistics Canada, 2010: 150-92). The file has 844,476 unweighted records or cases on individuals, of which 414,362 are men and 430,114, women. A uniform sample weight is provided in the Public Use Microdata File to allow weighting the unweighted cases to the population size. Statistics Canada also provides an Analytical File for the 2006 Census on individuals available only at Statistics Canada's Research Data Centre. However, release of income data based on the Analytical File is

subjected to stringent regulations. Results from some initial analyses using the Public Use Sample File and the Analytical File indicate that there is nothing to be gained by using the Analytical File, since all the variables needed in the analysis are also available in the Public Use Sample File, and since the income data from the Public Use Sample File are readily available without subjected to further restrictions.

3.1. Sample for Analysis

Since the focus of the study is to see whether Chinese and South Asian immigrants who participate in the enclave economy have similar economic returns compared to those who participate in the mainstream economy, only immigrants of Chinese and South Asian origin who participated in the labour market in 2005 are selected for analysis. Several other variables are also used to select the sample appropriate for the analysis.

The first selection is to include those who are immigrants. Of the total 844,476 unweighted cases, 19.8 percent or 166,881 are immigrants based on the variable "immigrant status". According to the Census, immigrants are those who "are, or have ever been, landed immigrants in Canada" (Statistics Canada, 2010: 150-25). Canadian citizens by birth or non-permanent residents, including those who held a work or study permit, or refugee claimants, are not considered in this analysis. The variable "place of birth" from the census is sometimes used to select those born outside of Canada as immigrants. However, some children of Canadian parents may be born outside of Canada, and there is a potential error to include this segment of the population as immigrants when in fact they should be classified as native-born Canadians. The next selection is to use the variable "visible minority" to select only those immigrants of

visible minority origin. Of the total 166,881 immigrants, 87,787 reported belonging to a visible status. The next selection is to use the variable "visible minority" to select only those of Chinese or South Asian single origin, and the selection results in 46,999 cases. It should be noted that very few immigrants declared multiple visible minority origin that involves at least one visible minority. Of the total 87,787 visible minority immigrants, only 1.6 percent chose multiple visible minority origin, and 98.4 percent selected a single visible minority origin. The variable "age" is then used to select the stable working population between the age of 25 and 64 to avoid the potential school-attending and the retired population. This selection further reduces the sample to 32,701 cases. Among these, some did not work in 2005 or some did not have positive earnings. When these cases are excluded using the variable "employment earnings" and "weeks worked", the final sample has 23,810 unweighted cases. Table 3.1 provides a summary of the variables used in the selection of the sample used in the analysis, the criteria applied in the selection, and the resulting number of cases after each step of selection. Among the 23,810 unweighted cases in the final sample selected for analysis, 11,516 are visible minority Chinese, and 12,294 are visible minority South Asian.

Table 3.1. Selecting the analytical sample for the study.

Variables used for selection	Selection criterion	Resulting number of cases
None	none	844,476
Immigrant status	immigrants	166,881
Visible minority	visible minority only	87,787
Visible minority	Chinese, South Asian only	46,999
Age	25 to 64	32,701
Employment plus self-employment earings	those with positive earnings	25,331
Weeks worked	not 0 week worked	23,810

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Table 3.2 shows the number of unweighted and weighted cases in the analytical sample for these two visible minority groups, cross-classified by gender. Slightly more than half (50.5%) of the total 11,516 Chinese immigrants are male, and 49.5 percent, female. For the 12,294 South Asian immigrants, 56.3 percent are male, and 43.7 percent, female. The weighted numbers of cases are given on the right hand panel of Table 3.2.

Table 3.2. The unweighted and weighted number of cases, for Chinese and South Asian immigrants.

	Unweighted						Weighted					
	Male		Female		Total		Male		Female		Total	
Minority groups	N	%	N	%	N	%	N	%	N	%	N	%
Chinese	5,820	50.5	5,696	49.5	11,516	100	215,308	50.5	210,721	49.5	426,030	100
South Asain	6,923	56.3	5,371	43.7	12,294	100	256,113	56.3	198,698	43.7	454,811	100

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

The literature has suggested that self-employed persons and wage workers perform differently in the enclave economy (Li and Dong, 2007). This study separates self-employed persons and wage workers for comparison in the enclave economy and the mainstream economy. In other words, the economic returns of self-employed persons in the enclave economy are compared to that of their counterparts in the mainstream economy. Similarly, the returns of wage workers who participate in the enclave economy are compared to that of their counterparts working in the mainstream economy. In addition, men and women are analyzed separately. Therefore, the comparisons involve eight groups based on ethnic origin, gender, and self-employment status (see Table 3.3).

Table 3.3. Eight groups in the analysis, based on ethnic origin, gender, and self-employment status.

	Male		Female	
Minority groups	Self-employed persons	Wage workers	Self-employed persons	Wage workers
Chinese	Group 1.1	Group 1.2	Group 1.3	Group 1.4
South Asain	Group 2.1	Group 2.2	Group 2.3	Group 2.4

Table 3.4 shows the unweighted and weighted number of cases for the eight groups in the enclave economy and in the mainstream economy. The number of unweighted cases in each group suggests that the only one group that is a problem is South Asian female self-employed immigrants. There are only 42 unweighted cases for this group in the enclave economy, and once other variables are introduced, the distribution of this group in various categories of the explanatory variables would be even smaller. Thus, the findings based on this group are likely unstable due to the small number of cases.

Table 3.4. Participation of enclave and mainstream economy for Chinese and South Asian immigrants, by self-employment status and gender, unweighted and weighted cases.

	Chinese							
	Male				Female			
	Unweighted		Weighted		Unweighted		Weighted	
	enclave	mainstream	enclave	mainstream	enclave	mainstream	enclave	mainstream
Self-employed persons	283	556	10,469	20,569	176	358	6,511	13,244
Wage workers	989	3,931	36,588	145,426	1,112	3,988	41,138	147,534
	South Asian							
Self-employed persons	98	959	3,625	35,478	42	302	1,554	11,172
Wage workers	352	5,461	13,022	202,027	346	4,629	12,800	171,248

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

3.2. Methods

The first part of the analysis (Chapter 4) involves explaining what types of immigrants are more inclined to join the enclave economy. For this analysis, logistic regression is used since the dependent variable has two outcomes that measure whether an immigrant is in the enclave economy or not. Logistic regression is used to explore what variables influence the likelihood of participation in the enclave economy. The strategy here is to understand what immigrants with certain characteristics are more likely to enter the enclave economy.

The dependent variable for the logistic regression analysis is whether an immigrant participates in the enclave economy or not (participation=1; non-participation=0). The 2006 Census provides information on the "language used most often at work". This variable reflects the linguistic context in the workplace. If the language used most often is either one of the official languages, then it would suggest that the work site is more likely to be in the mainstream economic sector where the official languages are used. However, if the language used most often at work is a minority language, then it would indicate that there is a good chance that such a workplace involves mainly employers, employees and clients communicating in a common minority language. In other words, the use of a non-official language as the most often used language at work reflects the type of social relations in the enclave economy where employers, employees and clients share similar linguistic and cultural background. Thus, the language used most often at work can be used to indicate (a) working in the enclave economy if the language used most often is a non-official language, and (b) working in the mainstream economy if the language used most often is an official language. Li and Dong (2007) have argued that the use

of this variable is far more superior than using the place of residence or place of work to separate enclave and mainstream participation as many researchers in the U.S. have done.

The independent variables for the logistic regression analysis include: age, age of immigration, education, the ability to speak the official languages (conducting a conversation in official languages=1), and two variables measuring population characteristics in terms of the type of CMA and the relative size of the ethnic group to which the immigrant belongs at the CMA level of residence.

The variable "age" is provided in age groups with 5 year intervals. The analysis of the logistic regression only chooses those who belong to the working population between 25 and 64 years old, excluding the potential school attending population and the retired population. As a result, the age variable has eight groups used in the analysis, and the youngest age group in the analysis, 25 to 29 years, is used as the reference group.

The variable "age of immigration" is calculated by subtracting "year of immigration" from "year of birth". "Year of birth" is estimated by subtracting age from 2006, the year the census was taken. Since "age" is given in five-year interval, the mid-point of the age interval is used as the estimate of age. "Age of immigration" has four categories: below 19 years old; 20 to 29 years old; 30 to 39 years old; and 40 years old and over.

The variable "education" refers to the respondent's highest certificate, diploma, or degree. The original education variable has thirteen categories and they are recoded to a new variable with five categories including below high school, high school certificate, post-secondary certificate, bachelor's degree, and post-bachelor degree. High school certificate is used as the reference group.

The variable "knowledge of official languages" measures "the ability to conduct a conversation in English only, in French only, in both English and French or in none of the official languages of Canada" (Statistics Canada, 2010: 150-40). The new recoded variable of knowledge of official languages has two categories: no knowledge of official languages and knowledge of English and/or French (the reference group).

There are two variables used to measure population characteristics. These variables reflect the features of the city where an immigrant resides; such features include whether the city is a major metropolitan centre, and whether there is a relatively larger or smaller ethnic group similar to the ethnic origin of the immigrant. The purpose is to see whether larger cities and ones with a larger ethnic population, and therefore a larger ethnic consumer market, are more likely to influence an immigrant to join the enclave economy. The variable "CMA" of the respondent is the abbreviation for the Census Metropolitan Area where the respondent resided in 2006. Statistics Canada explains that "the variable CMA does not distinguish between the non-CMA areas of the territories and those in the rest of the country" (Statistics Canada, 2010: 150-10). However, this variable can be used to separate at least two types of CMA: the three large CMAs (Vancouver, Toronto, Montreal), and other medium, small and non-CMAs (the reference group). The percentage of visible minority Chinese or visible minority South Asian in the total population at the CMA level is used to measure the relative size of the potential enclave economy for Chinese and South Asian respectively. The logistic regression makes use of this variable to examine whether the relative size of the ethnic population influences the propensity to participate in the enclave economy.

The logistic regression model is as follows:

$$\text{Log } [P(Y)/P(\text{No } Y)] = \beta_0 + \beta_1 X_1 + \ldots + \beta_i X_i \quad (3.1)$$

P(Y) is the probability of working in the enclave economy. P(No Y) refers to the probability of not working in the enclave economy. β_0 is the intercept of Y. β_i represents a series of regression coefficients that show the amount that Y changes for each unit change in each X. X_i refers to a series of independent variables.

The second part of the analysis (Chapter 5 and Chapter 6) involves using multiple regression. The analysis is to examine whether those who participate in the enclave economy receive higher or lower earnings compared to those who participate in the mainstream economy. The dependent variable is the logarithm (natural log) of employment earnings in 2005, composed of wages, salaries and self-employment income. The use of log earnings rather than raw earnings has been widely adopted because the raw earnings distribution is not linear and it produces larger errors in regression analysis for higher earnings levels (Portes and Zhou, 1996). The use of log earnings avoids this problem and allows regression results to be interpreted as percentage changes.

The independent variables include: sex (female=0), self-employment (wage workers=0), economic sector (mainstream=1; enclave=0), years of schooling, years of foreign work experience, years of Canadian work experience, years of Canadian work experience squared, full-time (1) or part-time (0) work, the number of weeks worked in 2005, the percentage of visible minority Chinese or visible minority South Asian at the CMA level of residence, four dummy variables to measure city location (Vancouver=1; Toronto=1; Montreal=1; small size CMA and non-CMA=1; reference group=medium size CMA), and three interaction terms that measure how the economic sector interacts with human capital factors, including the interaction of years of schooling and economic sector, the interaction of foreign work experience and economic sector, and the interaction of Canadian work experience and economic sector.

As explained before, the variable "language used most often at work" is used to measure participation in the enclave economy and in the mainstream economy. An immigrant is considered as working in a mainstream sector if the language used most often was an official language (English or French or both), and as working in an enclave if the language used most often was a non-official language.

The variables measuring the level of human capital include years of schooling, years of foreign work experience, years of Canadian work experience, and years of Canadian work experience squared. The variable "years of schooling" is estimated from the variable in the census which provides the information about whether the respondent has a high school certificate or its equivalent, and the information on education above or below the high school certificate or its equivalent. The year of schooling can be estimated based on the information of each level of education. For example, if the respondent has a high school certificate or equivalency certificate without further schooling, then the respondent is estimated to have 12 years of schooling. An immigrant without high school certificate but has a non-university certificate is coded as having 11 years of schooling; an immigrant without high school certificate but has registered apprenticeship or other trade certificate is codes as having 10 years of schooling, and an immigrant without high school certificate and without further schooling is coded as having 9 years of schooling. Table 3.5 gives the estimates of year of schooling for each level of education based on whether it is below or above high school certificate. Thus, those with high school certificate and with bachelor's degree are estimated to have 16 years of schooling, and those with high school certificate and doctoral degree is estimated to have 20 years of schooling.

Table 3.5. Estimated years of schooling based on educational level with reference to high school graduation.

Educational level as reported in Census	Original coding	Estimated years of schooling
No high school certificate or equivalency certificate without further schooling	1	9
No high school certificate or equivalency certificate with registered apprenticeship or other trade certificate	2	10
No high school certificate or equivalency certificate with college, CEGEP or other non-university certificate	3	11
With high school certificate or equivalency certificate without further schooling	4	12
With high school certificate or equivalency certificate with registered apprenticeship or other trade certificate	5	13
With high school certificate or equivalency certificate with college, CEGEP or other non-university certificate	6	14
With high school certificate or equivalency certificate with certificate below bachelor	7	15
With high school certificate or equivalency certificate with bachelor's degree	8	16
With high school certificate or equivalency certificate with certificate above bachelor	9	17
With high school certificate or equivalency certificate with degree in medicine, dentistry, veterinary medicine or optometry	10	18
With high school certificate or equivalency certificate with master's degree	11	19
With high school certificate or equivalency certificate with eared doctoral degree	12	20
No applicable (missing value)	missing	missing

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Li and Dong (2007) show that the total experience for immigrants can be decomposed into “years of foreign work experience” and “years of Canadian work experience”. Total work experience is equal to “age” minus “the average five preschool years” and minus “years of schooling”. In other words, the variable total work experience measures the number of years a

respondent has potentially worked since completed the highest level of schooling. According to Li and Dong (2007), years of foreign experience is calculated by taking "age of immigration" minus "years of schooling" and "the five preschool years", with the lowest value being zero. For example, if an immigrant immigrants to Canada at the age of 30, and has 16 years of schooling, the number of years of foreign work experience is 9 (30 minus 16 minus 5). However, if an immigrant immigrates at the age of 20, and has 16 years of schooling, the number of years of foreign work experience is 0 (20 minus 16 minus 5=less than 0). The variable of Canadian work experience can be estimated by subtracting years of foreign experience from the total work experience. To summarize, the relationship between Canadian work experience and foreign work experience is as follows:

Total work experience=Canadian work experience + foreign work experience

=Age – years of schooling – 5……(3.2)

Foreign work experience=Age of immigration – years of schooling – 5…….(3.3)

Canadian work experience=Total work experience – foreign work experience……..(3.4)

Equation 3.3, foreign work experience, is estimated with minimum value being zero and not less than zero.

In addition, Canadian work experience squared is used to reflect the effect of diminishing return of Canadian work experience. The analysis does not include the variable foreign work experience squared for two reasons. First, past research suggests that foreign work experience brings no returns to immigrants (Li, 2008), and second, the average number of years of foreign work experience for Chinese immigrants is less than 10 years, and for South Asians, even lower (see Chapter 5 and 6). The small number of years of foreign experience for Chinese and South Asian immigrants suggests the problem of diminishing return is not serious.

The variables measuring work-related features include the number of weeks worked in 2005, and whether the weeks worked in 2005 was full-time or part-time. In addition, population characteristics in the regression include four dummy variables that measured the city location, and the percentage of visible minority Chinese or visible minority South Asian in the total population at the CMA level.

Finally, there are three interaction terms to measure how the economic sector interacts with human capital factors to produce unequal returns for those in the enclave economy. Since the variable economic sector is a dummy variable (1=enclave, 0=mainstream), multiplying this variable by "years of schooling" gives an additional regression coefficient for those in the enclave only. Thus, the returns to schooling for those in the mainstream economy is indicated by the regression coefficient of schooling, but the returns for the enclave participants is indicated by the regression coefficient of schooling plus the regression coefficient for the interaction term of economic sector and schooling. The additional coefficient for enclave participants indicates whether returns to schooling are higher (positive coefficient) or lower (negative coefficient) than the returns for mainstream participants.

For each of the eight groups, the economic outcomes for those who participated in the enclave are compared to the outcomes of those who participated in the mainstream economy, when (1) other variables are not controlled (gross effect), and (2) other variables are controlled (net effect). Specifically, there are three models involved in the multiple regression analysis (see Table 3.6).

Model 1 uses the variable of economic sector as the only independent variable. It shows the gross difference between the participation in the enclave and the mainstream economy. Gross difference is the actual difference before other variables are controlled.

Model 2 shows net differences when the variations in human capital, work-related features, and population characteristics are taken into account. Human capital factors include years of schooling, years of foreign work experience, years of Canadian work experience, and years of Canadian work experience squared. Work-related features refer to full-time or part-time job, and the number of weeks worked in 2005. Population characteristics are the percentage of relevant visible minority group at the CMA level of residence, and four dummy variables to measure city location.

Model 3 shows differences when further adjusting for the three interaction terms that measure unequal returns to human capital.

Table 3.6. Independent variables used in the three models of the regression analysis.

Independent variables	Model [1]	Model [2]	Model [3]
Economic sector (Mainstream economy=0)	yes	yes	yes
Years of schooling		yes	yes
Years of foreign work experience		yes	yes
Years of Canadian work experience		yes	yes
Years of Canadian work experience squared		yes	yes
Full-time or part-time (Part-time=1)		yes	yes
Number of weeks worked in 2005		yes	yes
Percent relevant visible minority in CMA level of residence		yes	yes
CMA: Vancouver**		yes	yes
CMA: Toronto**		yes	yes
CMA: Montreal**		yes	yes
Small size CMA and non-CMA**		yes	yes
Interaction of years of schooling and economic sector			yes
Interaction of foreign work experience and economic sector			yes
Interaction of Canadian work experience and economic sector			yes

** Suppressed category is "medium size CMA"

The full regression equation is as follows:

$$
\begin{aligned}
\text{Log employment income} = a &+ b_1 \text{(economic sector)} \\
&+ b_2 \text{(years of schooling)} \\
&+ b_3 \text{(years of foreign work experience)} \\
&+ b_4 \text{(years of Canadian work experience)} \\
&+ b_5 \text{(years of Canadian work experience squared)} \\
&+ b_6 \text{(full-time or part-time)} \\
&+ b_7 \text{(number of weeks worked)} \\
&+ b_8 \text{(percentage of relevant visible minority group)} \\
&+ b_9 \text{(Vancouver)} \\
&+ b_{10} \text{(Toronto)} \\
&+ b_{11} \text{(Montreal)} \\
&+ b_{12} \text{(interaction of years of schooling and economic sector)} \\
&+ b_{13} \text{(interaction of years of foreign work experience and} \\
&\qquad \text{economic sector)} \\
&+ b_{14} \text{(interaction of years of Canadian work experience and} \\
&\qquad \text{economic sector)} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(3.5)}
\end{aligned}
$$

Results of the logistic regression are presented in Chapter 4. Findings of the regression analysis for Chinese immigrants are presented in Chapter 5, and findings for South Asian immigrants are discussed in Chapter 6.

4. FACTORS INFLUENCING PARTICIPATION IN ENCLAVE ECONOMY

Much of the debate in the literature on the immigrant enclave economy thesis has to do with whether immigrants who participate in the enclave economy enjoy better or similar economic returns compared to those who participate in the mainstream economy. However, there has been little research on the propensity to participate in the enclave economy, although the topic of ethnic enterprise or ethnic entrepreneurship has been well researched (Light, 1972; Li 1982, 1998; Blalock 1967; Rinder 1958-59; Goldberg 1985; Cummings 1980; Bonacich and Modell 1988; Light and Bonacich 1988; Ward and Jenkins 1984; Waldinger et al 1990; Light and Rosenstein 1995). The main question posed in the study of ethnic entrepreneurship is what explains the rise and development of ethnic enterprise among marginalized racial and ethnic groups. Some authors have attributed the rise of ethnic entrepreneurship to ethnic solidarity and cultural resources (Light, 1972; Light and Bonacich 1988; Light and Rosenstein 1995; Bonacich and Modell 1980; Goldberg 1985; Cummings 1980; Ward and Jenkins 1984; Waldinger et al 1990). For example, Light (1972) argues that in the face of racial discrimination before WWII, some racial groups in the U.S., such as Japanese and Chinese, were able to develop ethnic businesses using culturally based rotating credit associations, but other groups such as the blacks were unable to do so. Others authors have explained the rise of ethnic entrepreneurship in terms of the blocked mobility in mainstream society (Rinder 1958-89; Blalock 1967; Li 1982, 1998). In other words, some minority groups were pushed into developing their own businesses because opportunities in mainstream society were blocked.

The question about the participation in the enclave economy involves finding out what type of immigrants is inclined to join the enclave economy. Further questions can be raised

regarding what types of self-employed persons go into the enclave economy, and what types of wage earning immigrants participate in the enclave economy.

This chapter uses logistic regression to explore factors that influence the participation of Chinese and South Asian immigrants as self-employed persons and wage workers in the enclave economy in Canada. The dependent variable is whether or not immigrants participate in the enclave economy or mainstream economy. The independent variables in the regression model involve the background of immigrants, including age, education, and knowledge of official languages, as well as population characteristics regarding the type of CMA the respondent resides and the percentage of visible minority Chinese or visible minority South Asian in the CMA level of residence. The first part of the analysis is on Chinese immigrants, and the second part, South Asian immigrants.

4.1. Factors Influencing Participation in Enclave Economy for Chinese Immigrants

Table 4.1 presents the result of logistic regression analysis for Chinese men and women immigrants as self-employed persons and wage workers. Model 1 shows the logits and odds ratios of participating in the enclave economy for Chinese male self-employed immigrants; Model 2 is for Chinese male immigrant wage workers. Model 3 indicates the result for Chinese female self-employed immigrants, and Model 4 is for Chinese female immigrant wage workers. The number of unweighted cases and the statistics of the model are presented at the bottom of the table. Using unweighted cases or weighted cases gives the same results for the logistic regression; the only difference is that when weighted cases are used everything becomes

statistically significant because of the large sample size. Tables using weighted cases are given in the Appendix (see Appendix A).

Background variables in the regression model had effects on the participation in the enclave economy in Model 1. For Chinese male self-employed immigrants, compared to those between 25 and 29 years old, those in other age groups were more likely to participate in the enclave economy, although the coefficient in each category was not statistically significant. For example, those who were between 45 and 49 years old were over 2.5 times more likely to participate in the enclave economy than those between 25 and 29 years old when other factors were taken into account. "Age of immigration" had an effect on the participation of the enclave economy. Compared to those who immigrated to Canada at the age of 40 or older, those who immigrated to Canada when they were below 19 years of age were 82 percent less likely to participate in the enclave economy; those immigrated between 20 and 29 years of age were 71 percent less likely to participate in the enclave economy; those who immigrated between 30 and 39 years of age were 46 percent less likely to participate in the enclave economy when differences in other variables were controlled. In other words, the older the age of immigration, the higher is the likelihood of participation in the enclave economy. The variable of education indicates that Chinese male self-employed immigrants with below high school education were 2.4 times more likely to participate in the enclave economy, but all those with more than secondary education were less likely to participate in the enclave economy. For example, those with bachelor level education were 47 percent less probable than those with high school education to participate in the enclave when differences in other variables were considered. In other words, those Chinese male immigrants who hold higher education were less likely to work in the enclave economy. As to the variable of "knowledge of official languages", the table

shows that those who had no knowledge of official languages were 95 percent less likely than those who had knowledge of English and/or French to participate in the enclave economy when other variables were controlled. It should be noted that an earlier analysis of logistic regression was performed without the variable of "age of immigration", and the results indicated that those who did not speak the official languages were more likely to participate in the enclave economy. The findings in Table 4.1 imply that immigrants who immigrated at an older age were also less likely to speak the official languages. When the variable of "age of immigration" is not included, the effect of this omitted variable shows up in the variable of official language capacity. Once the variable of "age of immigration" is considered along with "knowledge of official languages", the impact of knowledge of official languages now appears mainly in the variable of "age of immigration". In addition, population characteristic variables indicate that the type of CMA had no statistically significant effect on the participation of the enclave economy. However, each additional percent of Chinese at the CMA level of residence increased the odds of participation in the enclave economy by 1.090 when other factors were controlled. Finally, the statistic measuring the "goodness of fit" (-2LL) indicates a good match between predicted and actual values in the dependent variable, and that the independent variables made a difference in predicting the odds of participation in the enclave economy (significant model χ^2).

Model 2 shows the result of the logistic regression for Chinese male immigrant wage workers. The table indicates that those immigrants who were older than 29 years old, compared to those between 25 to 29 years old, had a lower probability of participation in the enclave economy when other factors were considered. The variable of "age of immigration" had a statistically significant effect on the dependent variable. The table shows that compared to those who immigrated to Canada at the age of 40 or older, those who immigrated to Canada when they

were below 19 years of age were 78 percent less probable to participate in the enclave economy, 55 percent less likely for those who immigrated to Canada between 20 and 29 years of age, and 37 percent less probable for those who immigrated to Canada between 30 and 39 year of age. The findings suggest that immigrants who immigrated to Canada at an older age were more likely to participate in the enclave economy. The odds for the variable "education" shows that compared to those with high school certificate, those with below high school education were 1.2 times more probable to participate in the enclave economy, but those with post-secondary certificate, bachelor's degree, and post-bachelor degree had lower probabilities in doing so when differences in other factors were controlled. In other words, the higher the level of the education, the lower is the probability of participating in the enclave economy. The knowledge of official languages had an effect on the participation in the enclave economy. The odds show that those who had no knowledge of official languages were 91 percent less probable to participate in the enclave economy than those who had knowledge of official languages when other factors were taken into account. As before, the findings imply that immigrants who immigrated at an older age were also less likely to speak the official languages when other factors were taken into account. In addition, variables measuring population characteristics had effects on the participation in the enclave economy. The table shows that those who lived in the three large CMAs (Vancouver, Toronto, and Montreal), compared to those who lived in other medium, small, and non-CMAs, were 1.3 times more likely to work in the enclave economy when other factors were considered. Furthermore, each additional percent of Chinese in the CMA level of residence raised the odds of participating in the enclave economy by 1.054. Finally, the statistic measuring the "goodness of fit" (-2LL) indicates that there was no difference between predicted and actual values in the dependent variable, suggesting the model did not fit the data well, but

the independent variables made a difference in predicting the odds of participating in the enclave economy (significant model χ^2).

Thus, for both Chinese male self-employed persons and wage workers, those who immigrated to Canada at an older age, those with less human capital, and resided in a CMA with a relatively larger Chinese population were more likely to participate in the enclave economy. But age had mixed effects on the participation in the enclave economy, and it was not clear whether older or younger immigrants were more likely to work in the enclave economy. These findings suggest that the enclave economy seems less likely to attract immigrants who immigrated to Canada at a younger age and immigrants with more schooling.

Model 3 is the result of the logistic regression for Chinese female self-employed immigrants. Age, age of immigration, education, and knowledge of official languages had statistically significant effects on the participation of the enclave economy. Compared to the age group between 25 and 29 years old, Chinese female self-employed persons in all other age groups were less likely to participate in the enclave economy when other factors were taken into account. For example, the probability to participate in the enclave economy for those between 35 and 39 years old was reduced by about 60 percent in comparison to those between 25 and 29 years old after controlling for other factors. Furthermore, the findings do not suggest that older Chinese female self-employed immigrants were more likely to be involved in the enclave economy The variable of "age of immigration" shows that compared to those who immigrated to Canada at the age of 40 or older, those who immigrated to Canada when they were below 19 years old were 85 percent less likely to participate in the enclave economy; 70 percent less likely for those who immigrated to Canada between 20 and 29 years of age; and 56 percent less likely for those who immigrated to Canada between 30 and 39 years of age when other variables were

controlled. The findings suggest that once again the older the age of immigration, the higher is the likelihood of participation in the enclave economy. The odds for the education variable show that those with below high school education were 2.8 times more likely to participate in the enclave economy than those with high school certificate, but those with post-secondary education were less likely to participate in the enclave economy when differences in other variables were controlled. In other words, the lower the educational level of Chinese female self-employed immigrants, the higher was the probability of participating in the enclave economy. The variable of "knowledge of official languages" indicates that Chinese female self-employed immigrants who had no knowledge of official languages were 80 percent less likely to participate in the enclave economy than those who had knowledge of English and/or French when the variable of "age of immigration" and other variables were controlled simultaneously. As before, the findings imply that immigrants who immigrated at an older age were also less likely to speak the official languages when other factors were taken into account, and the effect of official languages mainly shows up in the variable "age of immigration". The type of CMA had no statistically significant effect on the participation of enclave economy when other factors were considered. However, the table shows that each additional percent of Chinese in CMA level of residence raised the odds of participating in the enclave economy by 1.115 after controlling for other variables. Finally, the table shows a good match between predicted and actual values in the dependent variable (-2LL), and the independent variables made a difference in predicting the odds of participating in the enclave economy (significant model χ^2).

Model 4 shows the logits and odds ratios of participation in the enclave economy for Chinese female immigrant wage workers. Compared to those between 25 and 29 years old, those in other age groups were less likely to participate in the enclave economy when other

factors were taken into account. The variable "age of immigration" had an effect on the dependent variable. The table shows that compared to those who immigrated to Canada at the age of 40 or older, those who immigrated to Canada when they were below 19 years of age were 80 percent less likely to participate in the enclave economy; 56 percent less likely for those who immigrated to Canada between 20 and 29 years of age; and 27 percent less likely for those who immigrated to Canada between 30 and 39 years of age when variations in other variable were taken into account. Once again, the findings suggest that the older the age of immigration, the higher is the probability of participation in the enclave economy. The odds of the variable "education" show that those with below high school education had 1.3 times more chance of participating in the enclave economy than those with high school certificate when differences in other factors were considered, but in general, those with post-secondary education were less likely to participate in the enclave economy. Furthermore, those who had no knowledge of official languages were 90 percent less probable to participate in the enclave economy than those who had knowledge of official languages when the variable of "age of immigration" and other variables were controlled at the same time. In addition, the table shows that variables measuring population characteristics had statistically significant effects on the participation in the enclave economy. Those who lived in Vancouver, Toronto and Montreal were 1.5 times more likely to work in the enclave economy than those who lived elsewhere when other factors were considered. Each additional percent of Chinese at the CMA level of residence increased the odds of participating in the enclave economy by 1.056. Finally, the statistic measuring the "goodness of fit" (-2LL) indicates that there was a good match between predicted and actual values in the dependent variable, suggesting that the model fit the data well. At the same time, the

independent variables made a difference in predicting the odds of participation in the enclave economy (significant model χ^2).

Therefore, for both Chinese female self-employed persons and wage workers, those who immigrated to Canada at an older age, those who had less education, and those who resided in a CMA with a relatively larger Chinese population were more likely to participate in the enclave economy. The effect of "age" was mixed. In other words, there was no consistent pattern regarding whether older or younger immigrants were more likely to participate in the enclave economy. In all, the findings suggest that the enclave economy was more likely to attract immigrants who immigrated to Canada at an older age and those with less human capital.

Table 4.1. Logistic regression showing logits and odds ratio of participating in the enclave economy for Chinese immigrants, Canada, aged 25-64, associated with various levels of independent variables.

	Male				Female			
Independent variables	Self-employed persons		Wage workers		Self-employed persons		Wage workers	
		[1]		[2]		[3]		[4]
	b	Odds	b	Odds	b	Odds	b	Odds
Age groups								
30 to 34 years	0.493	1.637	-0.065	0.937	-1.739 *	0.176	-0.589 *	0.555
35 to 39 years	0.390	1.477	-0.316	0.729	-0.911	0.402	-0.810 *	0.445
40 to 44 years	0.540	1.715	-0.220	0.802	-1.071	0.343	-0.629 *	0.500
45 to 49 years	0.909	2.482	-0.465 *	0.628	-1.643 *	0.193	-0.895 *	0.409
50 to 54 years	0.351	1.420	-0.490 *	0.613	-1.575 *	0.207	-0.996 *	0.369
55 to 59 years	0.391	1.479	-0.941 *	0.390	-2.056 *	0.128	-1.343 *	0.261
60 to 64 years	0.388	1.474	-0.980 *	0.375	-2.136 *	0.118	-1.307 *	0.271
25 to 29 years**								
Age of immigration								
Below 19 years old	-1.723 *	0.178	-1.516 *	0.220	-1.900 *	0.150	-1.559 *	0.210
20 to 29 years old	-1.251 *	0.286	-0.797 *	0.451	-1.152 *	0.316	-0.810 *	0.445
30 to 39 years old	-0.621 *	0.537	-0.462 *	0.630	-0.819 *	0.441	-0.315 *	0.730
40 years and over**								
Highest certificate, diploma or degree								
Below high school	0.859 *	2.360	0.200	1.221	1.035 *	2.814	0.298 *	1.347
Post-secondary certificate	-0.122	0.885	-0.879 *	0.415	-0.542	0.582	-0.539 *	0.583
Bachelor's degree	-0.629 *	0.533	-1.768 *	0.171	-1.283 *	0.277	-1.152 *	0.316
Post-bachelor degree	-0.753 *	0.471	-1.754 *	0.173	-0.872 *	0.418	-1.427 *	0.240
High school certificate**								
Knowledge of official language								
No knowledge of offcial language	-2.926 *	0.054	-2.380 *	0.093	-1.607 *	0.200	-2.330 *	0.097
English and/or French**								
CMA level								
Three large CMA(Vancouver, Toronto, Montreal)	-0.442	0.643	0.250	1.284	-0.330	0.719	0.423 *	1.526
Other medium, small, and non-CMA**								
Pecent Chinese in CMA level of residence	0.090 *	1.094	0.053 *	1.054	0.109 *	1.115	0.055 *	1.056
Constant	1.822 *	6.185	1.794 *	6.012	2.531	12.563	1.626 *	5.084
Number of unweighted cases(N)	839		4,920		534		5,100	
-2 Log likelihood	800.307		2554.883		534.105		3963.852	
Chi Square(Hosmer and Lemeshow Test)	7.043		18.478 *		3.855		9.867	
Model Chi Square	263.546 *		1,353.028 *		138.054 *		1363.378 *	

*$p \leq 0.05$, ** Reference category

4.2. Factors Influencing Participation in Enclave Economy for South Asian Immigrants

Table 4.2 presents the result of the logistic regression for South Asian men and women immigrants as self-employed persons and wage workers. Model 1 shows the logits and odds ratios of participating in the enclave economy for South Asian male self-employed immigrants; Model 2 is for South Asian male immigrant wage workers. Model 3 indicates the result for South Asian female self-employed immigrants, and Model 4 is for South Asian female immigrant wage workers. The number of unweighted cases and the statistics of the model are presented at the bottom of the table. Tables using weighted cases are given in the Appendix (see Appendix B).

The background variables in the regression had effects on the participation in the enclave economy in Model 1. For South Asian male self-employed immigrants, compared to those whose age was between 25 and 29 years old, those in older age groups were less likely to participate in the enclave economy. For example, those who were between 30 and 34 years old had 47 percent less chance to participate in the enclave economy, compared to those between 25 and 29 years old when other factors were taken into account. The variable of "age of immigration" shows that compared to those who immigrated to Canada at the age of 40 or older, those who immigrated to Canada when they were below 19 years of age were 67 percent less likely to participate in the enclave economy; those immigrated to Canada between 20 and 29 years of age were 40 percent less likely to participate in the enclave economy; those who immigrated to Canada between 30 and 39 years of age were 37 percent less likely to participate in the enclave economy when differences of other variables were controlled. In other words, the older the age of immigration, the higher is the likelihood of participating in the enclave

economy. The variable of education indicates that compared to South Asian male self-employed immigrants with high school education, those with below high school education and those with post-secondary education were less likely to participate in the enclave economy when other variables were controlled. For example, those with below high school education were 41 percent less probable than those with high school education to participate in the enclave when differences in other variables were considered. And those with post-secondary certificate education were 89 percent less likely than those with high school education to participate in the enclave economy when other variable were controlled. In other words, for South Asian male self-employed immigrants, there was no consistent pattern regarding whether immigrants with higher or lower education were more likely to participate in the enclave economy. As to the variable of knowledge of official languages, the table shows that those who had no knowledge of official languages were 93 percent less likely than those who had knowledge of English and/or French to participate in the enclave economy when the variable "age of immigration" and other variables were controlled. In addition, population characteristic variables indicate that the type of CMA had a statistically significant effect on the participation of the enclave economy. Those who lived in the three big cities (Vancouver, Toronto, and Montreal) had 3 times more chance than those who lived in other medium, small, and non-CMAs to participate in the enclave economy. However, each additional percent of South Asian at the CMA level of residence reduced the odds of participating in the enclave economy by 5 percent when other factors were controlled. Finally, the statistic measuring the "goodness of fit" (-2LL) indicates a good match between predicted and actual values in the dependent variable, and that the independent variables made a difference in predicting the odds of participating in the enclave economy (significant model χ^2).

Model 2 shows the result of the logistic regression for South Asian male wage worker immigrants. The table indicates that age had mixed effects on the participation of the enclave economy. Those who were in age groups 30 to 34, 35 to 39, compared to those between 25 to 29 years old, had a higher probability of participating in the enclave economy when other factors were considered, but those in other age groups (40 and 44, 45 and 49, 50 and 54, 55 and 59, as well as 60 and 64) were less likely to work in the enclave economy. The variable of "age of immigration" indicates that compared to those who immigrated to Canada at the age of 40 or older, those who immigrated to Canada when they were below 19 years of age were 85 percent less likely to participate in the enclave economy; 53 percent less likely for those who immigrated to Canada between 20 and 29 years of age; and 69 percent less likely for those who immigrated to Canada between 30 and 39 years of age when variations in other variable were taken into account. Once again, the findings suggest that the older the age of immigration, the higher is the probability of participating in the enclave economy. The odds for the variable "education" shows that compared to those with high school certificate, those with below high school education were 1.348 times more probable to participate in the enclave economy, but those with post-secondary certificate, bachelor's degree, and post-bachelor degree had lower probabilities in doing so when differences in other factors were controlled. The knowledge of official languages had an effect on the participation in the enclave economy. The odds show that those who had no knowledge of official languages were 96 percent less probable to participate in the enclave economy than those who had knowledge of official languages when the variable of "age of immigration" and other factors were taken into account. In addition, variables measuring population characteristics had effects on the participation in the enclave economy. The table shows that those lived in the three large CMAs (Vancouver, Toronto, and Montreal), compared

to those who lived in other medium, small, and non-CMAs, were less likely to work in the enclave economy when other factors were considered. Furthermore, each additional percent of South Asian at the CMA level of residence raised the odds of participating in the enclave economy by 1.024. Finally, the statistic measuring the "goodness of fit" (-2LL) indicates that there was no difference between predicted and actual values in the dependent variable, suggesting the model did not fit the data well; however, the independent variables made a difference in predicting the odds of participating in the enclave economy (significant model χ^2).

Therefore, for both South Asian male self-employed persons and wage workers, those who were immigrated to Canada at an older age were more likely to participate in the enclave economy. The variable of "age" had mixed effects on the participation in the enclave economy, and it was not clear whether older or younger immigrants were more likely to participate in the enclave economy.

Model 3 is the result of the logistic regression for South Asian female self-employed immigrants. Background variables including age, education, and knowledge of official languages indicated statistically significant effects on the participation of enclave economy. The table also shows mixed effects on the dependent variable for various age groups. For example, compared to those between 25 and 29 years old, those who were between 30 to 34 years old were 1.2 times more likely to participate in the enclave economy when other factors were taken into account. However, the probability to participate in the enclave economy was reduced by 4.3 percent for those between 40 and 44 years old in comparison to those who were between 25 and 29 years old after controlling for other factors. The odds of "age of immigration" show that compared to those who immigrated to Canada at the age of 40 or older, those who immigrated to Canada when they were below 19 years of age were 80 percent less likely to participate in the

enclave economy; 58 percent less likely for those who immigrated to Canada between 20 and 29 years of age; and 70 percent less likely for those who immigrated to Canada between 30 and 39 years of age when variations in other variable were taken into account. Once again, the findings suggest that the older the age of immigration, the higher is the probability of participating in the enclave economy. The odds for the education variable show that those with below high school education were 2.9 times more probable to participate in the enclave economy than those with high school certificate, but those with post-secondary education were less likely to participate in the enclave economy when differences in other variables were controlled. In other words, the lower the educational level of South Asian female self-employed immigrants, the higher was the probability of participating in the enclave economy. The variable of "knowledge of official languages" indicates that South Asian female self-employed immigrants who had no knowledge of official languages were as probable to participate in the enclave economy as those who had knowledge of English and/or French when other variables were controlled. As for variables measuring population characteristics, there were no statistically significant effects on the participation of enclave economy when other factors were considered. Finally, the table shows a good match between predicted and actual values in the dependent variable (-2LL), and the independent variables made a difference in predicting the odds of participation in the enclave economy (significant model χ^2).

Model 4 gives the logits and odds ratios of participating in the enclave economy for South Asian female immigrant wage workers. The variable of age indicates that compared to those between 25 and 29 years old, those in other age groups were less likely to participate in the enclave economy when other factors were taken into account. The variable of "age of immigration" shows that compared to those who immigrated to Canada at the age of 40 or older,

those who immigrated to Canada when they were below 19 years of age were 80 percent less likely to participate in the enclave economy; 64 percent less likely for those who immigrated to Canada between 20 and 29 years of age; and 68 percent less likely for those who immigrated to Canada between 30 and 39 years of age when variations in other variable were taken into account. Once again, the findings suggest that the older the age of immigration, the higher is the probability of participating in the enclave economy. The odds of "education" show that those with below high school education were 1.3 times more probable in participating in the enclave economy than those with high school certificate when differences in other factors were considered, but those with post-secondary education were less likely to participate in the enclave economy. Furthermore, those who had no knowledge of official languages were 94 percent less likely to participate in the enclave economy than those who had knowledge of official languages when the variable of "age of immigration" and other variables were controlled. In addition, those who lived in the three large CMAs were more likely to work in the enclave economy when other factors were considered, compared to those who lived elsewhere. Each additional percent of South Asian at the CMA level of residence increased the probability of participation in the enclave economy by 0.984. Finally, the statistic measuring the "goodness of fit" (-2LL) indicates that there was no difference between predicted and actual values in the dependent variable suggesting the model was a good fit. The independent variables also made a difference in predicting the odds of participation in the enclave economy (significant model χ^2).

Therefore, for both South Asian female self-employed persons and wage workers, those who immigrated to Canada at an older age, those who had high school education or less, and those who lived in the three largest CMAs were more likely to participate in the enclave economy. The effect of age on the participation in the enclave economy was mixed. The

findings suggest that the enclave economy was less likely to attract South Asian female immigrants who immigrated to Canada at a younger age and those who were better educated.

Table 4.2. Logistic regression showing logits and odds ratio of participating in the enclave economy for South Asian immigrants, Canada, aged 25-64, associated with various levels of independent variables.

	Male				Female			
Independent variables	Self-employed persons		Wage workers		Self-employed persons		Wage workers	
		[1]		[2]		[3]		[4]
	b	Odds	b	Odds	b	Odds	b	Odds
Age groups								
30 to 34 years	-0.626	0.535	0.146	1.157	0.204	1.226	-0.117	0.889
35 to 39 years	-1.230 *	0.292	0.080	1.083	0.302	1.352	-0.301	0.740
40 to 44 years	-0.684	0.505	-0.407	0.666	-0.044	0.957	-0.913 *	0.401
45 to 49 years	-0.817	0.442	-0.878 *	0.415	-0.994	0.370	-1.100 *	0.333
50 to 54 years	-1.114 *	0.328	-0.921 *	0.398	-1.025	0.359	-0.965 *	0.381
55 to 59 years	-1.331 *	0.264	-1.250 *	0.286	-1.012	0.364	-0.913 *	0.401
60 to 64 years	-0.815	0.443	-0.373	0.688	-0.587	0.556	-0.405	0.667
25 to 29 years**								
Age of immigrantion								
Below 19 years old	-1.179 *	0.308	-1.868 *	0.154	-1.567 *	0.209	-1.602 *	0.201
20 to 29 years old	-0.494	0.610	-0.745 *	0.475	-0.872	0.418	-1.015 *	0.362
30 to 39 years old	-0.463	0.630	-1.174 *	0.309	-1.218	0.296	-1.130 *	0.323
40 years and over**								
Highest certificate, diploma or degree								
Below high school	0.185	0.591	0.298	1.348	1.081	2.946	0.289	1.335
Post-secondary certificate	-0.487	0.106	-0.732 *	0.481	-0.371	0.690	-0.675 *	0.509
Bachelor's degree	-1.177 *	0.003	-1.572 *	0.208	-1.492 *	0.225	-1.318 *	0.268
Post-bachelor degree	-0.914 *	0.014	-1.072 *	0.342	-1.643 *	0.193	-0.604 *	0.547
High school certificate**								
Knowledge of official language								
No knowledge of offcial language	-2.674 *	0.069	-3.263 *	0.038	-22.540	0.000	-2.797 *	0.061
English and/or French**								
CMA level								
Three large CMA(Vancouver, Toronto, Montreal)	1.121 *	3.068	-0.503 *	0.605	0.069	1.071	0.333	1.395
Other medium, small, and non-CMA**								
Pecent South Asian in CMA level of residence	-0.052	0.949	0.023	1.024	0.021	1.021	-0.016	0.984
Constant	1.685 *	5.394	2.001 *	7.400	21.804	0.000	1.647	5.190
Number of unweighted cases(N)	1,057		5,813		344		4,975	
-2 Log likelihood	567.436		1936.653		196.162		1914.420	
Chi Square(Hosmer and Lemeshow Test)	2.340		15.620 *		7.760		5.587	
Model Chi Square	77.049 *		701.038 *		57.027 *		593.874 *	

*$p \leq 0.05$, ** Reference category

The results of the logistic regression analysis for the various immigrant groups indicate that age of immigration, human capital factors and population characteristics affect the likelihood of participation in the enclave. In general, immigrants who immigrated to Canada at an older age, those who had less schooling, and immigrants who resided in the three largest CMAs were more likely to participate in the enclave economy. As well, with few exceptions, the larger the relative population of the ethnic group to which an immigrant belonged, the higher was the likelihood of the immigrant participating in the enclave economy. However, the effect of age is mixed, and there is no consistent pattern regarding whether older or younger immigrants were more likely to participate in the enclave economy. The effect of knowledge of official languages is opposite to what is expected, with those who spoke the official languages being more likely to participate in the enclave economy. But as explained before, there is a confounding effect between "knowledge of official languages" and "age of immigration". Those who immigrated at an older age were also less likely to speak the official languages. When the variable "age of immigration" was not included, those who spoke the official languages became less likely to participate in the enclave economy.

5. ECONOMIC RETURNS OF PARTICIPATION IN ENCLAVE ECONOMY FOR CHINESE IMMIGRANTS

The focus of the previous chapter is to analyze factors that influence the propensity to participate in the enclave economy. In this and the following chapter, the purpose is to examine the returns of participation in the enclave economy to see if such returns are comparable to those in the mainstream economy in Canada. The literature has produced conflicting evidence, mainly based on U.S. data, in this regard (Wilson & Portes, 1980; Sander & Nee, 1987; Portes and Jensen, 1989; Zhou & Logan, 1989). The controversy partly has to do with how participation in the enclave is measured, and partly, how economic performance differs for self-employed persons and wage workers.

This chapter examines the Chinese immigrants as an ethnic minority to see whether those who participate in the enclave economy receive similar returns to those in the mainstream economy in Canada. In particular, this chapter assesses the conflicting claim in the literature regarding whether human capital receives comparable or lower returns in the enclave economy compared to the mainstream economy. Since the literature has also suggested that those who are self-employed perform differently than wage earners, these two groups are compared separately in the analysis (see Li and Dong, 2007). In other words, the economic returns of self-employed persons in the enclave economy are compared to that of their counterparts in the mainstream economy. Similarly, the wage workers in the enclave economy are compared to their counterparts in the mainstream economy in terms of their earnings. The first part of the analysis involves using contingency tables to show the extent of participation of Chinese immigrants as self-employed persons and wage workers in the enclave and mainstream economy. The second

part of the analysis involves developing a regression model to examine whether the economic returns of those Chinese immigrants who participant in the enclave economy are comparable to the returns of those who participant in the mainstream economy. Returns are measured in natural logarithm of employment earnings, which include both employment and self-employment income. The analysis first compares the gross differences or effects of participation in the two types of economy, or in other words, differences before other explanatory variables are being considered. Net differences or effects are then discussed after variations in human capital, work-related features, and population characteristics are taken into account. To assess whether human capital factors bring different returns to participants in the enclave economy, interaction terms between enclave economy participation and each human capital factor are introduced to the regression model. Thus, in the full model, differences in enclave participation are estimated after also controlling for interaction variables including years of schooling and economic sector, foreign work experience and economic sector, as well as Canadian work experience and economic sector.

5.1. Participation of Chinese Immigrants in the Enclave and Mainstream Economy

Since this chapter mainly compares economic returns for Chinese immigrants as self-employed persons and wage workers in the enclave and mainstream economy, an overview is presented to show the extent of participation of Chinese immigrants in the enclave economy and mainstream economy. The data in Table 5.1 show that 22.1 percent of men participated in the enclave economy as either self-employed persons or wage workers, compared to 22.8 percent of women who did so. In other words, the rate of participation of Chinese men or women in the

enclave economy was similar, in the magnitude of about 1 person out of every 5 in the labor market. The data also show that in all, 14.6 percent of Chinese men were self-employed, compared to 9.5 percent of Chinese women. Thus, self-employment rate tends to be higher among Chinese men than women. However, for Chinese men and women in the enclave economy, about 22.2 percent of men compared to 13.7 percent of women were self-employed, making a difference of 8.5 percent. But in the mainstream economy, 12.4 percent Chinese men compared to 8.2 percent Chinese women were self-employed, producing a difference of 4.2 percent. Thus Chinese men and women were more likely to be self-employed in the enclave economy than their counterparts in the mainstream economy. However, Chinese men were more likely than Chinese women to be self-employed in both the enclave economy and the mainstream economy.

Table 5.1. Participation in the enclave economy and mainstream economy as self-employed persons or wage workers, by gender, for Chinese immigrants.

	Male						Female					
Self-employment	Enclave economy		Mainstream economy		Total		Enclave economy		Mainstream economy		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Self-employed persons	10,469	22.2	20,569	12.4	31,038	14.6	6,511	13.7	13,244	8.2	19,755	9.5
Wage workers	36,588	77.8	145,426	87.6	182,014	85.4	41,138	86.3	147,534	92	188,672	90.5
Total	47,057	100	165,995	100	213,052	100	47,649	100	160,778	100	208,427	100

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

5.2. Economic Returns in the Enclave Economy and Mainstream Economy

There are some notable differences in the characteristics of people who participated in the enclave and mainstream economy. Table 5.2 shows the means of selected variables for Chinese immigrants in the enclave and mainstream economy, controlling for gender and self-employment status. The means of all the variables in the regression are given in the appendix (Appendix C). The analysis involved four groups including male self-employed persons, male wage workers, female self-employed persons, and female wage workers. For all four groups, there was a difference in log earnings between those in the mainstream economy and those in the enclave economy. Self-employed persons and wage workers in the enclave economy earned less than their counterparts working in the mainstream economy for Chinese male and female immigrants. For male self-employed persons it was 0.588 less in log earnings (9.970 minus 9.382); for male wage workers, it was 0.714 less; for female self-employed persons, it was 0.456 less, and for female wage workers, it was 0.456 less. The same pattern is reflected in actual earnings: those in the enclave economy earned less than their counterparts in the mainstream economy, taking into account gender and self-employment status. In terms of education, self-employed persons and wage workers in the mainstream economy had more years of schooling than their counterparts in the enclave, for both men and women. For example, male wage workers in the mainstream economy had 15 years of schooling on average, compared to 12 years for those in the enclave economy. Female wage workers in the mainstream economy had 2 more years of schooling on average than their counterparts in the enclave. Furthermore, self-employed and wage-earning immigrants participating in the enclave economy had more years of foreign work experience, and less years of Canadian work experience than their counterparts working in the mainstream

economy. In addition, self-employed persons and wage workers participating in the enclave economy worked more weeks than their counterparts in the mainstream economy. Finally, self-employed and salaried immigrants in the enclave economy resided in metropolitan centres which had a higher percentage of Chinese population in the total population, compared to those in the mainstream economy. These patterns apply to both Chinese men and women. Undoubtedly, differences in background variables affect the economic returns of participants in the enclave and mainstream economy unequally, and these variations have to be taken into account in the regression models.

Table 5.2. Means of selected variables for self-employed persons and wage workers by gender, for Chinese immigrants in the enclave and mainstream economy.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Mean log earnings				
Enclave economy	9.382	9.711	9.084	9.418
Mainstream economy	9.970	10.425	9.540	10.052
Total (Enclave and mainstream)	9.772	10.282	9.390	9.913
Mean earnings				
Enclave economy	23,151	25,141	15,642	19,478
Mainstream economy	50,061	49,811	29,351	35,792
Total (Enclave and mainstream)	40,984	44,852	24,833	32,235
Mean years of schooling				
Enclave economy	13	12	13	12
Mainstream economy	15	15	14	14
Total (Enclave and mainstream)	14	14	14	14
Mean years of foreign work experience				
Enclave economy	15	15	15	15
Mainstream economy	6	6	7	6
Total (Enclave and mainstream)	9	8	10	8
Mean years of Canadian work experience				
Enclave economy	15	13	14	13
Mainstream economy	19	17	19	17
Total (Enclave and mainstream)	18	16	17	16
Mean weeks worked				
Enclave economy	44	44	42	41
Mainstream economy	46	46	44	44
Total (Enclave and mainstream)	45	46	44	43
Mean percent Chinese in CMA				
Enclave economy	13	12	13	12
Mainstream economy	11	10	10	10
Total (Enclave and mainstream)	12	10	11	11

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Before presenting the results of the models, an assessment is performed to test whether gender interacts with key variables and whether self-employment status interacts with key variables to produce a significant effect. A significant interaction effect indicates that separate regression analysis is justified. Table 5.3 shows the results of a regression analysis, regressing log earnings on sex, self-employment status, economic sector, years of schooling, and interaction terms of sex and self-employment, sex and economic sector, sex and years of schooling, self-employment and economic sector, as well as self-employment and years of schooling. The results indicate that the regression coefficients of sex, self-employment status, economic sector, years of schooling, and other four interaction terms on log earnings are all statistically significant. In other words, the variables of sex, self-employment, economic sector, and years of schooling as well as the interaction terms have a significant influence on the dependent variable. That is to say, sex and self-employment status interact with other key variables. Thus separate regressions are justified to examine men and women, as well as to examine wage workers and self-employed persons, since these groups are different in terms of the intercept and slopes in a regression analysis. In all, four groups are being analyzed separately: male self-employed persons, male wage workers, female self-employed persons, and female wage workers. In each case, the purpose is to compare the returns of participation in the enclave economy to that of participation in the mainstream economy.

Table 5.3. Regression coefficients of sex, self-employment status, participation in the enclave economy, and years of schooling on log earnings, for Chinese men and women, aged 25-64.

Independent variables	
Sex (Female=0)	0.424 *
Self-employment (Wager workers=0)	-0.874 *
Economic sector (Mainstream economy=0)	-0.519 *
Years of schooling	0.051 *
Interaction of sex and self-employment	0.033 *
Interaction of sex and economic sector	-0.080 *
Interaction of sex and years of schooling	-0.005 *
Interaction of self-employment and economic sector	0.165 *
Interaction of self-employment and years of schooling	0.026 *
Weighted number of cases (N)	421,479
Intercept	9.318 *
R squared	0.084

*****$p \leq 0.01$

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

The results of the regression analysis for Chinese male immigrants are presented in Table 5.4. Columns 1 to 3 are for self-employed persons; columns 4 to 6 are for wage workers. Column 1 and column 4 are gross differences or effects of participation in the enclave and mainstream economy. Column 2 and column 5 are net differences after the variations in human capital, work-related features, and population characteristics are taken into account. Column 3 and column 6 are differences after further adjusting for three interaction terms that measure how the enclave factor interacts with human capital factors. The explanatory variables used in the full model include economic sector (enclave economy=1), years of schooling, years of foreign work experience, years of Canadian work experience, years of Canadian work experience squared, full-time or part-time job status (full-time=1), number of weeks worked in 2005, the relative size

of the Chinese population measured by the percentage of Chinese at the CMA level of residence of the respondent, four dummy variables to measure city location of Vancouver, Toronto, Montreal, and small size CMA and non-CMA (medium size CMA is the reference category), and three interaction terms including years of schooling and economic sector (enclave=1; mainstream=0), years of foreign work experience and economic sector, as well as years of Canadian work experience and economic sector.

The first column in Table 5.4 shows the gross effect of participating in the enclave sector compared to the mainstream sector for self-employed persons. Chinese male Self-employed immigrants who worked in the enclave economy had 0.580 in log earnings less than their counterparts who worked in the mainstream economy. This figure represents the log earnings disparity between participation in the enclave economy and the mainstream economy as self-employed persons. In other words, Chinese male self-employed immigrants in the enclave sector had a clear income disadvantage compared to their counterparts in the mainstream sector before variations in other variables are being considered.

Since part of the difference in returns for self-employed persons in the enclave economy and for those in the mainstream economy may be related to variations in the features of the participants, it is essential to control for other variations to compare the net difference in returns. The second column of Table 5.4 shows the net effects of participation in the enclave and mainstream economy for Chinese male self-employed immigrants after controlling for the variations in human capital, work-related features, and population characteristics. The results indicate that all regression coefficients are statistically significant. After controlling for variations inhuman capital, work-related features, and population characteristics, those who worked in the enclave sector still earned 0.178 less in log earnings than those who participated in

the mainstream sector. In other words, Chinese male self-employed immigrants in enclave sector had a net disadvantage in log earnings compared to their counterparts in the mainstream economy; such a net disadvantage cannot be explained by differences in other variables. But at the same time, the original log earnings difference of -0.580 was reduced to -0.178, suggesting that some of the original difference was due to differences in levels of characteristics of participants in the enclave and the mainstream economy. The coefficient of years of schooling (0.080) indicates that each additional year of schooling increased log earnings of Chinese male self-employed immigrants by 8 percent when variations in other variables in the equation were taken into account. The slope of years of foreign work experience (-0.006) suggests that each additional year of foreign work experience reduced log earnings of Chinese male self-employed immigrants by 0.6 percent after controlling for other variables in the equation. In other words, each additional year of foreign work experience brought a penalty of 0.6 percent in net earnings for Chinese male self-employed immigrants. The coefficient of years of Canadian work experience (0.065) shows that one additional year of Canadian work experience raised net log earnings of Chinese male self-employed immigrants by 6.5 percent, but the Canadian work experience squared term reduced log earnings marginally by .001 or 0.1 percent for each unit of increase in the squared term. These findings show that Chinese men who had less foreign work experience and more Canadian work experience had an advantage over those who had more foreign work experience and less Canadian work experience. Therefore, these results confirm the earlier findings that suggest Chinese men who immigrated to Canada at the younger age would have higher earnings than those who immigrated at an older age, since those who immigrated at an earlier age would have a greater chance of having a longer cumulative Canadian work experience and a shorter foreign work experience (Li and Dong, 2007). The coefficient of full-

time or part-time job status shows that Chinese male self-employed immigrants who worked full-time earned 0.905 in net log earnings more than those who worked part-time. The slope of the number of weeks worked in 2005 indicates that one additional week worked increased net log earnings of Chinese male self-employed immigrants by 2 percent when other variables in the equation were controlled. Column 2 of Table 5.4 also shows that the percentage of Chinese population at the CMA level brought a disadvantage of 12.9 percent in net log earnings for Chinese male immigrants. In short, the larger the relative Chinese population in the city of residence of the respondent, and by implication the larger the size of the potential enclave economy, the lower was the net returns. The table also indicates that different metropolitan centres affected the net log earnings differently. Compared to those who lived in the medium size CMA, those who lived in Vancouver had 1.538 higher in net log earnings; those who lived in Toronto had 0.517 higher in net log earnings; those who lived in Montreal had 0.855 less in net log earnings; and those who lived in the small size CMA and non-CMA had 0.704 less in net log earnings. In other words, Vancouver seemed to offer the best net returns to immigrants, followed by Toronto, but Montreal and small size CMA and non-CMA brought a net disadvantage compared to those in medium size CMA.

Column 2 of Table 5.4 also shows that using the participation in the type of economy as the only explanatory variable, 3.3 percent (R^2=0.033) of the variation in the log earnings can be explained, but when the independent variables of human capital, work-related features, and population characteristics are entered simultaneously, the explained variance is increased to 19 percent (R^2=0.190).

The third column of Table 5.4 shows the net differences or effects of participation in the enclave economy compared to the mainstream economy for self-employed persons after further

controlling for differences in three interaction terms including years of schooling and economic sector, years of foreign work experiences and economic sector, as well as years of Canadian work experiences and economic sector. The results indicate that all regression coefficients are statistically significant except for the coefficient of years of foreign work experience. The coefficient of the interaction term for years of schooling and economic sector indicates that returns to schooling for participants in the enclave had to be discounted, in the magnitude of -0.039 in net log earnings. In other words, the returns to each year of schooling for participants in the mainstream economy were 0.092 in net log earnings, but the returns for those in the enclave were 0.053 in net log earnings. Similarly, the returns to each year of Canadian work experience were 0.068 in net log earnings for participants in the mainstream economy and 0.048 for those in the enclave economy. There was no return to foreign work experience for those in the mainstream economy, but each year of foreign work experience brought a penalty of 0.012 in net log earnings for participants in the enclave economy. These findings clearly indicate the returns to human capital factors are not the same for participants in the two economic sectors.

Column 3 of Table 5.4 shows the regression coefficients of variables in the full model for Chinese male self-employed immigrants. These coefficients represent three types of effects that affect the log earnings disparity between participants in the enclave economy and those in the mainstream economy. The first type of effect has to do with differences in the characteristics of the two groups, or differences in the means of independent variables of the two groups. In other words, this effect explains some of the original log earnings difference that can be attributed to differences in unequal levels of characteristics between the two groups. The second type and the third type are unexplained effects. The second type has to do with unequal returns of human

capital factors, and the third type has to do with unequal returns of other unmeasured factors subsumed under the enclave economy.

Using the Blinder and Oaxaca method of decomposition (Blinder, 1973; Oaxaca, 1973), it is possible to decompose the original log earnings difference between participants in the enclave and mainstream economy into several components. The table showing the calculations of the decomposition for Chinese male self-employed persons is given in Appendix G, and the summary of decomposition for Chinese immigrants is given in Table 5.6.

The decomposition shows that of the original log earnings difference of -0.58 (Column 1, Table 5.4), -0,42 can be attributed to differences in levels of characteristics, such as differences in schooling, foreign work experience, Canadian work experience and other factors. The unexplained difference of -0.16 (-0.58 minus -0.42) is produced by two effects. The unequal returns to schooling, foreign work experience and Canadian work experience produce a total effect of -0.99 for enclave participants (see Appendix E and Table 5.6), but the unequal returns of other unmeasured factors produce an effect of 0.8 (Column 3, Table 5.4). When these two effects are combined, they produce a final effect of -0.17 (-0.99 plus 0.82), which is approximately the same as the total unexplained effect of -0.16. In other words, from model 3, it is clear that returns to human capital factors are not the same in the enclave and the mainstream economy (Column 3, Table 5.4, the interaction terms). In fact, the log earnings of Chinese male self-employed enclave participants would be decreased by -0.99 as a result of unequal returns, but the enclave effect reduces this amount by 0.82 to result in a final log earnings disadvantage of -0.16. These findings challenge the conclusion in the literature that suggests the enclave economy offers comparable returns to human capital factors as in the mainstream economy. At the same time, the findings confirm the part of the enclave economy thesis that suggests that

those who worked in the enclave economy are able to use ethnic and cultural factors to promote economic interests. Such efforts cannot be measured directly in this analysis, and they can only be subsumed under the enclave effect.

Column 3 of Table 5.4 shows that the explained variance is increased to 19.3 percent (R^2=0.193), when all independent variables are entered simultaneously.

The fourth column of Table 5.4 shows the gross effect of participation in the enclave economy compared to the mainstream economy for wage workers. Chinese male immigrant wage workers who worked in the enclave economy had a disadvantage of 0.737 in log earnings, compared to their counterparts in the mainstream economy when other variables were not controlled. That is to say, Chinese male immigrants who worked as wage workers in the enclave economy earned less than their counterparts in the mainstream economy before variations in other explanatory variables were being considered.

The fifth column in Table 5.4 indicates that the net effects of participation in the enclave economy for Chinese male immigrant wage workers after the variations in human capital, work-related, and population characteristics were taken into account. After controlling for variations in human capital and other factors, those who worked in the enclave economy still had 0.260 in net log earnings less than those who participated in the mainstream economy. In other words, some of the original difference in log earnings had to do with differences in characteristics of participants in the enclave and mainstream economy. With regard to the coefficients of other variables, the table reveals the following findings. First, each additional year of schooling increased the earnings of Chinese male immigrant wage workers by 8.4 percent after controlling for other variables. Second, one additional year of foreign work experience raised net log earnings of Chinese male immigrant wage workers marginally by 0.3 percent. In other words,

each additional year of foreign work experience offered a small bonus of 0.3 percent for Chinese male immigrant wage workers instead of bringing a penalty as in the case of self-employed Chinese men. Third, each additional year of Canadian work experience increased net log earnings of Chinese male wage worker immigrants by 5.1 percent, but the Canadian work experience squared term decreased net log earnings marginally by .001 or 0.1 percent. Four, Chinese male immigrant wage workers who worked full-time earned 0.821 in net log earnings more than those who worked part-time. Five, one additional week worked in 2005 raised log earnings of Chinese male immigrant wage workers by 4.4 percent when other variables in the equation were controlled. The above finding of a small positive return to foreign work experience differs from what Li and Dong (2007) reported; however, the positive return for Chinese male immigrant wage workers here is relatively small. Column 5 of Table 5.4 also shows a small positive net effect of the percentage of Chinese population at the CMA level on log earnings for Chinese male immigrant wage workers, but the coefficient is not statistically significant. In other words, the percentage of Chinese population at the CMA level had little net influence on the log earnings for Chinese male immigrant wage workers. The table also indicates that different metropolitan centres, compared to medium size CMA, had different net negative effects on log earnings for Chinese male immigrant wage workers. Compared to the medium size CMA, the net log earnings of those who lived in Vancouver was reduced by 0.228; those who lived in Toronto had a net log earnings disadvantage of 0.042; those who lived in Montreal had a net log earnings penalty of 0.171; and those who lived in the small size CMA and non-CMA had a net disadvantage in log earnings, but the coefficient is not statistically significant.

The table in column 5 shows that the mainstream economy by itself explains only 5.5 percent (R^2=0.055) of the variation in log earnings, but when other variables are considered simultaneously, the explained variance is increased to 37.4 percent (R^2=0.374). The regression model appears to fit wage workers better than self-employed persons.

The sixth column in Table 5.4 shows the full model with the three interaction terms. The results indicate that except for the coefficients of economic sector, the percentage of Chinese population at the CMA level, as well as small size CMA and non-CMA, other regression coefficients are all statistically significant. The coefficient of the interaction term for years of schooling and economic sector indicates that net returns to schooling for participants in the enclave economy were 0.026 less than those in the mainstream economy. In other words, the returns to each year of schooling for participants in the mainstream economy were 0.091 in net log earnings, but the returns for those in the enclave were 0.065 in net log earnings. Similar to returns to schooling, the returns to each year of Canadian work experience were 0.053 in net log earnings for participants in the mainstream economy and 0.050 for those in the enclave economy. However, there is a small positive net return (0.002) in log earnings to each year of foreign work experience for Chinese male wage workers who participated in the mainstream economy rather than no return as in the case of Chinese male self-employed persons, and each year of foreign work experience brought a bonus of 0.005 in net log earnings in the enclave economy. In other words, the returns to each year of foreign work experience for participants in the mainstream economy were 0.002 in net log earnings, but the returns for those in the enclave were slightly higher. These findings also suggest that the net returns to schooling and Canadian work experience were lower for participants in the enclave economy than those in the mainstream economy.

Using the coefficients in the full model to decompose the original log earnings difference of -0.74, it is found that -0.47 of the original differences can be attributed to different levels of characteristics between participants in the enclave and mainstream economy. The calculations are provided in Appendix F and the summary is given in column 2 of Table 5.6. Furthermore, unequal returns to human capital produce an effect of -0.28 for enclave participants, but the enclave effect reduces this disadvantage slightly by 0.01 to result in a final effect of -0.27. In short, for Chinese male wage workers, the positive enclave effect is very small. This point also confirms the findings of past research that suggests entrepreneurs benefit more from the positive effects of enclave than wage workers (Nee and Sanders,1994; Logan and Stults, 2003). Finally, Table 5.4 shows that the explained variance is increased to 37.5 percent (R^2=0.375), when all independent variables are entered simultaneously.

Table 5.4. Gross and net effects of participation in the enclave and mainstream economy on log earnings, for Chinese male immigrants, aged 25-64, for self-employed persons and wage workers.

	Self-employed			Wage Workers		
	[1]	[2]	[3]	[4]	[5]	[6]
Economic sector (Mainstream economy=0)	-0.580 *	-0.178 *	0.803 *	-0.737 *	-0.260 *	0.062
Years of schooling		0.080 *	0.092 *		0.084 *	0.091 *
Years of foreign work experience		-0.006 *	0.000		0.003 *	0.002 *
Years of Canadian work experience		0.065 *	0.068 *		0.051 *	0.053 *
Years of Canadian work experience squared		-0.001 *	-0.001 *		-0.001 *	-0.001 *
Full-time or part-time (Part-time=1)		0.905 *	0.901 *		0.821 *	0.818 *
Number of weeks worked in 2005		0.020 *	0.020 *		0.044 *	0.044 *
Percent Chinese in CMA level of residence		-0.129 *	-0.118 *		0.005	0.006
CMA: Vancouver**		1.538 *	1.388 *		-0.228 *	-0.244 *
CMA: Toronto**		0.517 *	0.458 *		-0.042 *	-0.048 *
CMA: Montreal**		-0.855 *	-0.832 *		-0.171 *	-0.162 *
Small size CMA and non-CMA**		-0.704 *	-0.645 *		-0.057	-0.051
Interaction of years of schooling and economic sector			-0.039 *			-0.026 *
Interaction of years of foreign experience and economic sector			-0.020 *			0.005 *
Interaction of years of Canadian experience and economic sector			-0.012 *			-0.003 *
Weighted number of cases (N)	28,449	28,449	28,449	166,106	166,106	166,106
Intercept	9.974 *	7.160 *	6.839 *	10.433 *	5.814 *	5.696 *
R squared	0.033	0.190	0.193	0.055	0.374	0.375

*$p \leq 0.01$, **Suppressed category is "medium size CMA"

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Table 5.5 shows the results of the analysis for Chinese female immigrants. Columns 1 to 3 are for self-employed persons; columns 4 to 6, for wage workers. The explanatory variables are the same as those in the models for men. The first column in Table 5.5 shows the gross effect of participating in the enclave economy compared to the mainstream economy. Self-employed Chinese immigrant women who worked in the enclave economy earned 0.468 less in log earnings than their counterparts in the mainstream economy before variations in other variables were being considered.

The second column of Table 5.5 shows the net effect of participation in the enclave economy and mainstream economy for self-employed Chinese female immigrants after controlling for variations in human capital, work-related features, and population characteristics. The effect of economic sector (enclave economy=1) is not significant after variations in human capital and other factors were considered. In other words, there was little difference in net returns for Chinese self-employed immigrant women who worked in the enclave and mainstream economy, and the original log earnings difference was mainly due to differences in levels of characteristics between participants in the enclave and mainstream economy. To be expected, the variable of years of schooling affected the net log earnings positively. The coefficient indicates that one additional year of schooling increased the net returns of self-employed Chinese female immigrants by 0.153. The slope of years of foreign work experience is not significant. In other words, years of foreign work experience had no net effect on the net log earnings for self-employed Chinese female immigrants. As for the variable of years of Canadian work experience, the table shows that the coefficient is statistically significant. It indicates that each additional year of Canadian work experience raised the net earnings of self-employed Chinese female immigrants by 3.3 percent. The effect of full-time or part-time work status is also significant. It shows that self-employed Chinese female immigrants who worked full-time earned 0.721 in log earnings more than those who worked part-time, when effects of other variables were taken into account. The effect of the number of weeks worked in 2005 on the log earnings is small but significant. The slope shows that each additional week worked increased the net earnings by 1.7 percent for self-employed Chinese female immigrants. Column 2 in table 5.5 also shows that the percentage of Chinese population at the CMA level affected the net log earnings for self-employed Chinese female immigrants. The coefficient indicates that one

additional percent of Chinese population at the CMA level raised 0.190 in net log earnings of self-employed Chinese female immigrants. The table also shows that compared to medium size CMA, Vancouver and Toronto had negative effects on net log earnings, but Montreal and small size CMA and non-CMA affected net log earnings positively. The coefficients indicate that compared to those in medium size CMA, those in Vancouver had a disadvantage of 3.004 in net log earnings; those in Toronto had a net disadvantage of 1.256; those in Montreal earned 0.186 more in net log earnings; and those in small size and non-CMA had a net advantage of 0.794 in net log earnings. Finally, Table 5.5 also indicates that the economic sector by itself explains only 1.9 percent (R^2=0.019) of the variation in log earnings, but when all independent variables are entered simultaneously, the explained variance is increased to 17.1 percent (R^2=0.171).

The third column of Table 5.5 shows the regression coefficients of variables in the full model for self-employed Chinese female immigrants. The coefficient of the interaction term for years of schooling and economic sector shows that returns to schooling for participants in the enclave economy had to be reduced, in the magnitude of minus 0.044 in net log earnings. In other words, the returns to each year of schooling for participants in the mainstream economy were 0.172 in net log earnings, and the returns for those in the enclave economy were 0.128 in net log earnings. Each year of Canadian work experience brought a bonus of 3.4 percent in net log earnings in the mainstream economy. However, the effect of the interaction of years of Canadian work experience and economic sector was not statistically significant. In other words, the returns to years of Canadian work experience in the enclave and mainstream economy were the same. There was still a small positive return (0.009) in log earnings to foreign work experience for those in the mainstream economy, but a negative return (-0.007) for those in the

enclave economy. These findings confirm once again, that the returns to human capital factors were lower in the enclave economy than the mainstream economy.

In addition, using the coefficients in the full model to decompose the gross difference (-0.47), it is found that most of the gross difference (-0.42) can be explained by different levels of characteristics between participants in the enclave and mainstream economy. The calculations are given in Appendix G and the summary for decomposition for Chinese female self-employed immigrants is provided in column 3 of Table 5.6. Furthermore, unequal returns to human capital produce an effect of -0.9, but the enclave effect reduces this disadvantage by 0.85 to result in a final effect of -0.05. In other words, unequal returns of human capital factors should bring down the log earnings by -0.9 but the positive enclave effect (0.85) helps to compensate for a large portion of this loss. Once again, the findings confirm the part of the enclave economy thesis that suggests that cultural and ethnic attachment to the enclave economy improves the economic interests of its participants.

Finally, the table also shows that the explained variance is increased to 17.3 percent (R^2=0.173), when all independent variables are entered simultaneously.

The fourth column of Table 5.5 shows the gross effect of participating in the enclave economy compared to the mainstream economy for Chinese female wage workers. The coefficient (-0.639) is significant, indicating that Chinese female immigrant wage workers who worked in the enclave economy had a gross disadvantage of 0.639 in log earnings compared to their counterparts in the mainstream economy. In other words, Chinese female immigrant wage workers in the enclave sector had a clear income disadvantage compared to their counterparts in the mainstream economy before other variables were controlled.

The fifth column of Table 5.5 shows the net effects of participation in the enclave economy and mainstream economy for Chinese female immigrant wage workers before the interaction terms were entered. The coefficient for economic sector shows that the original disadvantage for wage workers in the enclave economy was reduced to 0.222 in log earnings; in other words, female wage workers in the enclave economy earned 0.222 less in log earnings than their counterparts in the mainstream economy when other variables were controlled. The coefficients for years of schooling, years of foreign work experience, years of Canadian work experience, full-time or part-time work status, and the number of weeks in the regression model are all statistically significant. The data show that (1) one additional year of schooling increased net earnings by 8.6 percent; (2) each additional year of foreign work experience raised net earnings by 0.2 percent; (3) one additional year of Canadian work experience increased net earnings by 4.5 percent; (4) those who worked full-time earned 0.746 in net log earnings more than those who worked part-time; (5) one additional week worked raised net earnings by 4 percent. In addition, the table shows that the percentage of Chinese population at the CMA level had no effect on net log earnings. Column 4 in Table 5.5 also indicates that different metropolitan centres affected net log earnings differently. Except for Vancouver, the slopes for Toronto, Montreal, and small size CMA and non-CMA are significant. Compared to medium size CMA, those in Toronto earned 7 percent more in net log earnings, but those in Montreal had a net disadvantage of 0.262 in log earnings, and those in small size CMA and non-CMA received a penalty of 0.170 in net log earnings. Finally, the table shows that using only the type of economic sector as a variable by itself explains 4.2 percent (R^2=0.042) of the variation in log earnings, but when all independent variables in the regression are entered simultaneously, the explained variance is increased to 38.3 percent (R^2=0.383).

The sixth column of Table 5.5 shows the full model with three interaction terms for Chinese female immigrant wage workers. The effect of the interaction term for years of schooling and economic sector indicates that returns to schooling for participants in the enclave had to be discounted, in the magnitude of minus 0.096 in net log earnings. In other words, the returns to each year of schooling for participants in the mainstream economy were 0.112 in net log earnings, but the returns for those in the enclave economy were 0.016 in net log earnings. Similar to the returns to schooling, the returns to each year of Canadian work experience were 0.052 in net log earnings for participants in the mainstream economy and 0.037 for those in the enclave economy. There was a small positive return (0.004) to each year of foreign work experience for participants in the mainstream economy, but each year of foreign work experience brought a penalty of 0.004 in net log earning for those in the enclave economy. These findings confirm one more time that the returns to human capital factors were lower in the enclave economy than in the mainstream economy.

The original difference (-0.64) for Chinese female immigrant wage workers is decomposed into explained and unexplained components (Column 4 of Table 5.6 and Appendix H). Of the original log earnings difference of -0.64, unequal levels of characteristics between participants in the enclave and mainstream economy account for -0.41 of the difference. Furthermore, unequal returns to human capital produce an effect of -1.47 for enclave participants, but the enclave effect reduces this disadvantage by 1.24 to result in a final unexplained effect of -0.23.

Table 5.5. Gross and net effects of participation in the enclave and mainstream economy on log earnings, for Chinese female immigrants, aged 25-64, for self-employed persons and wage workers.

	Self-employed			Wage Workers		
	[1]	[2]	[3]	[4]	[5]	[6]
Economic sector (Mainstream economy=0)	-0.468 *	0.034	0.925 *	-0.639 *	-0.222 *	1.308 *
Years of schooling		0.153 *	0.172 *		0.086 *	0.112 *
Years of foreign work experience		0.002	0.009 *		0.002 *	0.004 *
Years of Canadian work experience		0.033 *	0.034 *		0.045 *	0.052 *
Years of Canadian work experience squared		0.000 *	0.000		-0.001 *	-0.001 *
Full-time or part-time (Part-time=1)		0.721 *	0.717 *		0.746 *	0.721 *
Number of weeks worked in 2005		0.017 *	0.017 *		0.040 *	0.040 *
Percent Chinese in CMA level of residence		0.190 *	0.187 *		-0.007	-0.003
CMA: Vancouver**		-3.004 *	-2.961 *		0.088	0.030
CMA: Toronto**		-1.256 *	-1.250 *		0.070 *	0.045 *
CMA: Montreal**		0.186 *	0.138		-0.262 *	-0.245 *
Small size CMA and non-CMA**		0.794 *	0.811 *		-0.170 *	-0.134 *
Interaction of years of schooling and economic sector			-0.044 *			-0.096 *
Interaction of years of foreign experience and economic sector			-0.016 *			-0.008 *
Interaction of years of Canadian experience and economic sector			-0.006			-0.015 *
Weighted number of cases	17,239	17,239	17,239	172,025	172,025	172,025
Intercept	9.525 *	4.918 *	4.552 *	10.074 *	5.924 *	5.461 *
R squared	0.019	0.171	0.173	0.042	0.383	0.388

*$p \leq 0.01$, **Suppressed category is "medium size CMA"

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Table 5.6. Decomposing the log earnings disparity between enclave and mainstream participants for Chinese immigrants.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Total difference between enclave and mainstream	-0.58	-0.74	-0.47	-0.64
Explained difference due to characteristics	-0.42	-0.47	-0.42	-0.41
Unexplained difference	-0.16	-0.27	-0.05	-0.23
Effect of unequal returns	-0.99	-0.28	-0.90	-1.47
Effect of other factors under enclave net of explained effects and unequal returns effects	0.82	0.01	0.85	1.24

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

In the previous tables, the gross and net effects of participating in the enclave and mainstream economy are reported in regression coefficients. Since the dependent variable is in log earnings, regression coefficients in the magnitude of 0.15 may be roughly interpreted as percentage differences. But if the absolute value of the regression coefficient is greater than 0.15, then the precise percentage change has to be calculated by taking the antilog of the regression coefficient, subtracting it by 1 and multiplying by 100. Table 5.7 converts the regression coefficients into precise percentage differences [1] between those in the enclave economy and those in the mainstream economy. These differences are reported as gross and net effects of participation in the enclave economy for the four groups: male self-employed persons, male wage workers, female self-employed persons, and female wage workers.

Table 5.7 shows that for all four groups, those in the enclave economy had a clear gross disadvantage in log earnings compared to those in the mainstream economy. The gross disadvantage is greater for wage workers than for self-employed persons. For example, male wage workers in the enclave economy earned 52 percent less than their counterparts in the mainstream economy, compared to male self-employed persons who earned 44 percent less than their counterparts. Similarly, the disadvantage for participating in the enclave economy is

[1] The precise percentage differences are calculated as follows. If the value of b, ignoring sign, is equal to or less than 0.15, then it can be interpreted roughly as percentage increase (+) or decrease (-) depending on the sign of b. But if the absolute value of b is greater than 0.15, then the precise percentage change has to be calculated by taking the antilog of the regression coefficient and subtracting it by 1. For example, since the first coefficient is minus 0.580, it cannot be interpreted as percentage decrease directly; to do so requires calculating the antilog of -0.580 and then minus 1, which equals to minus 0.440. In other works, the disadvantage of participating in the enclave economy for Chinese male self-employed persons, compared to their counterparts in the mainstream economy, is 44 percent less in earnings.

greater for female wage workers than for female self-employed persons. Female wage workers in the enclave economy earned 47 percent less than female wage workers in the mainstream economy, but female self-employed persons in the enclave economy earned 37 percent less than their counterparts. When the effects of human capital and other variables are taken into account, male self-employed persons, male wage workers, and female wage workers in the enclave economy continue to earn less than their counterparts in the mainstream economy, although the magnitude of difference is now smaller. The only one group that shows a net advantage is female self-employed persons, but the coefficient is not statistically significant. In other words, except for female self-employed persons in the enclave economy, all other groups show a net disadvantage in log earnings even after variations in human capital and other factors have been taken into account. The net disadvantage ranges from 16 percent for male self-employed persons to 23 percent for male wage workers. However, when the differences of the three interaction terms that measure unequal returns to human capital, are further taken into account, those in the enclave economy have comparable or better net economic returns over those in the mainstream economy for all four groups. Despite this finding, it is clear that the net returns to human capital are lower in the enclave economy than the mainstream economy.

Table 5.7. Gross and net effects of participation in the enclave and mainstream economy on log earnings, for Chinese immigrants, aged 25-64, by gender, for self-employed persons and wage workers.

	b	% Advantage/Disadvantage =(antilog of b) -1*100*
Male self-employed		
Gross effect of participation in enclave economy	-0.580 *	-44.0
Net effect of participation in the enclave economy (without interaction)	-0.178 *	-16.3
Effect of enclave, net of characteritics differences and unequal returns	0.803 *	123.2
Male wage workers		
Gross effect of participation in enclave economy	-0.737 *	-52.1
Net effect of participation in the enclave economy (without interaction)	-0.260 *	-22.9
Effect of enclave, net of characteritics differences and unequal returns	0.062	6.4
Female self-employed		
Gross effect of participation in enclave economy	-0.468 *	-37.4
Net effect of participation in the enclave economy (without interaction)	0.034	3.5
Effect of enclave, net of characteritics differences and unequal returns	0.925 *	152.2
Female wage workers		
Gross effect of participation in enclave economy	-0.639 *	-47.2
Net effect of participation in the enclave economy (without interaction)	-0.222 *	-19.9
Effect of enclave, net of characteritics differences and unequal returns	1.308 *	269.9

*$p \leq 0.01$

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

The unequal net returns to human capital for the four groups in the enclave economy and the mainstream economy are summarized in Table 5.8. The findings clearly indicate that except for the return to foreign work experience for Chinese male wage workers, returns to schooling, Canadian experience and foreign experience are lower for participants in the enclave than for participants in the mainstream economy. These findings challenge the conclusion in the literature that suggests comparable returns to human capital in the enclave economy compared to

the mainstream economy. At the same time, the present analysis also discovers findings that suggest that the enclave economy produces some positive effects in log earnings to reduce the negative effect of unequal returns for its participants.

Table 5.8. Economic returns to human capital in the enclave and mainstream economy for Chinese immigrants.

Chinese male self-employed persons		
	Enclave	Mainstream
Returns to years of schooling	0.053	0.092
Returns to foreign work experience	-0.020	0.000
Returns to Canadian work experience	0.056	0.068
Chinese male wage workers		
	Enclave	Mainstream
Returns to years of schooling	0.065	0.091
Returns to foreign work experience	0.007	0.002
Returns to Canadian work experience	0.050	0.053
Chinese female self-employed persons		
	Enclave	Mainstream
Returns to years of schooling	0.128	0.172
Returns to foreign work experience	-0.007	0.009
Returns to Canadian work experience	0.034	0.034
Chinese female wage workers		
	Enclave	Mainstream
Returns to years of schooling	0.016	0.112
Returns to foreign work experience	-0.004	0.004
Returns to Canadian work experience	0.037	0.052

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

In summary, the data on Chinese immigrants indicate that enclave participants earned less than their counterparts in the mainstream economy before variations in other factors were

controlled. The earnings disadvantage in the enclave is greater for wage workers than self-employed persons, for both Chinese male and female immigrants. Once controlling for levels of characteristics, the enclave economy continued to have negative returns. However, when unequal returns to human capital factors were further controlled, the returns for enclave participants compared to mainstream participants became positive. At the same time, the returns to human capital factors of all groups were lower in the enclave than in the mainstream economy, except for Chinese male wage workers that showed returns to foreign work experience slightly higher for those in the enclave than for those in the mainstream economy, and except for Chinese female self-employed persons that showed comparable returns to Canadian work experience in the enclave and mainstream economy. Thus, it can be said that in general, Chinese participants in the enclave economy suffer from lower returns to human capital that result in lower log earnings, but at the same time, the enclave also produces some positive effects to its participants to offset the disadvantage due to unequal returns. The latter findings lend support to the enclave economy thesis that suggests ethnic and cultural factors in the enclave can provide positive economic returns to its participants. However, the positive effect of enclave only helps to reduce the disadvantage produced by unequal returns. The findings on gross differences also confirm the claim in the literature that suggests enclave self-employed persons have a relatively more advantageous earnings than enclave wage workers when compared to their respective counterparts in the mainstream economy.

6. ECONOMIC RETURNS OF PARTICIPATION IN ENCLAVE ECONOMY FOR SOUTH ASIAN IMMIGRANTS

The previous chapter examined the economic returns for Chinese immigrants in the enclave and mainstream economy. The focus of this chapter is to analyze whether South Asian immigrants who participate in the enclave economy have an advantage or disadvantage in earnings in comparison to those who participate in the mainstream economy in Canada. Furthermore, this chapter also examines the economic returns to human capital factors in the enclave economy and mainstream economy. As in the last chapter, the first part of the analysis is to make use of contingency tables to show the extent of participation of South Asian immigrants as self-employed persons and wage workers in the enclave and mainstream economy. The second part of the analysis is to develop a regression model to test whether the economic returns for South Asian immigrants who participate in the enclave economy are comparable to returns for those who participate in the mainstream economy. As before, returns are measured in natural logarithm of earnings composed of employment and self-employment income. The analysis first compares the gross differences or effects of participation in the two types of economy, or in other words, differences before other explanatory variables are being considered. Net differences or effects are then discussed after variations in human capital, work-related features, and population characteristics are taken into account. Interaction terms between the enclave economy participation and each human capital factor are added to the regression model in order to examine whether human capital factors offer different returns to participants in the enclave economy. Thus, in the full model, differences in the enclave and mainstream economy are estimated after further controlling for the three interaction variables: years of

schooling and economic sector, foreign work experience and economic sector, as well as Canadian work experience and economic sector.

6.1. Participation of South Asian Immigrants in the Enclave and Mainstream Economy

Table 6.1 shows the extent of participation of South Asian immigrants in the enclave and mainstream economy. The data indicate that only 6.6 percent of South Asian male immigrants participated in the enclave economy as either self-employed persons or wage workers, compared to 7.3 percent of South Asian female immigrants who did so. In other words, the rate of participation of South Asian men or women in the enclave economy was similar, in the magnitude of about 1 person out of every 10 in the labor market. The findings indicate that the rate of South Asian immigrant participation in the enclave economy is lower than that of Chinese immigrants for both men and women. The table also shows that in all, 15.4 percent of South Asian men were self-employed persons, compared to 6.5 percent of South Asian women. Thus, self-employment rate was higher among South Asian men than women. However, for South Asian male and female immigrants in the enclave economy, there were about 21.8 percent of male immigrants compared to 10.8 percent of South Asian female immigrants who were self-employed, making a difference of 11 percent. But in the mainstream economy, 14.9 percent South Asian male immigrants compared to 6.1 percent South Asian female immigrants were self-employed, producing a difference of 8.8 percent. Thus South Asian male and female immigrants were more likely to be self-employed in the enclave economy than their counterparts in the mainstream economy. However, South Asian male immigrants were more likely than South

Asian female immigrants to be self-employed in both the enclave economy and the mainstream economy.

Table 6.1. Participation in the enclave economy and mainstream economy as self-employed persons or wage workers, by gender, for South Asian immigrants.

	Male						Female					
Self-employment	Enclave economy		Mainstream economy		Total		Enclave economy		Mainstream economy		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Self-employed persons	3,625	21.8	35,478	14.9	39,103	15.4	1,554	10.8	11,172	6.1	12,726	6.5
Wage workers	13,022	78.2	202,027	85.1	215,049	84.6	12,800	89.2	171,248	93.9	184,048	93.5
Total	16,647	100	237,505	100	254,152	100	14,354	100	182,420	100	196,774	100

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

6.2. Economic Returns in the Enclave Economy and Mainstream Economy

Table 6.2 indicates the means of selected variables for South Asian immigrants in the enclave and mainstream economy, controlling for gender and self-employment status. The means of all variables in the regression are shown in the appendix (Appendix D). There were four groups used in the analysis: male self-employed persons, male wage workers, female self-employed persons, and female wage workers. For all four groups, there was a difference in log earnings between those in the enclave economy and those in the mainstream economy. Self-employed persons and wage workers in the enclave economy earned less than their counterparts in the mainstream economy for South Asian male and female immigrants. For male self-employed persons it was 0.251 less in log earnings; for male wage workers, it was 0.463 less; for female self-employed persons, it was 0.329 less; and for female wage workers, it was 0.650 less.

The same pattern is reflected in actual earnings: those in the enclave economy earned less than their counterparts in the mainstream economy when gender and self-employed status were taken into account. In terms of education, self-employed persons and wage workers in the enclave economy had less years of schooling than their counterparts in the mainstream economy for both South Asian male and female immigrants. For example, male wage workers in the enclave economy had 12 years of schooling on average, compared to 14 years for those in the mainstream economy. Female wage workers in the enclave economy had 2 years of schooling less on average than their counterparts in the enclave economy. Furthermore, self-employed and salaried immigrants in the enclave economy had more years of foreign work experience, and less years of Canadian work experience than their counterparts in the mainstream economy. In addition, self-employed persons and wage workers in the enclave economy worked more weeks than their counterparts in the mainstream economy. Finally, there was little difference in the relative size of the South Asian population in the area where the respondent resided between enclave participants and those in the mainstream economy, irrespectively of gender. No doubt, differences in background variables affect the economic returns of participants in the enclave and mainstream economy, and those variations have to be taken into account in order to estimate the net effect of enclave participation.

Table 6.2. Means of selected variables for self-employed persons and wage workers by gender, for South Asian immigrants in the enclave and mainstream economy.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Mean log earnings				
Enclave economy	9.725	9.857	9.077	9.182
Mainstream economy	9.976	10.320	9.406	9.832
Total (Enclave and mainstream)	9.953	10.292	9.366	9.787
Mean earnings				
Enclave economy	27,694	26,647	15,833	16,610
Mainstream economy	47,730	46,647	30,427	29,028
Total (Enclave and mainstream)	45,872	45,436	28,645	28,165
Mean years of schooling				
Enclave economy	13	12	12	12
Mainstream economy	14	14	15	14
Total (Enclave and mainstream)	14	14	14	14
Mean years of foreign work experience				
Enclave economy	11	18	14	16
Mainstream economy	6	9	5	6
Total (Enclave and mainstream)	7	9	6	7
Mean years of Canadian work experience				
Enclave economy	13	9	12	11
Mainstream economy	18	15	19	16
Total (Enclave and mainstream)	18	14	18	16
Mean weeks worked				
Enclave economy	45	41	42	36
Mainstream economy	46	46	42	42
Total (Enclave and mainstream)	46	46	42	42
Mean percent South Asian in CMA				
Enclave economy	11	10	10	10
Mainstream economy	10	10	10	10
Total (Enclave and mainstream)	10	10	10	10

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

As in the previous chapter, an assessment is performed to test whether gender interacts with key variables and whether self-employed status interacts with key to produce a significant effect. A significant interaction effect indicates that separate regression analysis is justified. Table 6.3 shows the results of a regression analysis for South Asian immigrants, regressing log earnings on sex, self-employment status, economic sector, years of schooling, and the interaction terms of sex and self-employment, sex and economic sector, sex and years of schooling, self-employment and economic sector, as well as self-employment and years of schooling. Except for the interaction term of sex and years of schooling, all regression coefficients are statistically significant. In other words, sex and self-employment status interact with most key variables. Separate regressions are used to examine men and women, as well as to examine self-employed persons and wage workers, since these groups show many differences in terms of the intercept and slopes in a regression analysis. In all, four groups are being analyzed separately: male self-employed persons, male wage workers, female self-employed persons, and female wage workers. In each case, the purpose is to compare the returns of participation in the enclave economy to that of participation in the mainstream economy.

Table 6.3. Regression coefficients of sex, self-employment status, participation in the enclave economy, and years of schooling on log earnings, for South Asian men and women, aged 25-64.

Independent variables	
Sex (Female=0)	0.499 *
Self-employment (Wager workers=0)	-0.768 *
Economic sector (Mainstream economy=0)	-0.525 *
Years of schooling	0.051 *
Interaction of sex and self-employment	0.097 *
Interaction of sex and economic sector	0.169 *
Interaction of sex and years of schooling	-0.002
Interaction of self-employment and economic sector	0.267 *
Interaction of self-employment and years of schooling	0.022 *
Weighted number of cases (N)	450,927
Intercept	9.111 *
R squared	0.059

***** $p \leq 0.01$

Source: 2006 Census of Canada, Public Use Microdata File on Individuals

The results of the regression analysis for South Asian immigrants are presented in Table 6.4. Columns 1 to 3 are for self-employed persons; columns 4 to 6 are for wage workers. Column 1 and column 4 are gross differences or effects of participation in the enclave and mainstream economy. Column 2 and column 5 are differences after the variations in human capital, work-related features, and population characteristics are taken into account. Column 3 and column 6 are differences after further adjusting for three interaction terms that measure how the economic sector interacts with human capital factors. The explanatory variables used in the full model include economic sector (enclave economy=1), years of schooling, years of foreign work experience, years of Canadian work experience, full-time or part-time job status (full-

time=1), the number of weeks worked in 2005, the relative size of the South Asian population measured by the percentage of South Asian at the CMA level of residence of the respondent, four dummy variables to measure city location of Vancouver, Toronto, Montreal, small size CMA and non-CMA (medium size CMA is the reference category), and three interaction terms including years of schooling and economic sector (enclave=1; mainstream=0), years foreign work experience and economic sector, as well as years of Canadian work experience and economic sector.

The first column in Table 6.4 shows that the gross effect of participating in the enclave economy compared to the mainstream economy for self-employed persons for South Asian immigrants. South Asian male Self-employed immigrants who worked in the enclave economy had 0.082 in log earnings less than their counterparts in the mainstream economy. In other words, South Asian male self-employed immigrants in the enclave economy had a slight earnings disadvantage compared to their counterparts in the mainstream economy before variations in other variables are being considered.

Since part of the difference in returns between self-employed persons in the enclave economy and those in the mainstream economy may be related to variations in the features of the participants, it is essential to control for other variations to compare the net differences in returns. The second column of Table 6.4 shows the net effects of participation in the enclave and mainstream economy for South Asian male self-employed immigrants after controlling for variations in human capital, work-related features, and population characteristics. The results indicate that all regression coefficients are statistically significant. After controlling for variations in human capital, work-related features, and population characteristics, those who worked in the enclave sector had a net advantage of 0.132 in log earnings over those who

participated in the mainstream sector. In other words, South Asian male self-employed immigrants in enclave sector would earn more than their counterparts in the mainstream economy if variations in human capital and other factors were adjusted. The coefficient of years of schooling (0.067) indicates that each additional year of schooling increased log earnings of South Asian male self-employed immigrants by 6.7 percent when variations in other variables in the equation were taken into account. The slope of years of foreign work experience (-0.020) suggests that each additional year of foreign work experience reduced log earnings of South Asian male self-employed immigrants by 2 percent after controlling for other variables in the equation. In other words, each additional year of foreign work experience brought a penalty of 2 percent in net earnings for South Asian male self-employed immigrants. The coefficient of years of Canadian work experience (0.045) shows that one additional year of Canadian work experience raised net log earnings of South Asian male self-employed immigrants by 4.5 percent, but the Canadian work experience squared term reduced log earnings marginally by .001 or 0.1 percent. These findings show that South Asian men who had less foreign work experience and more Canadian work experience had an advantage over those who had more foreign work experience and less Canadian work experience. The previous finding that indicates Chinese men who immigrated to Canada at the younger age would have higher earnings than those who immigrated at an older age also applies to South Asian immigrants. The coefficient of full-time or part-time job status shows that South Asian male self-employed immigrants who worked full-time earned 0.925 in net log earnings more than those who worked part-time. The slope of the number of weeks worked in 2005 indicates that one additional week worked increased net log earnings of South Asian male self-employed immigrants by 2.5 percent when other variables in the equation were controlled. Column 2 of Table 6.4 also shows that an additional percent of

South Asians in the population at the CMA level brought a disadvantage of 16 percent in net log earnings for South Asian male immigrants. Similar to Chinese immigrants, the larger the relative South Asian population in the city of residence of the respondent, and by implication the larger the size of the potential enclave economy, the lower were the net returns. The table also indicates that different metropolitan centres affected the net log earnings differently. Compared to those who lived in the medium size CMA, those who lived in Vancouver had 0.657 higher in net log earnings; those who lived in Toronto had 0.984 higher in net log earnings; those who lived in Montreal had 0.809 less in net log earnings; and those lived in the small size CMA and non-CMA had 1.354 less in net log earnings. In other words, compared to medium size CMA, Toronto seemed to offer the best net returns to immigrants, followed by Vancouver, but Montreal and small size CMA and non-CMA brought a net disadvantage compared to those in medium size CMA.

Column 2 in Table 6.4 also shows that the economic sector by itself cannot explain the variations in log earnings (R^2=0.000), but when the independent variables of human capital, work-related features, and population characteristics are entered simultaneously, the explained variance is increased to 15 percent (R^2=0.150).

The third column of Table 6.4 shows the full model with the interaction terms for South Asian self-employed persons. The results indicate that the interaction terms of foreign work experience and economic sector, as well as Canadian work experience and economic sector are not statistically significant, but the regression coefficient for the interaction between years of schooling and economic sector is statistically significant. The coefficient of the interaction term for years of schooling and economic sector indicates that returns to schooling for participants in the enclave economy had to be discounted, in the magnitude of minus 0.110 in net log earnings.

In other words, the returns to each year of schooling for participants in the mainstream economy were 0.077 in net log earnings, but the returns for those in the enclave economy were minus 0.033 in net log earnings. Thus, the returns to years of schooling were lower in the enclave economy than in the mainstream economy. Each year of foreign experience brought a penalty of 2 percent (-0.020) in log earnings in the mainstream economy, and the interaction term between years of foreign experience and economic sector suggests that returns to foreign experience in the enclave have to be adjusted by a positive factor of 0.004 in net log earnings. However, this coefficient is not statistically significant. Thus, it can be concluded that foreign experience brought similar net negative returns to participants in the mainstream and enclave economy. Similarly, there is no difference in returns to Canadian work experience between the two types of economy, since the interaction term between years of Canadian experience and economic sector is not statistically significant.

In addition, using the coefficients in full model to decompose the original log earnings difference (-0.08), it is found that different levels of characteristics between participants in the enclave and mainstream economy produce a total explained difference of -0.24, and the unexplained difference is 0.16 (-0.08 minus -0.24). The positive unexplained effect suggests that the South Asian male self-employed immigrants in the enclave received some higher returns than immigrants in the mainstream economy. The calculations are given in Appendix I and the summary for decomposition for South Asian male self-employed immigrants is provided in column 1 of Table 6.6. Furthermore, the total effect of unequal returns to human capital is a reduction in log earnings of -1.43, but the enclave brings a positive unexplained return of 1.59, thus resulting in a total unexplained difference of 0.16. In short, for South Asian male self-employed persons, the positive enclave effect helps them to bring back the economic loss caused

by the unequal returns of human capital factors to result in a total positive unexplained difference of 0.16. These findings offer some evidence to support the suggestion in the literature that ethnic and cultural factors in the enclave economy can promote economic interests.

Column 3 of Table 6.4 shows that the explained variance is increased to 15.3 percent (R^2=0.153), when all independent variables are entered simultaneously.

The fourth column of Table 6.4 shows the gross effect of participation in the enclave economy compared to the mainstream economy for South Asian immigrant wage workers. South Asian male immigrant wage workers who worked in the enclave economy had a disadvantage of 0.415 in log earnings, compared to their counterparts in the mainstream economy when other variables were not controlled. That is to say, South Asian male immigrants who worked as wage workers in the enclave economy earned less than their counterparts in the mainstream economy before variations in other explanatory variables were being considered.

The fifth column in Table 6.4 indicates that the net effect of participation in the enclave economy for South Asian male immigrant wage workers after the variations in human capital, work-related, and population characteristics were taken into account. After controlling for variations in human capital and other factors, the effect of the economic sector was not statistically significant. In other words, there was little difference in net log earnings between the enclave economy and the mainstream economy for South Asian male immigrant wage workers. With regard to the coefficients of other variables, the table reveals the following findings. First, each additional year of schooling increased the earnings of South Asian male immigrant wage workers by 5.6 percent after controlling for other variables in the equation. Second, one additional year of foreign work experience reduced net log earnings of South Asian male immigrant wage workers marginally by 0.3 percent. In other words, each additional year of

foreign work experience brought a small penalty of 0.3 percent for South Asian male immigrant wage workers. Third, each additional year of Canadian work experience increased net log earnings of South Asian male wage worker immigrants by 4 percent, but the Canadian work experience squared term decreased net log earnings marginally by .001 or 0.1 percent. Fourth, South Asian male immigrant wage workers who worked full-time earned 0.890 in net log earnings more than those who worked part-time. Fifth, one additional week worked in 2005 raised log earnings of South Asian male immigrant wage workers by 4 percent when other variables in the equation were controlled. Column 5 in Table 6.4 also shows a negative net effect of the percentage of South Asian population at the CMA level on log earnings for South Asian male immigrant wage workers. In other words, each additional percent increase in the South Asian population at the CMA level reduced net log earnings of South Asian male immigrant wage workers by 3 percent. The table also indicates that different metropolitan centres, compared to medium size CMA, had mixed effects on log earnings for South Asian male immigrant wage workers. Compared to the medium size CMA, those who lived in Toronto had a net log earnings advantage of 0.136; those who lived in Montreal had a net log earnings penalty of 0.340; those who lived in the small size CMA and non-CMA had a net advantage of 0.125 in log earnings; and those who lived in Vancouver had a small net advantage but the coefficient is not significant.

Column 5 of Table 6.4 shows that the mainstream economy by itself explains only 0.7 percent (R^2=0.007) of the variation in log earnings for South Asian male wage workers, but when other variables are considered simultaneously, the explained variance is increased to 30.8 percent (R^2=0.308). The regression model fits wage workers better than self-employed persons.

The sixth column in Table 6.4 shows the full model with the interaction terms for South Asian male immigrant wage workers. The results indicate that all regression coefficients except one (Vancouver CMA) are statistically significant. The coefficient of the interaction term for years of schooling and economic sector indicates that net returns to schooling for participants in the enclave economy were 0.065 less than those in the mainstream economy. In other words, the returns to each year of schooling for participants in the mainstream economy were 0.060 in net log earnings, but the returns for those in the enclave were minus 0.005 in net log earnings. The returns to each year of foreign work experience were minus 0.002 in net log earnings for participants in the mainstream economy and minus 0.012 for those in the enclave economy. The returns to each year of Canadian work experience were 0.042 in the mainstream economy, and 0.017 in the enclave economy. These findings again suggest that returns to human capital factors were lower in the enclave economy than in the mainstream economy, but when their unequal returns were controlled, the returns to the enclave economy became higher (1.217) than those in the mainstream economy. In other words, there were positive returns to the enclave economy participation for South Asian male immigrants, but only when unequal returns to human capital factors were controlled. Finally, Table 5.4 also shows that the explained variance is increased to 31 percent (R^2=0.310), when all independent variables are entered simultaneously.

The decomposition of the original log earnings difference (-0.415) for South Asian male wage workers is given in Appendix J, and the summary of the decomposition is provided in column 2 of Table 6.6. Unequal levels of characteristics between participants in the enclave and mainstream economy produce a total effect that reduces the log earnings of participants in the enclave by -0.46. Unequal returns to human capital produce an effect of -1.19 for enclave

participants, but the enclave effect reduces this disadvantage by 1.23 to result in a final positive effect of 0.04.

Table 6.4. Gross and net effects of participation in the enclave and mainstream economy on log earnings, for South Asian male immigrants, aged 25-64, for self-employed persons and wage workers.

	Self-employed			Wage Workers		
	[1]	[2]	[3]	[4]	[5]	[6]
Economic sector (Mainstream economy=0)	-0.082 *	0.132 *	1.599 *	-0.415 *	0.004	1.217 *
Years of schooling		0.067 *	0.077 *		0.056 *	0.060 *
Years of foreign work experience		-0.020 *	-0.020 *		-0.003 *	-0.002 *
Years of Canadian work experience		0.045 *	0.045 *		0.040 *	0.042 *
Years of Canadian work experience squared		-0.001 *	-0.001 *		-0.001 *	-0.001 *
Full-time or part-time (Part-time=1)		0.925 *	0.922 *		0.890 *	0.895 *
Number of weeks worked in 2005		0.025 *	0.025 *		0.040 *	0.040 *
Percent South Asain in CMA level of residence		-0.160 *	-0.156 *		-0.030 *	-0.030 *
CMA: Vancouver**		0.657 *	0.640 *		0.040	0.039
CMA: Toronto**		0.984 *	0.941 *		0.136 *	0.146 *
CMA: Montreal**		-0.809 *	-0.783 *		-0.340 *	-0.330 *
Small size CMA and non-CMA**		-1.354 *	-1.345 *		0.125 *	0.130 *
Interaction of years of schooling and economic sector			-0.110 *			-0.065 *
Interaction of years of foreign experience and economic sector			0.004			-0.010 *
Interaction of years of Canadian experience and economic sector			-0.003			-0.025 *
Weighted number of cases (N)	34,997	34,997	34,997	194,037	194,037	194,037
Intercept	9.958 *	7.828 *	7.675 *	10.323 *	6.750 *	6.648 *
R squared	0.000	0.150	0.153	0.007	0.308	0.310

*$p \leq 0.01$, **Suppressed category is "medium size CMA"

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Table 6.5 shows the results of the analysis for South Asian female immigrants. Columns 1 to 3 are for self-employed persons; columns 4 to 6, wage workers. The explanatory variables are the same as those in the models for men. The first column in Table 6.5 shows the gross effect of participating in the enclave economy compared to the mainstream economy. South

Asian female Self-employed immigrants who worked in the enclave economy earned 0.508 less in log earnings than their counterparts in the mainstream economy before variations in other variables were being considered.

The second column of Table 6.5 shows the net effect of participating in the enclave economy and mainstream economy for South Asian female self-employed immigrants after controlling for variations in human capital, work-related features, and population characteristics. The effect of economic sector (enclave economy=1) is not significant after variations in human capital and other factors were considered. In other words, there is no statistically significant difference in net returns for South Asian self-employed female immigrants who worked in the enclave and mainstream economy. To be expected, the variable of years of schooling affected the net log earnings positively. The coefficient indicates that one additional year of schooling increased the net returns of South Asian female self-employed immigrants by 0.052. The slope of years of foreign work experience is statistically significant. This coefficient shows that each additional year of foreign work experience reduced 1.2 percent in net log earnings. As for the variable of years of Canadian work experience, the table shows that the coefficient is also statistically significant and each additional year of Canadian work experience raised the net earnings of South Asian female self-employed immigrants by 5.3 percent. The effect of full-time or part-time work status is also significant. The coefficient shows that South Asian female self-employed immigrants who worked full-time earned 0.619 in log earnings more than those who worked part-time, when effects of other variables in the equation were taken into account. The effect of the number of weeks worked in 2005 on the log earnings is significant. The slope shows that each additional week worked increased the net log earnings by 3.7 percent for South Asian female self-employed immigrants. Column 2 in table 6.5 also shows that the percentage

of South Asian population at the CMA level affected the net log earnings for South Asian female self-employed immigrants. The coefficient indicates that one additional percent of South Asian population at the CMA level reduced 0.257 in net log earnings of South Asian female self-employed immigrants. The table also shows that compared to medium size CMA, Vancouver, Toronto, as well as small size CMA and non-CMA had positive effects on net log earnings, but Montreal affected net log earnings negatively. The coefficients indicate that compared to those in medium size CMA, those in Vancouver had an advantage of 1.827 in net log earnings; those in Toronto had an advantage of 2.736; those in small size CMA and non-CMA earned 0.658 more in net log earnings; but those in Montreal had a net disadvantage of 0.838 in net log earnings. Finally, Table 6.5 indicates that the economic sector by itself explains only 0.7 percent (R^2=0.007) of the variation in log earnings, but when human capital and other factors are entered simultaneously, the explained variance is increased to 24.9 percent (R^2=0.249).

The third column of Table 6.5 shows the full model with the interaction terms for South Asian female self-employed persons. The table shows that all coefficients in the equation are statistically significant. The coefficient of the interaction term for years of schooling and economic sector shows that returns to schooling for participants in the enclave economy were 0.104 more than participants in the mainstream economy. In other words, the returns to each year of schooling for participants in the mainstream economy were 0.040 in net log earnings, but the returns for those in the enclave economy were 0.144 in net log earnings. The returns to each year of Canadian work experience were 0.049 in net log earnings for participants in the mainstream economy but higher (0.090) for those in the enclave economy. The returns to foreign work experience were negative (-0.017) for those in the mainstream economy, but positive (0.018) for those in the enclave economy. These findings indicate that South Asian

self-employed women were different from other groups in that the returns to human capital factors were higher in the enclave than in the mainstream economy.

The decomposition of the original log earnings difference (-0.51) for South Asian female self-employed persons is given in Appendix K, and the summary of the decomposition is provided in column 3 of Table 6.6. Differences in characteristics between participants of the enclave and participants of the mainstream economy produce an explained difference of -0.66, resulting in an unexplained difference of 0.16. Returns to human capital factors are higher in the enclave and this advantage increases the log earnings of enclave participants by 2.23; however, the enclave effect produces a disadvantage of -2.07 in log earnings to result in a slight advantage of 0.16. It should be noted that this is the group that has a small number of unweighted cases, and the results based on such a small number of cases may be questionable.

Finally, the table also shows that the explained variance is increased to 25.2 percent (R^2=0.252), when all independent variables are entered simultaneously.

The fourth column of Table 6.5 shows the gross effect of participating in the enclave economy compared to the mainstream economy for South Asian female immigrant wage workers. The coefficient (-0.685) is significant, indicating that South Asian female immigrant wage workers who worked in the enclave economy had a gross disadvantage of 0.685 in log earnings compared to their counterparts in the mainstream economy. In other words, South Asian female immigrant wage workers in the enclave sector had a clear income disadvantage compared to their counterparts in the mainstream economy before other variables in the equation were controlled.

The fifth column of Table 6.5 shows the net effects of participation in the enclave economy and mainstream economy for South Asian female immigrant wage workers before the

interaction terms were entered. The effect for economic sector is significant. The coefficient shows that those who participated in the enclave economy had a disadvantage of 0.154 in net log earnings compared to their counterparts in the mainstream economy when human capital and other factors were controlled. The coefficients for years of schooling, years of Canadian work experience, full-time or part-time work status, and the number of weeks in the regression model are all statistically significant. The data show that (1) one additional year of schooling increased net log earnings by 6.6 percent; (2) one additional year of Canadian work experience increased net log earnings by 3.8 percent; (3) those who worked full-time increased 0.637 in net log earnings more than those who worked part-time; (4) one additional week worked raised net log earnings by 4.1 percent; and (5) years of foreign experience had no significant net effect on log earnings. In addition, the table shows that the percentage of South Asian population at the CMA level produced an advantage of 1.2 percent in net log earnings. Column 5 in Table 6.5 also indicates that different metropolitan centres affected net log earnings differently. Except for Vancouver, the slopes for Toronto, Montreal, and small size CMA and non-CMA are significant. Compared to medium size CMA, those in Toronto had a reduction of 12.5 percent in net log earnings, and those in Montreal had a net disadvantage of 0.510 in log earnings, and those in small size CMA and non-CMA received a penalty of 0.094 in net log earnings. Finally, the table shows that using only the type of economic sector as a variable by itself explains 1.6 percent (R^2=0.016) of the variation in log earnings, but when all independent variables in the regression are entered simultaneously, the explained variance is increased to 36.9 percent (R^2=0.369).

The sixth column of Table 6.5 shows the full model with the interaction terms for South Asian female immigrant wage workers. The effect of the interaction term for years of schooling and economic sector indicates that returns to schooling for participants in the enclave had to be

discounted, in the magnitude of minus 0.063 in net log earnings. In other words, the returns to each year of schooling for participants in the mainstream economy were 0.070 in net log earnings, but the returns for those in the enclave economy were 0.007 in net log earnings. Similar to the returns to schooling, the returns to each year of Canadian work experience were 0.041 in net log earnings for participants in the mainstream economy and 0.023 for those in the enclave economy. There was a small positive return (0.001) to each year of foreign work experience for participants in the mainstream economy, but each year of foreign work experience brought a penalty of 0.010 in net log earning for those in the enclave economy. In the case of wage workers, it is clear that the returns to human capital factors were lower in the enclave than in the mainstream economy. But when these unequal returns to human capital factors were adjusted, enclave participation brought a net economic advantage.

In addition, using the coefficients in full model to decompose the original log earnings difference (-0.69), it is found that the difference of -0.59 can be explained by different levels of characteristics between participants in the enclave and those in the mainstream economy. The calculations are given in Appendix L and the summary for decomposition for South Asian male self-employed immigrants is provided in column 4 of Table 6.6. Furthermore, unequal returns to human capital produce an effect of -1.13, but the enclave effect helps to reduce this disadvantage to -0.10 (1.03 minus -1.13).

The question remains as to why returns to human capital factors were lower in the enclave than in the mainstream economy in all groups, except for South Asian female self-employed persons. One explanation has to do with the exceptionally small number of cases among of South Asian female self-employed persons in the enclave economy. In all, there are only 42 unweighted cases of South Asian female self-employed persons who participated in the

enclave economy, and the distribution of this group in various categories of the explanatory variables is even smaller. Thus, the findings based on this group may be unstable due to the exceptionally small number of cases. When the number of cases is more robust as in other groups, the findings are unequivocal in showing that the returns to human capital factors are lower in the enclave economy than in the mainstream economy.

Table 6.5. Gross and net effects of participation in the enclave and mainstream economy on log earnings, for South Asian female immigrants, aged 25-64, for self-employed persons and wage workers.

	Self-employed			Wage Workers		
	[1]	[2]	[3]	[4]	[5]	[6]
Economic sector (Mainstream economy=0)	-0.508 *	0.026	-2.200 *	-0.685 *	-0.154 *	0.982 *
Years of schooling		0.052 *	0.040 *		0.066 *	0.070 *
Years of foreign work experience		-0.012 *	-0.017 *		0.000	0.001 *
Years of Canadian work experience		0.053 *	0.049 *		0.038 *	0.041 *
Years of Canadian work experience squared		0.000 *	0.000 *		0.000 *	0.000 *
Full-time or part-time (Part-time=1)		0.619 *	0.654 *		0.637 *	0.637 *
Number of weeks worked in 2005		0.038 *	0.038 *		0.041 *	0.041 *
Percent South Asain in CMA level of residence		-0.257 *	-0.268 *		0.012 *	0.011 *
CMA: Vancouver**		1.827 *	1.888 *		-0.044	-0.036
CMA: Toronto**		2.736 *	2.813 *		-0.125 *	-0.112 *
CMA: Montreal**		-0.838 *	-0.917 *		-0.510 *	-0.508 *
Small size CMA and non-CMA**		0.658 *	0.590 *		-0.094 *	-0.092 *
Interaction of years of schooling and economic sector			0.104 *			-0.063 *
Interaction of years of foreign experience and economic sector			0.035 *			-0.011 *
Interaction of years of Canadian experience and economic sector			0.041 *			-0.018 *
Weighted number of cases (N)	10,654	10,654	10,654	164,589	164,589	164,589
Intercept	9.388 *	6.569 *	6.890 *	9.853 *	6.151 *	6.070 *
R squared	0.007	0.249	0.252	0.016	0.369	0.370

*$p \leq 0.01$, **Suppressed category is "medium size CMA"

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Table 6.6. Decomposing the log earnings disparity between enclave and mainstream participants for South Asian immigrants.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Total difference between enclave and mainstream	-0.08	-0.42	-0.51	-0.69
Explained difference due to characteristics	-0.24	-0.46	-0.66	-0.59
Unexplained difference	0.16	0.04	0.16	-0.10
Effect of unequal returns	-1.43	-1.19	2.23	-1.13
Effect of other factors under enclave net of explained effects and unequal returns effects	1.59	1.23	-2.07	1.03

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

In the previous tables, the gross and net effects of participating in the enclave and mainstream economy are reported in regression coefficients. Table 6.7 converts the regression coefficients to precise percentage differences between those in the enclave economy and those in the mainstream economy for South Asian immigrants. These differences are reported as gross and net effects of participation in the enclave economy for the four groups: male self-employed persons, male wage workers, female self-employed persons, and female wage workers.

Table 6.7 shows that for all four groups, those in the enclave economy had a clear gross disadvantage in log earnings compared to those in the mainstream economy. Similar to the case of Chinese immigrants, the gross disadvantage here is greater for wage workers than for self-employed persons. For example, male wage workers in the enclave economy earned 34 percent less than their counterparts in the mainstream economy, compared to male self-employed persons who earned 7.9 percent less than their counterparts. The disadvantage for participating in the enclave economy is also greater for female wage workers than for female self-employed persons. Female wage workers in the enclave economy earned 49.6 percent less than female

wage workers in the mainstream economy, but female self-employed persons in the enclave economy earned 39.8 percent less than their counterparts. After controlling for human capital and other factors, there are mixed differences or effects on net log earnings for South Asians. For example, after control, male self-employed persons had higher net earnings than their counterparts in the mainstream economy, but male wage workers and female self-employed persons had similar returns in both economic sectors in that the coefficients are not statistically significant. In contrast, after control, female wage workers had lower log earnings in the enclave than their counterparts in the mainstream economy. When the differences of the three interaction terms that measure unequal returns to human capital were further taken into account, those in the enclave economy had net economic returns comparable to or better than those in the mainstream economy for all groups, except for female self-employed persons. As indicated before, the number of cases for female self-employed persons in the enclave is exceptionally small, and such a small number may affect the stability of the results.

Table 6.7. Gross and net effects of participation in the enclave and mainstream economy on log earnings, for South Asian immigrants, aged 25-64, by gender, for self-employed persons and wage worker.

	b	% Advantage/Disadvantage =(antilog of b) -1*100
Male self-employed		
Gross effect of participation in the enclave economy	-0.082 *	-7.9
Net effect of participation in the enclave economy (without interaction)	0.132 *	14.1
Effect of enclave, net of characteritics differences and unequal returns	1.559 *	375.4
Male wage workers		
Gross effect of participation in the enclave economy	-0.415 *	-34.0
Net effect of participation in the enclave economy (without interaction)	0.004	0.4
Effect of enclave, net of characteritics differences and unequal returns	1.217 *	237.7
Female self-employed		
Gross effect of participation in the enclave economy	-0.508 *	-39.8
Net effect of participation in the enclave economy (without interaction)	0.026	2.6
Effect of enclave, net of characteritics differences and unequal returns	-2.200 *	-88.9
Female wage workers		
Gross effect of participation in the enclave economy	-0.685 *	-49.6
Net effect of participation in the enclave economy (without interaction)	-0.154 *	-14.3
Effect of enclave, net of characteritics differences and unequal returns	0.982 *	167.0

*$p \leq 0.01$

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

The unequal net returns to human capital for the four groups in the enclave economy and the mainstream economy are summarized in Table 6.8. The findings clearly indicate that except for South Asian female self-employed persons, returns to human capital factors were mostly lower for participants in the enclave than for participants in the mainstream economy. In some cases, such as among South Asian male self-employed persons, the returns to foreign work experience and Canadian work experience in the enclave are comparable to those in the mainstream economy.

Table 6.8. Economic returns to human capital in the enclave and mainstream economy for South Asian immigrants.

South Asian male self-employed persons		
	Enclave	Mainstream
Returns to years of schooling	-0.033	0.077
Returns to foreign work experience	-0.020	-0.020
Returns to Canadian work experience	0.045	0.045
South Asian male wage workers		
	Enclave	Mainstream
Returns to years of schooling	-0.005	0.060
Returns to foreign work experience	-0.012	-0.002
Returns to Canadian work experience	0.017	0.042
South Asian female self-employed persons		
	Enclave	Mainstream
Returns to years of schooling	0.144	0.040
Returns to foreign work experience	0.018	-0.017
Returns to Canadian work experience	0.090	0.049
South Asian female wage workers		
	Enclave	Mainstream
Returns to years of schooling	0.007	0.070
Returns to foreign work experience	-0.010	0.001
Returns to Canadian work experience	0.023	0.041

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

The analysis of South Asian immigrants indicates that enclave participants earned less than their counterparts in the mainstream economy before variations in other factors were controlled. Similar to the findings in the case of Chinese immigrants, the relative earnings disadvantage in the enclave is greater for wage workers than self-employed persons, irrespective of gender. Once control, the enclave economy offers positive returns or comparable returns for those participants who were male self-employed, male wage workers and female self-employed. When unequal returns to human capital factors were further controlled, there was a clear positive

enclave effect. However, in all groups except for female self-employed persons, the returns to human capital factors were lower in the enclave than in the mainstream economy. Thus, it can be said that South Asian participants in the enclave economy suffer lower returns to human capital, but at the same time, the enclave also offers some net positive returns to its participants.

The findings based on South Asian immigrants show that enclave participants had lower log earnings than participants in the mainstream economy. The returns to human capital factors were generally lower in the enclave. However, the enclave effect remains positive, except for self-employed women, and this positive effect often offsets the negative effect of unequal returns. Once again, these findings suggest that there are unequal returns of human capital for enclave participants, but at the same time, there is evidence of positive enclave effects. The findings on gross differences also confirm the claim that suggests enclave self-employed persons have a relatively more advantageous earnings than enclave wage workers when compared to their respective counterparts in the mainstream economy.

7. CONCLUSION

This is a study of economic integration of immigrants in Canada. In Canada, immigrants' economic integration is frequently studied in terms of earnings parity, using the earnings of native-born Canadians as a benchmark. This thesis studies how immigrants who maintain different attachment to their ethnic community end up with similar or different labor market outcomes. Specifically, the research is to focus on immigrants of Chinese and South Asian origins to see how they perform in the Canadian labor market, taking into account their participation in the enclave economy and the mainstream economy. These two immigrant groups have a long history of developing ethnic businesses, and their sizable population in Canada makes it possible for a large immigrant enclave economy to develop. The research question of the thesis is to see whether immigrants who are more attached to their ethnic community, compared to those who are less attached, perform as well economically in labor market outcome. Theoretically, the thesis tries to resolve the debate regarding whether ethnic attachment helps or hinders immigrants' economic integration.

The research is guided by opposing theoretical perspectives in the literature. There are three major types of theories that have been developed to understand the economic integration of immigrants in North America. The first type is the assimilation theory**.** According to this theory, immigrants who are assimilated into the host society benefit quickly from the opportunities of the New World, whereas those who cling on to their Old World cultures suffer in the long run. From this standpoint, immigrants who abandon their ethnic culture and become assimilated would have higher economic successes. The second type is the theory of social capital**.** This theory suggests that a person's ties to a social group can be useful to the person in

gaining economic benefits. For immigrants, it is also believed that ethnic social connection, or ethnic social capital, is helpful to immigrants in providing them with resources to settle in the host society. But it is not clear in the long run whether ethnic social ties continue to be useful to new immigrants or not. The third type of theoretical understanding is the immigrant enclave economy thesis. According to this thesis, the immigrant enclave economy is not a ghetto. Instead, the immigrant enclave economy offers attractive economic returns, significant returns to past human capital, and an alternative route of mobility for immigrants. The reason is that immigrants take advantage of common language, ethnic cohesion, and cultural distinctiveness to develop inter-connected relations in a protected economy. As a result, those who participate in it benefit from the prosperity of such an economy. However, there have been disagreements in the literature over whether the enclave economy actually offers higher or lower returns to those immigrants who participate in it as compared to those who participate in the mainstream economy. There are also suggestions that the enclave advantage works well for self-employed persons and employers, but not well for wage workers. In short, research disagrees over whether the immigrants really enjoy positive economic returns under the enclave economy. .

The three theoretical positions are different, and they lead to different understanding of whether ethnic attachment helps or hurts immigrants. According to the assimilation theory, ethnic attachment slows down assimilation of immigrants in larger society, and it hurts their economic integration. However, both the social capital theory and the immigrant enclave thesis suggest that ethnic attachment and involvement in the immigrant enclave economy can advance the economic interests of immigrants. Immigrants who do so can benefit from it economically because ethnic ties provide resources and the ethnic enclave provides opportunities. The focus of this thesis is to see if there is empirical support in Canada for the immigrant enclave thesis,

especially for Chinese and South Asian immigrants who have a long history of ethnic business in Canada. In the past, the debate over the immigrant enclave thesis is hindered by the lack of data, and researchers have to use very crude data on place of residence or place of work to estimate participation in the enclave. The 2006 Census of Canada provides unique data on the language used most often at work. With this information, it is possible to develop a more accurate measurement of enclave economy participation and to assess its labor market outcome.

Using the language used most often at work, it is possible to separate immigrants who use the official languages most often from those who use an unofficial language most often at work. The use of an unofficial language as the most often used language at work suggests that immigrants work in a social setting where the social relations of employers, clients and co-workers are mediated by a common minority language. This setting is very similar to what is described in the immigrant enclave economy where workers, employers and clients share the same culture, language and ethnic background. If the language most often used at work is one of the official languages, then there is a good chance the setting is likely to be in the mainstream economy. For this thesis, immigrants are classified as belonging to the mainstream economy if they use either one of the official languages most often at work. Immigrants are classified as belonging to the immigrant enclave economy if they use an unofficial language most often at work.

The literature suggests that wage workers and employers enjoy different economic outcomes in the immigrant enclave (Logan and Stults, 2003; Sanders and Nee, 1987; Nee and Sanders, 1994). It is also well known that gender tends to interact with many variables. For these reasons, this thesis compares the effect of participation in the immigrant enclave economy and the effect of participation in the mainstream economy for four groups among the Chinese

and South Asian immigrants. The four groups are: male self-employed persons, male wage workers, female self-employed persons and female wage workers. The earnings of these four groups in the enclave economy and mainstream economy are compared. Self-employed persons include those who are self-employed without paid help as well as self-employed with paid help. The strategy is to see if these four groups in the enclave economy have higher or lower earnings compared to their counterparts in the mainstream economy. If the earnings in the enclave are higher than or comparable to that of the mainstream economy for these groups, then it would provide evidence that support the advantages predicted by the enclave economy thesis. However, if the earnings are lower in the enclave, it would suggest that the enclave economy thesis cannot be supported in the case of the two visible minority groups in Canada. The thesis also investigates whether the returns to human capital are similar or different in the enclave and the mainstream economy. The comparisons are made on gross earnings, that is, earnings before other variables are controlled, and then made on net earnings, that is, when other variables are controlled.

There are several major findings. First, a logistic regression analysis of the factors that influence participation in the enclave economy indicate that age of immigration, human capital factors and population characteristics affect the likelihood of participation in the enclave. In general, Chinese and South Asian immigrants with less human capital, immigrants who immigrated to Canada at an older age, and immigrants who lived in large metropolitan centres are more likely to participate in the enclave economy. As well, the larger the relative size of the population of the ethnic group to which an immigrant belongs, the higher is the likelihood of the immigrant participating in the enclave economy. However, the effect of age is mixed, and there is no consistent pattern regarding whether older or younger immigrants are more likely to

participate in the enclave economy. Second, gross returns of enclave participation for all groups among Chinese and South Asian immigrants are lower than their counterparts in the mainstream economy. However, wage workers in the enclave suffer a greater earnings disadvantage than self-employed persons, when their relative earnings are compared to their respective counterparts in the mainstream economy. These findings indicate that there is no enclave advantage before other variables are considered. Third, for Chinese immigrants, net returns are lower in the enclave after the differences in human capital, work-related features, and population characteristics were considered, except for female self-employed persons in the enclave that show comparable returns to those in the mainstream economy. However, net returns for South Asians are mixed. For example, the returns for male wage workers are higher in the enclave, but the returns for female wage workers are lower in the enclave, and the returns for male wage workers and female self-employed persons in the enclave are comparable to those in the mainstream economy. Fourth, the returns to human capital for Chinese and South Asians in the enclave are not the same as those in the mainstream economy; in general, the returns in the enclave tend to be lower. Fifth, when the interaction terms measuring unequal human capital returns are further controlled, there is a positive effect associated with enclave participation. This effect is best understood as the effect of other unmeasured factors in the enclave that lessens the earnings disadvantage of enclave participants. Such effects may be what the literature suggests as positive effects of ethnic solidarity and cultural attachment.

Table 7.1 summarizes the major findings. The findings have several implications. There is a definite earnings disadvantage for enclave participants when groups are compared in gross earnings. Such a disadvantage remains for Chinese immigrants even when variations in human capital, work-related features and population characteristics are controlled. For South Asians,

when the above variables are controlled, the results are mixed, but there is no clear net earnings advantage in enclave participation. The findings also indicate that in general, the returns to human capital in the enclave are lower than in the mainstream economy. At the same time, there is a strong indication that there is a positive enclave effect that reduces the earnings disadvantage of unequal returns to human capital to produce either a smaller disadvantage or in some cases, a small advantage. In other words, the evidence suggests that there may be some positive effects of cultural attachment in the enclave that promote the economic interests of immigrants.

Table 7.1. Summary of the analysis

Returns to encalve economy	Chinese	S Asian
Gross return		
to male self-employed persons in enclave	lower	lower
to male wage workers in enclave	lower	lower
to female self-employed persons in enclave	lower	lower
to female wage workers in enclave	lower	lower
Net returns (controlling for human capital,work factors,population characteristics)		
to male self-employed persons in enclave	lower	higher
to male wage workers in enclave	lower	comparable
to female self-employed persons in enclave	comparable	comparable
to female wage workers in enclave	lower	lower
Net returns (+controlling for unequal returns of human capital)		
to male self-employed persons in enclave	higher	higher
to male wage workers in enclave	higher	higher
to female self-employed persons in enclave	comparable	higher
to female wage workers in enclave	higher	higher
Returns to human captial		
Returns for male self-employed persons in enclave		
to schooling	lower	lower
to foreign experience	lower	comparable
to Canadian experience	lower	comparable
Returns for male wage workers in enclave		
to schooling	lower	lower
to foreign experience	higher	lower
to Canadian experience	lower	lower
Returns for female self-employed persons in enclave		
to schooling	lower	higher
to foreign experience	lower	higher
to Canadian experience	comparable	higher
Returns for female wage workers in enclave		
to schooling	lower	lower
to foreign experience	lower	lower
to Canadian experience	lower	lower

Why do immigrants in the Chinese and South Asian enclave economies in Canada have an earnings disadvantage? The main reason probably has to do with the type of industries that

have been developed in these immigrant enclaves. For example, historically the Chinese immigrants were in food service and retail businesses (Li, 1998). Even today, the 2006 Census shows that 21 percent of the Chinese in the enclave economy participate in the accommodation and food service businesses, compared to only 9 percent of the Chinese in the mainstream economy in these industries (Appendix M). In contrast, 13 percent of Chinese immigrants in the mainstream economy compared to 5 percent in the enclave are in professional and technical jobs, and another 13 percent of Chinese immigrants in the mainstream economy, compared to only 8 percent in the enclave, are in occupations in educational services, health care and social services. For South Asians, the industries in the enclave economy and the mainstream economy are also different. For example, 17 percent of South Asian immigrants in the enclave, compared to only 1 percent of immigrants in the mainstream economy, are in agriculture and other primary industries (Appendix N). In contrast, 27 percent of South Asian immigrants in the mainstream economy, compared to only 11 percent of their counterparts in the enclave, are in jobs in the areas of finance, insurance, professional and technical services, and educational services, health care and social assistance.

The returns to human capital in these industries are not the same. In other words, immigrants in the enclave economy are more likely to be in industries that tend to have lower returns to human capital, and immigrants in the mainstream economy are more likely to be in industries that tend to have higher returns to human capital. These differences probably explain why the enclave advantage only shows up when different returns to human capital are controlled. These differences also explain that immigrants with lower human capital tend to be attracted to the enclave economy because they have fewer options in the mainstream economy. However,

there are insufficient cases to test the effect of the distribution of industries in the enclave and mainstream economy to see how it affects earnings along with other explanatory variables.

The findings suggest that the Chinese and South Asian immigrant enclave economy in Canada provides immigrants with an alternative opportunity. But such an opportunity tends to be in industries that are different from those in the mainstream economy. However, the alternative opportunity in the enclave does not provide higher returns to human capital for immigrants in the enclave. But at the same time, there seems to be some positive effects of ethnic attachment.

The study suggests that some aspects of the enclave economy thesis are correct. For example, the enclave does provide an alternative opportunity especially for those with less human capital. But such an opportunity is not as good as the opportunity in the mainstream economy. The evidence also suggests that even though immigrants in the enclave earn less than immigrants in the mainstream economy, self-employed persons do relatively better than wage workers compared to their respective counterparts in the mainstream economy. The study also finds that there is a positive effect associated with the enclave that is net of variations in other variables and net of unequal returns to human capital factors. It is difficult to fully understand this positive effect. One possible explanation is that there are cultural and ethnic factors in the enclave that can help immigrants to advance their economic interests. But the enclave effect is not large enough to produce as high an earning level as those in the mainstream economy.

This thesis finds evidence to indicate that more assimilated immigrants, or immigrants who are less attached to their ethnic community, receive higher labor market outcomes compared to those less assimilated, or immigrants more attached to their ethnic community. To this extent, there is evidence to suggest that the concept of assimilation and its predicted positive effect are

still applicable to understanding immigrants' economic integration. However, there is also evidence to indicate that attachment to the immigrant economic enclave provides a cushion for immigrants to lessen the relative earnings disadvantage in the enclave produced mainly by unequal returns to human capital. In this sense, immigrants' attachment to the ethnic enclave does help immigrants in terms of reducing their earnings disadvantage in the enclave. In short, in the context of the open labor market, less attached immigrants do better. For disadvantaged immigrants, ethnic attachment helps to lessen the disadvantage. Thus, the apparent contradictory expectations of different theoretical perspectives regarding the effect of ethnic attachment on labor market outcome may be resolved by understanding the effect of ethnic attachment under different considerations.

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LIST OF APPENDICES

Appendix A. Logistic regression showing logits and odds ratio of participating in enclave economy for Chinese male immigrants with weighted cases, Canada, aged 25-64, associated with various levels of independent variables.

	Male				Female			
Independent variables	Self-employed persons		Wage workers		Self-employed persons		Wage workers	
		[1]		[2]		[3]		[4]
	b	Odds	b	Odds	b	Odds	b	Odds
Age groups								
30 to 34 years	0.493 *	1.637	-0.065 *	0.937	-1.739 *	0.176	-0.589 *	0.555
35 to 39 years	0.390 *	1.477	-0.316 *	0.729	-0.911 *	0.402	-0.81 *	0.445
40 to 44 years	0.540 *	1.715	-0.220 *	0.802	-1.071 *	0.343	-0.629 *	0.500
45 to 49 years	0.909 *	2.482	-0.465 *	0.628	-1.643 *	0.193	-0.895 *	0.409
50 to 54 years	0.351 *	1.420	-0.490 *	0.613	-1.575 *	0.207	-0.996 *	0.369
55 to 59 years	0.391 *	1.479	-0.941 *	0.390	-2.056 *	0.128	-1.343 *	0.261
60 to 64 years	0.388 *	1.474	-0.980 *	0.375	-2.136 *	0.118	-1.307 *	0.271
25 to 29 years**								
Age of immigration								
Below 19 years old	-1.723 *	0.178	-1.516 *	0.220	-1.900 *	0.150	-1.559 *	0.210
20 to 29 years old	-1.251 *	0.286	-0.797 *	0.451	-1.152 *	0.316	-0.810 *	0.445
30 to 39 years old	-0.621 *	0.537	-0.462 *	0.630	-0.819 *	0.441	-0.315 *	0.730
40 years and over**								
Highest certificate, diploma or degree								
Below high school	0.859 *	2.360	0.200 *	1.221	1.035 *	2.814	0.298 *	1.347
Post-secondary certificate	-0.122 *	0.885	-0.879 *	0.415	-0.542 *	0.582	-0.539 *	0.583
Bachelor's degree	-0.629 *	0.533	-1.768 *	0.171	-1.283 *	0.277	-1.152 *	0.316
Post-bachelor degree	-0.753 *	0.471	-1.754 *	0.173	-0.872 *	0.418	-1.427 *	0.240
High school certificate**								
Knowledge of official languages								
No knowledge of offcial language	-2.926 *	0.054	-2.380 *	0.093	-1.607 *	0.200	-2.330 *	0.097
English and/or French**								
CMA level								
Three large CMAs	-0.442 *	0.643	0.250 *	1.284	-0.330 *	0.719	0.423 *	1.526
Other medium, small, and non-CMA**								
Pecent Chinese in CMA level of residence	0.090 *	1.094	0.053 *	1.054	0.109 *	1.115	0.055 *	1.056
Constant	1.822 *	6.185	1.794 *	6.012	2.531 *	12.563	1.626 *	5.084
Number of unweighted cases(N)	839		4,920		534		5,100	
-2 Log likelihood	29,607.033		131,511.389		19,759.001		146,641.019	
Chi Square(Hosmer and Lemeshow Test)	260.540 *		683.579 *		142.597 *		365.024	
Model Chi Square	9,749.769 *		50,054.693 *		5,107.234 *		50,437.579 *	

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

*Significance level <0.05; ** Reference category

Appendix B. Logistic regression showing logits and odds ratio of participating in enclave economy for South Asian immigrants with weighted cases, Canada, aged 25-64, associated with various levels of independent variables.

	Male				Female			
Independent variables	Self-employed persons		Wage workers		Self-employed persons		Wage workers	
		[1]		[2]		[3]		[4]
	b	Odds	b	Odds	b	Odds	b	Odds
Age groups								
30 to 34 years	-0.626 *	0.535	0.146 *	1.157	0.204 *	1.226	-0.117 *	0.889
35 to 39 years	-1.230 *	0.292	0.080 *	1.083	0.302 *	1.352	-0.301 *	0.740
40 to 44 years	-0.684 *	0.505	-0.407 *	0.666	-0.044 *	0.957	-0.913 *	0.401
45 to 49 years	-0.817 *	0.442	-0.878 *	0.415	-0.994 *	0.370	-1.100 *	0.333
50 to 54 years	-1.114 *	0.328	-0.921 *	0.398	-1.025 *	0.359	-0.965 *	0.381
55 to 59 years	-1.331 *	0.264	-1.250 *	0.286	-1.012 *	0.364	-0.913 *	0.401
60 to 64 years	-0.815 *	0.443	-0.373 *	0.688	-0.587 *	0.556	-0.405 *	0.667
25 to 29 years**								
Age of immigrantion								
Below 19 years old	-1.179 *	0.308	-1.868 *	0.154	-1.567 *	0.209	-1.602 *	0.201
20 to 29 years old	-0.494 *	0.610	-0.745 *	0.475	-0.872 *	0.418	-1.015 *	0.362
30 to 39 years old	-0.463 *	0.630	-1.174 *	0.309	-1.218 *	0.296	-1.130 *	0.323
40 years and over**								
Highest certificate, diploma or degree								
Below high school	0.185 *	0.591	0.298 *	1.348	1.081 *	2.946	0.289 *	1.335
Post-secondary certificate	-0.487 *	0.106	-0.732 *	0.481	-0.371 *	0.690	-0.675 *	0.509
Bachelor's degree	-1.177 *	0.003	-1.572 *	0.208	-1.492 *	0.225	-1.318 *	0.268
Post-bachelor degree	-0.914 *	0.014	-1.072 *	0.342	-1.643 *	0.193	-0.604 *	0.547
High school certificate**								
Knowledge of official languages								
No knowledge of offcial language	-2.674 *	0.069	-3.263 *	0.038	-22.540 *	0.000	-2.797 *	0.061
English and/or French**								
CMA level								
Three large CMAs	1.121 *	3.068	-0.503 *	0.605	0.069 *	1.071	0.333 *	1.395
Other medium, small, and non-CMA**								
Pecent South Asian in CMA level of residence	-0.052 *	0.949	0.023 *	1.024	0.021 *	1.021	-0.016 *	0.984
Constant	1.685 *	5.394	2.001 *	7.400	21.804 *	0.000	1.647 *	5.190
Number of unweighted cases(N)	1,057		5,813		344		4,975	
-2 Log likelihood	20,990.050		71,645.650		7,256.944		70,823.137	
Chi Square(Hosmer and Lemeshow Test)	84.697 *		577.862 *		259.782 *		206.672 *	
Model Chi Square	2,850.402 *		25,934.595 *		2,109.696 *		2,197.101 *	

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

*Significance level <0.05; ** Reference category

Appendix C. Means of all variables in the multiple regression for Chinese immigrants.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Mean log earnings				
Enclave economy	9.382	9.711	9.084	9.418
Mainstream economy	9.970	10.425	9.540	10.052
Total (Enclave and mainstream)	9.772	10.282	9.390	9.913
Mean earnings				
Enclave economy	23,151	25,141	15,642	19,478
Mainstream economy	50,061	49,811	29,351	35,792
Total (Enclave and mainstream)	40,984	44,852	24,833	32,235
Mean years of schooling				
Enclave economy	13	12	13	12
Mainstream economy	15	15	14	14
Total (Enclave and mainstream)	14	14	14	14
Mean years of foreign work experience				
Enclave economy	15	15	15	15
Mainstream economy	6	6	7	6
Total (Enclave and mainstream)	9	8	10	8
Mean years of Canadian work experience				
Enclave economy	15	13	14	13
Mainstream economy	19	17	19	17
Total (Enclave and mainstream)	18	16	17	16
Mean years of Canadian work experience squared				
Encalve economy	320.687	249.219	265.621	228.175
Mainstream economy	481.790	404.164	459.943	394.029
Totoal (Enclave and mainstream)	427.531	372.140	396.142	356.720

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

To be continued

Appendix C. Means of all variables in the multiple regression for Chinese immigrants.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Mean full-time or part-time job				
Encale economy	0.830	0.874	0.625	0.762
Mainstream economy	0.890	0.935	754.000	0.838
Total (Enclave and mainstream	0.870	0.923	0.712	0.821
Mean weeks worked				
Enclave economy	44	44	42	41
Mainstream economy	46	46	44	44
Total (Enclave and mainstream)	45	46	44	43
Mean percent Chinese in CMA				
Enclave economy	13	12	13	12
Mainstream economy	11	10	10	10
Total (Enclave and mainstream)	12	10	11	11
Mean residing in CMA (Vancouver)				
Enclave economy	0.519	0.382	0.466	0.411
Mainstream economy	0.314	0.247	0.263	0.267
Total (Enclave and mainstream)	0.384	0.274	0.330	0.296
Mean residing in CMA (Toronto)				
Enclave economy	0.329	0.427	0.381	0.424
Mainstream economy	0.423	0.450	0.425	0.453
Total (Enclave and mainstream)	0.391	0.446	0.410	0.447
Mean residing in CMA (Montreal)				
Enclave economy	0.028	0.061	0.040	0.053
Mainstream economy	0.068	0.062	0.103	0.510
Total (Enclave and mainstream)	0.055	0.062	0.082	0.052
Mean residing in CMA (Small and non-CMA)				
Enclave economy	0.018	0.013	0.023	0.008
Mainstream economy	0.023	0.020	0.045	0.019
Total (Enclave and mainstream)	0.022	0.019	0.038	0.016

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix D. Means of all variables in multiple regression for South Asian immigrants.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Mean log earnings				
Enclave economy	9.725	9.857	9.077	9.182
Mainstream economy	9.976	10.320	9.406	9.832
Total (Enclave and mainstream)	9.953	10.292	9.366	9.787
Mean earnings				
Enclave economy	27,694	26,647	15,833	16,610
Mainstream economy	47,730	46,647	30,427	29,028
Total (Enclave and mainstream)	45,872	45,436	28,645	28,165
Mean years of schooling				
Enclave economy	13	12	12	12
Mainstream economy	14	14	15	14
Total (Enclave and mainstream)	14	14	14	14
Mean years of foreign work experience				
Enclave economy	11	18	14	16
Mainstream economy	6	9	5	6
Total (Enclave and mainstream)	7	9	6	7
Mean years of Canadian work experience				
Enclave economy	13	9	12	11
Mainstream economy	18	15	19	16
Total (Enclave and mainstream)	18	14	18	16
Mean years of Canadian work experience squared				
Encalve economy	255.410	143.619	219.028	192.804
Mainstream economy	450.794	328.715	505.738	372.931
Totoal (Enclave and mainstream)	433.651	318.058	469.900	360.542

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

To be continued

Appendix D. Means of all variables in multiple regression for South Asian immigrants.

	Male self-employed	Male wage workers	Female self-employed	Female wage workers
Mean full-time or part-time job				
Encale economy	0.949	0.898	0.667	0.769
Mainstream economy	0.924	0.942	0.735	0.812
Total (Enclave and mainstream	0.927	0.939	0.727	0.809
Mean weeks worked				
Enclave economy	45	41	42	36
Mainstream economy	46	46	42	42
Total (Enclave and mainstream)	46	46	42	42
Mean percent South Asian in CMA				
Enclave economy	11	10	10	10
Mainstream economy	10	10	10	10
Total (Enclave and mainstream)	10	10	10	10
Mean residing in CMA (Vancouver)				
Enclave economy	0.429	0.369	0.262	0.405
Mainstream economy	0.161	0.130	0.179	0.159
Total (Enclave and mainstream)	0.185	0.144	0.189	0.176
Mean residing in CMA (Toronto)				
Enclave economy	0.398	0.349	0.476	0.358
Mainstream economy	0.558	0.598	0.507	0.571
Total (Enclave and mainstream)	0.543	0.583	0.503	0.557
Mean residing in CMA (Montreal)				
Enclave economy	0.041	0.023	0.024	0.023
Mainstream economy	0.045	0.047	0.056	0.037
Total (Enclave and mainstream)	0.045	0.046	0.052	0.036
Mean residing in CMA (Small and non-CMA)				
Enclave economy	0.020	0.031	0.071	0.026
Mainstream economy	0.025	0.028	0.050	0.027
Total (Enclave and mainstream)	0.025	0.028	0.052	0.027

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix E. Decomposing the log earnings difference between enclave and mainstream participants for Chinese male self-employed immigrants.

	Enclave mean	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.580	0.803		
Years of schooling	13	15	-2		0.092	-0.184	
Years of foreign work experience	15	6	9		0.000	0.000	
Years of Canadian work experience	15	19	-4		0.068	-0.272	
Years of Canadian work experience squared	320.687	481.790	-161.103		-0.001	0.161	
Full-time or part-time (Full-time=1)	0.830	0.890	-0.060		0.901	-0.054	
Number of weeks worked in 2005	44	46	-2		0.020	-0.040	
Percent Chinese in CMA level of residence	13.282	10.703	2.579		-0.118	-0.304	
CMA: Vancouver**	0.519	0.315	0.204		1.388	0.283	
CMA: Toronto**	0.329	0.423	-0.094		0.458	-0.043	
CMA: Montreal**	0.028	0.068	-0.0397		-0.832	0.033	
Small size CMA and non-CMA**	0.018	0.023	-0.0052		-0.645	0.003	
Interaction of years of schooling and economic sector					-0.039		-0.507
Interaction of foreign work experience and economic sector					-0.020		-0.300
Interaction of Canadian work experience and economic sector					-0.012		-0.180
Total difference between enclave and mainstream				-0.580			
Total explained difference due to characteristics						-0.417	
Total unexplained difference							-0.163
Effect of unequal returns							-0.987
Effect of other factors under enclave net of explained effects and unequal returns effects							0.824

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix F. Decomposing the log earnings difference between enclave and mainstream participants for Chinese male immigrant wage workers.

	Enclave mean	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.737	0.062		
Years of schooling	12	15	-3		0.091	-0.273	
Years of foreign work experience	15	6	9		0.002	0.018	
Years of Canadian work experience	13	17	-4		0.053	-0.212	
Years of Canadian work experience squared	249.219	404.164	-154.945		-0.001	0.155	
Full-time or part-time (Full-time=1)	0.874	0.935	-0.061		0.818	-0.050	
Number of weeks worked in 2005	44	46	-2		0.044	-0.088	
Percent Chinese in CMA level of residence	11.787	9.868	1.919		0.006	0.012	
CMA: Vancouver**	0.382	0.247	0.135		-0.244	-0.033	
CMA: Toronto**	0.427	0.450	-0.023		-0.048	0.001	
CMA: Montreal**	0.061	0.062	-0.001		-0.162	0.000	
Small size CMA and non-CMA**	0.013	0.020	-0.007		-0.051	0.000	
Interaction of years of schooling and economic sector					-0.026		-0.312
Interaction of foreign work experience and economic sector					0.005		0.075
Interaction of Canadian work experience and economic sector					-0.003		-0.039
Total difference between enclave and mainstream				-0.737			
Total explained difference due to characteristics						-0.470	
Total unexplained difference							-0.267
Effect of unequal returns							-0.276
Effect of other factors under enclave net of explained effects and unequal returns effects							0.009

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix G. Decomposing the log earnings difference between enclave and mainstream participants for Chinese female self-employed immigrants.

	Enclave mean	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.468	0.925		
Years of schooling	13	14	-1		0.172	-0.172	
Years of foreign work experience	15	7	8		0.009	0.072	
Years of Canadian work experience	14	19	-5		0.034	-0.170	
Years of Canadian work experience squared	265.621	459.943	-194.322		0.000	0.000	
Full-time or part-time (Full-time=1)	0.625	0.754	-0.129		0.717	-0.092	
Number of weeks worked in 2005	42	44	-2		0.017	-0.034	
Percent Chinese in CMA level of residence	12.775	9.828	2.947		0.187	0.551	
CMA: Vancouver**	0.466	0.263	0.203		-2.961	-0.601	
CMA: Toronto**	0.381	0.425	-0.044		-1.250	0.055	
CMA: Montreal**	0.040	0.103	-0.063		0.138	-0.009	
Small size CMA and non-CMA**	0.023	0.045	-0.022		0.811	-0.018	
Interaction of years of schooling and economic sector					-0.044		-0.572
Interaction of foreign work experience and economic sector					-0.016		-0.240
Interaction of Canadian work experience and economic sector					-0.006		-0.084
Total difference between enclave and mainstream				-0.468			
Total explained difference due to characteristics						-0.418	
Total unexplained difference							-0.050
Effect of unequal returns							-0.896
Effect of other factors under enclave net of explained effects and unequal returns effects							0.846

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix H. Decomposing the log earnings difference between enclave and mainstream participants for Chinese female immigrant wage workers.

	Enclave mean	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.639	1.308		
Years of schooling	12	14	-2		0.112	-0.224	
Years of foreign work experience	15	6	9		0.004	0.036	
Years of Canadian work experience	13	17	-4		0.052	-0.208	
Years of Canadian work experience squared	228.175	394.029	-165.854		-0.001	0.166	
Full-time or part-time (Full-time=1)	0.762	0.838	-0.076		0.721	-0.055	
Number of weeks worked in 2005	41	44	-3		0.040	-0.120	
Percent Chinese in CMA level of residence	12.218	10.199	2.019		-0.003	-0.006	
CMA: Vancouver**	0.411	0.267	0.144		0.030	0.004	
CMA: Toronto**	0.424	0.453	-0.029		0.045	-0.001	
CMA: Montreal**	0.053	0.051	0.002		-0.245	0.000	
Small size CMA and non-CMA**	0.008	0.019	-0.011		-0.134	0.001	
Interaction of years of schooling and economic sector					-0.096		-1.152
Interaction of foreign work experience and economic sector					-0.008		-0.120
Interaction of Canadian work experience and economic sector					-0.015		-0.195
Total difference between enclave and mainstream				-0.639			
Total explained difference due to characteristics						-0.407	
Total unexplained difference							-0.232
Effect of unequal returns							-1.467
Effect of other factors under enclave net of explained effects and unequal returns effects							1.235

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix I. Decomposing the log earnings difference between enclave and mainstream participants for South Asian male self-employed immigrants.

	Enclave mean	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.082	1.599		
Years of schooling	13	14	-1		0.077	-0.077	
Years of foreign work experience	11	6	5		-0.020	-0.100	
Years of Canadian work experience	13	18	-5		0.045	-0.225	
Years of Canadian work experience squared	255.410	450.794	-195.384		-0.001	0.195	
Full-time or part-time (Full-time=1)	0.949	0.924	0.025		0.922	0.023	
Number of weeks worked in 2005	45	46	-1		0.025	-0.025	
Percent South Asian in CMA level of residence	10.562	10.141	0.421		-0.156	-0.066	
CMA: Vancouver**	0.429	0.161	0.268		0.640	0.172	
CMA: Toronto**	0.398	0.558	-0.16		0.941	-0.151	
CMA: Montreal**	0.041	0.045	-0.004		-0.783	0.003	
Small size CMA and non-CMA**	0.020	0.025	-0.005		-1.345	0.007	
Interaction of years of schooling and economic sector					-0.110		-1.430
Interaction of foreign work experience and economic sector					0.004		0.044
Interaction of Canadian work experience and economic sector					-0.003		-0.039
Total difference between enclave and mainstream				-0.082			
Total explained difference due to characteristics						-0.243	
Total unexplained difference							0.161
Effect of unequal returns							-1.425
Effect of other factors under enclave net of explained effects and unequal returns effects							1.586

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix J. Decomposing the log earnings difference between enclave and mainstream participants for South Asian male immigrant wage workers.

	Enclave m	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.415	1.217		
Years of schooling	12	14	-2		0.060	-0.120	
Years of foreign work experience	18	9	9		-0.002	-0.018	
Years of Canadian work experience	9	15	-6		0.042	-0.252	
Years of Canadian work experience squared	143.619	328.715	-185.096		-0.001	0.185	
Full-time or part-time (Full-time=1)	0.898	0.942	-0.044		0.895	-0.039	
Number of weeks worked in 2005	41	46	-5		0.040	-0.200	
Percent South Asian in CMA level of residence	10.001	10.243	-0.242		-0.030	0.007	
CMA: Vancouver**	0.369	0.130	0.239		0.039	0.009	
CMA: Toronto**	0.349	0.598	-0.249		0.146	-0.036	
CMA: Montreal**	0.023	0.047	-0.024		-0.330	0.008	
Small size CMA and non-CMA**	0.031	0.028	0.003		0.130	0.000	
Interaction of years of schooling and economic sector					-0.065		-0.780
Interaction of foreign work experience and economic sector					-0.010		-0.180
Interaction of Canadian work experience and economic sector					-0.025		-0.225
Total difference between enclave and mainstream				-0.415			
Total explained difference due to characteristics						-0.456	
Total unexplained difference							0.041
Effect of unequal returns							-1.185
Effect of other factors under enclave net of explained effects and unequal returns effects							1.226

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix K. Decomposing the log earnings difference between enclave and mainstream participants for South Asian female self-employed immigrants.

	Enclave mean	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.508	-2.200		
Years of schooling	12	15	-3		0.040	-0.120	
Years of foreign work experience	14	5	9		-0.017	-0.153	
Years of Canadian work experience	12	19	-7		0.049	-0.343	
Years of Canadian work experience squared	219.028	505.738	-286.71		0.000	0.000	
Full-time or part-time (Full-time=1)	0.667	0.735	-0.068		0.654	-0.044	
Number of weeks worked in 2005	42	42	0		0.038	0.000	
Percent South Asian in CMA level of residence	10.007	9.577	0.43		-0.268	-0.115	
CMA: Vancouver**	0.262	0.179	0.083		1.888	0.157	
CMA: Toronto**	0.476	0.507	-0.031		2.813	-0.087	
CMA: Montreal**	0.024	0.056	-0.032		-0.917	0.029	
Small size CMA and non-CMA**	0.071	0.050	0.021		0.590	0.012	
Interaction of years of schooling and economic sector					0.104		1.248
Interaction of foreign work experience and economic sector					0.035		0.490
Interaction of Canadian work experience and economic sector					0.041		0.492
Total difference between enclave and mainstream				-0.508			
Total explained difference due to characteristics						-0.664	
Total unexplained difference							0.156
Effect of unequal returns							2.230
Effect of other factors under enclave net of explained effects and unequal returns effects							-2.074

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix L. Decomposing the log earnings difference between enclave and mainstream participants for South Asian female immigrant wage workers.

	Enclave mean	Mainstream mean	Difference in mean	Model[1] Beta	Model[3] Beta	Explained difference	Unexplained difference
Economic sector (Mainstream economy=0)				-0.685	0.982		
Years of schooling	12	14	-2		0.070	-0.140	
Years of foreign work experience	16	6	10		0.001	0.010	
Years of Canadian work experience	11	16	-5		0.041	-0.205	
Years of Canadian work experience squared	192.804	372.931	-180.127		0.000	0.000	
Full-time or part-time (Full-time=1)	0.769	0.812	-0.043		0.637	-0.027	
Number of weeks worked in 2005	36	42	-6		0.041	-0.246	
Percent South Asian in CMA level of residence	10.199	10.223	-0.024		0.011	0.000	
CMA: Vancouver**	0.405	0.159	0.246		-0.036	-0.009	
CMA: Toronto**	0.358	0.572	-0.214		-0.112	0.024	
CMA: Montreal**	0.023	0.037	-0.014		-0.508	0.007	
Small size CMA and non-CMA**	0.026	0.027	-0.001		-0.092	0.000	
Interaction of years of schooling and economic sector					-0.063		-0.756
Interaction of foreign work experience and economic sector					-0.011		-0.176
Interaction of Canadian work experience and economic sector					-0.018		-0.198
Total difference between enclave and mainstream				-0.685			
Total explained difference due to characteristics						-0.586	
Total unexplained difference							-0.099
Effect of unequal returns							-1.130
Effect of other factors under enclave net of explained effects and unequal returns effects							1.031

Source**:** 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix M. Percentage distribution of Chinese immigrants in the enclave and mainstream economy by industry.

	Men		Women		Total	
Industry	Enclave economy	Mainstream economy	Enclave economy	Mainstream economy	Enclave economy	Mainstream economy
Agricultre,forestry,fishing, hunting,mining, oil, and gan extraction	1.2	1.4	1.2	0.9	1.2	1.1
Utilities,construction, transportation and warehousing	9.5	7.9	1.8	3.6	5.6	5.8
Manufacturing	16.6	20.5	26.5	13.7	21.5	17.2
Wholesale trade and retail trade	19.4	15.7	17.6	16.5	18.5	16.1
Information and cultural industries	2.4	3.7	2.2	2.2	2.3	2.9
Finance and insurance	2.2	2.8	4.2	10.3	3.2	8.0
Real estate and rental and leasing	2.3	2.3	2.6	2.7	2.5	2.5
Professional,scientific and technical services	6.2	15.0	4.6	10.9	5.4	13.0
Management of companies and enterprises, and arts, entertainment and recreation,and public administration	1.2	4.9	1.0	5.6	1.1	5.2
Adiminstrative and support, waste management and remediation services	3.4	2.9	3.9	2.9	3.6	2.9
Educational services, and health care and social assistance	4.8	8.6	12.0	17.7	8.4	13.1
Accommodation and food services	26.0	8.2	15.3	9.4	20.6	8.8
other services(except public administration)	4.8	3.3	7.3	3.6	6.1	3.4
Total	100	100	100	100	100	100

Source**:** 2006 Census of Canada, Public Use Microdata File on Individuals.

Appendix N. Percentage distribution of South Asian immigrants in the enclave and mainstream economy by industry.

	Men		Women		Total	
Industry	Enclave economy	Mainstream economy	Enclave economy	Mainstream economy	Enclave economy	Mainstream economy
Agricultre,forestry,fishing, hunting,mining, oil, and gan extraction	12.6	1.3	21.1	1.4	16.6	1.3
Utilities,construction, transportation and warehousing	26.4	18.9	3.0	4.0	15.4	12.4
Manufacturing	23.2	22.1	22.8	16.6	23.1	19.7
Wholesale trade and retail trade	9.9	14.4	15.5	16.4	12.5	15.3
Information and cultural industries	0.7	2.5	0.8	2	0.7	2.3
Finance and insurance	2.7	5.2	0.8	8.4	1.8	6.6
Real estate and rental and leasing	1.8	1.9	0.3	1.1	1.1	1.5
Professional,scientific and technical services	2.7	9.6	2.3	6.7	2.5	8.3
Management of companies and enterprises, and arts, entertainment and recreation,and public administration	1.1	3.3	2.0	4.3	1.6	3.7
Adiminstrative and support, waste management and remediation services	7.0	6.2	9.1	7.1	8.0	6.6
Educational services, and health care and social assistance	2.0	5.8	11.7	20.6	6.6	12.3
Accommodation and food services	5.0	5.7	6.6	7.8	5.7	6.6
other services(except public administration)	4.7	3.2	4.1	3.7	4.4	3.4
Total	100	100	100	100	100	100

Source: 2006 Census of Canada, Public Use Microdata File on Individuals.