INVESTIGATION OF CHINESE IMMIGRANTS ASSIMILATION

PATTERNS IN HONG KONG LABOUR MARKET

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by

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Title: <u>Investigation of Chinese Immigrants Assimilation</u>

<u>Patterns in Hong Kong Labour Market</u>

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<u>Abstract</u>

Hong Kong is a society of Chinese immigrants whose adaptation has become a great concern to both policymakers and scholars. In the last two decades, the handover of Hong Kong sovereignty to People's Republic of China on 1 July 1997 and the Asian financial crisis did create a gap in the China-Hong Kong migration literature. Besides, Hong Kong immigration department adopted three new admission schemes in the last decade, the thesis contributes to the literature by incorporating the consideration of them and address two assimilation questions, the first research question is about the relationship between Chinese immigrants' characteristics and the corresponding effects on their assimilation patterns in Hong Kong labour market, the author investigates the variation of Chinese immigrants assimilation patterns and explains why patterns vary under different economic settings. The second research question is about Chinese immigrants' endowment which consists of Putonghua speaking skills and 'China-knowledge', this "endowment effect" can somewhat explain the assimilation pattern as these two skills are becoming increasingly important after the handover of Hong Kong sovereignty, the author estimates the effect of this endowment on Chinese immigrants assimilation patterns. Methodologically, the author answers these two research questions through the triangulation of quantitative and qualitative approach. In quantitative analysis, six Hong Kong census datasets are employed and fifteen individual in-depth interviews scripts are analyzed in qualitative side. The author expects the validity of assimilation hypothesis depends on different economic circumstances. The major contribution of this thesis is to find out in what particular situation the assimilation hypothesis is true, and qualitative results are employed to explain why the assimilation patterns are proved to be different between male and female, amongst various marital statuses, industries and occupations.

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STATEMENT OF ORIGINAL AUTHORSHIP

In accordance with the University of Leicester Regulations for Research Students I hereby certify that I am responsible for the work submitted in this thesis and that the original work is my own. Neither this thesis nor the original work contained therein has been submitted to this or any other institution for a higher degree

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CHAPTER 1

INTRODUCTION - HONG KONG IS A SOCIETY OF CHINESE IMMIGRANTS

1.1 Introduction

Hong Kong is a society of Chinese immigrants whose adaptations to an ethnically similar but culturally dissimilar society has become a considerable concern to both policymakers and scholars. Since the 1970s, Hong Kong has been regarded as one of the newly industrialized countries (NICs) and among the country list of Asia Tigers or Four Little Dragons. One determinant of such economic success related to China-Hong Kong migration and Wong (1990) argued the hard-working attitude of Chinese immigrants played a critical role and contributed enormously to Hong Kong economic growth.

"*Hong Kong would not be the prosperous city it is today if we had refused to take immigrants after 1945*" (Wong 1990).

In 1970s, Hong Kong undertook an economic transformation, which focused on secondary production such as mining, manufacturing, utilities and construction, and its secondary production was estimated for around forty percent of the Gross Domestic Production (GDP) and fifty-five percent of employment on average, thus there existed a high labour demand in secondary production sectors, it so happened that a large influx of Chinese immigrants migrated to Hong Kong that provided quality human resources which worked

to transform Hong Kong into an industrial city. Amongst different economics school of thoughts, labour has always been considered as an important determinant for long-term economic growth, which explained why Hong Kong colonial government did welcome Chinese immigrants at that time.

The major contribution of Chinese immigrants was of its entrepreneurship and hard-working attitude which significantly accelerated Hong Kong productivity momentum in 1970s and successfully transformed Hong Kong into industrialized city, as a result, Hong Kong experienced a strong economic growth for longer than two decades. However, just after the inauguration of the open door policy of China which announced in late 1978 and implemented in 1979, both labour cost and land cost in Hong Kong had risen drastically in 1980s, many Hong Kong businessmen relocated their plants to China and took the advantages of cheap labour and inexpensive land in China, they only retained supporting and servicing units in Hong Kong, since then, Hong Kong has been undoubtedly becoming a more dependent on China than vice versa as the Chinese economy is much larger and more diversified, and the economic relationship between China and Hong Kong is getting closer since colonial history began. Interestingly, many of these entrepreneurs and Hong Kong businessmen are the early Chinese immigrants who came to Hong Kong in 1950s and 1960s, they can be regarded as return migrants indeed. Thus, it is valuable and fascinating to investigate how early and late Chinese immigrants wage-qualification-experience profiles different from Hong Kong natives, how different China-Hong Kong migration cohorts vary in skills and earning ability, how did Chinese immigrants adapted the life in Hong Kong, how immigrants'

quality interlinked with their assimilation process. In the literature, there were only a few research studies regarding China-Hong Kong migration, literature provides an investigation of immigrants' earning (Lam and Liu 2002a), Chinese immigrants assimilation (Lam and Liu 2002b), immigration and earning inequality (Lam and Liu 1998a), effects of school quality towards immigrants' earning (Lui and Suen 1998), effects of immigration on Hong Kong economy (Suen 2000), returns to language ability (Lui 2007). However, there were two critical milestones happened in the last two decades which constitute a gap in the literature, the first one was the handover of Hong Kong sovereignty to People's Republic of China took place on 1 July 1997, the second one occurred shortly after the handover in 1997, that was the world economy, including Hong Kong, was hard hit by Asian financial crisis. Besides, Hong Kong immigration department adopted three new admission schemes in the last decade, section 3.2 describes these new immigration policies in detail. The thesis contributes to the literature by incorporating the consideration of these two milestones and Hong Kong latest immigration policies that have never been done by any other researchers before. The detail research questions are presented in section 1.2.

1.2 Research Questions

<u>Research Question 1</u>

In the thesis, the first research question is about the relationship between Chinese immigrants' characteristics and the corresponding effects on Chinese immigrants assimilation in Hong Kong labour market. There is one important concept in migration literature; this concept is called assimilation. This

concept is followed by some interesting questions, for instance, how does assimilation effect play a role in explaining the effects of immigration on Hong Kong labour market? Which groups of immigrants can assimilate better? Why immigrants assimilate differently in various industries? Why immigrants assimilate differently in various occupations? In some pioneering assimilation studies, such as Chiswick (1979) and Borjas (1985), they regarded Asian immigrants as a homogeneous group without considering their countries of origin, in other words, Hong Kong natives were considered as an equivalent set to China-born natives. Some other literature adopted another classification method, for example, Borjas (1994) distinguishes Chinese immigrants from Mainland China and Taiwan but exclude Chinese immigrants from Hong Kong. Since these three areas, China, Taiwan and Hong Kong, have different political systems and are on different levels of economic development, Borjas (1987b) suggests that the assimilation rates and wages levels of immigrants in host countries are significantly affected by the economic and political characteristics of sending countries, so these three types of immigrants should be differing in the level of assimilation rates and qualities. Lam and Liu (1993) used Hong Kong 1981, 1986 and 1991 census datasets to analyze the change in earnings differential between new immigrants from China and Hong Kong natives over time, as the degree of economic integration between Hong Kong and China has become historically high after the handover of Hong Kong sovereignty to China in 1997, thus the assimilation results are not expected to be completely unchanged and are timely to refine. According to neoclassical labour migration theories, migration decision is an individual decision (Todaro 1969, 1976), whereas

new migration theories proposers (Stark and Taylor 1989; Stark 1991) consider migration as a household or family decision, traditional and new labour migration theories are different in terms of their unit of analysis, whichever the theories are used, it is appropriate to address the above research questions using micro-level data. Borjas (1982, 1985, 1987a, 1987b) addressed a similar issue using two US censuses, the 1980 and 1990 Public Use Microdata Samples. In this thesis, the author employs six Hong Kong census datasets, they provide both individual and household observations and allow a detailed investigation of different assimilation patterns of Chinese immigrants in Hong Kong, these patterns are expected to be different amongst different gender, different marital status, different industry and different occupation. Based on economic theory and some descriptive statistics, various interesting hypotheses will be formulated in chapter 4 and tested in chapter 5.

Research Question 2

Education is generally regarded as a way to improve and secure an individual's earning and employment at the micro level whereas it can accelerate a country's economic growth at the macro level. Lui and Suen (1998) found that the school quality does influence the rate of return to schooling while Chinese immigrants mostly acquired schooling in Mainland where schooling return rate is relatively lower than that of Hong Kong. Lam and Liu (1998b) also found that Chinese immigrants generally attain lower value education in Mainland which contributes to the widening earning gap between immigrants and natives in Hong Kong. Since 1979, the year that

China officially announced and adopted an open-door policy, a substantial growth of foreign direct investment and foreign portfolio investment in China indicates the growing importance of China market in the world economy, it can also be reflected in the growing number of foreign investors, who are now researching various effective ways to set up and operate successful businesses in China. In order to set up and maintain businesses in China successfully, effective communication and 'China-knowledge' are commonly considered as an asset and a necessary tool and key to succeed, in the past, proficient in English language and elegant written English ability are regarded as an essential human capital for earning, however, started from the last decade, people cannot deny the growing importance of Putonghua in business communication which can certainly be proved by an increasing number of newly established Putonghua learning centers and Putonghua enhancement courses in universities, some ordinary people may even conclude that Putonghua and English are now under the equal footing in terms of their importance for earning. An interesting question follows: Chinese immigrants are typically endowed with Putonghua speaking skills and 'China-knowledge', how large is this "endowment effect"? Lui (2007) studied the earning power of Putonghua using 1991 and 2001 Hong Kong census data and showed speaking Putonghua has little impact on native and immigrant workers' earnings, but this study was done without considering the possible cohort effect (Borjas 1985). Can this "endowment effect" significantly improve Chinese immigrants' earning after controlling possible cohort effect? Are Putonghua and English gaining similar earning power? Hong Kong census data provides detail individual records including language ability and a large number of

observations that allow a comprehensive and rigorous investigation of this research question. Based on economic theory and some descriptive statistics, various interesting hypotheses will be formulated in chapter 4 and empirical tests for these hypotheses will be conducted in chapter 6.

1.3 Justification for this Research

Social sciences literature provides a number of theoretical and empirical studies concerning migration and human capital investment return, but many of them were only specifically handling Mexico-U.S. migration and South-east Asia-Europe migration, there were only several empirical researches about China-Hong Kong migration in the literature. In fact, China-Hong Kong migration is not less attractive than Mexico-U.S. migration or South-east Asia-Europe migration since Hong Kong was originally a part of Chinese sovereignty until 1842, and Hong Kong became a colony of the United Kingdom based on a series of treaties between China and the United Kingdom. On 1 July 1997, Hong Kong officially returned to Chinese sovereignty, under the 'One Country, Two Systems' principle, Hong Kong is a Special Administrative Region of the People's Republic of China. As such, China-Hong Kong migration can be treated as inter-country migration as well as intra-country migration over the last century, the detailed historical background about China-Hong Kong migration will be depicted in section 1.4.

The literature about China-Hong Kong migration consist of immigrants' earning (Lam and Liu 2002a), assimilation of immigrants (Lam and Liu 2002b), immigration and earning inequality (Lam and Liu 1998a), effects of

school quality towards immigrants' earning (Lui and Suen 1998), effects of immigration to Hong Kong (Suen 2000), returns to language ability (Lui 2007). Most studies regarding China-Hong Kong migration are an empirical examination using Hong Kong census data, they were conducted without entirely referring to traditional and new migration theories, some factors like immigrants' characteristics, economic structure and institutional arrangements fundamentally influencing migration incentives and migration impacts on Hong Kong, so these factors are significantly affecting assimilation pattern but they are being neglected in the literature. In the thesis, the interaction among and implications of these factors will be proved as an useful guide to immigration policymakers. Moreover, there were two important incidents happened in the last two decades which also had been neglected in current literature, the first one was the handover of Hong Kong sovereignty to People's Republic of China on 1 July 1997, the second one occurred shortly after the handover in 1997, the world economy, including Hong Kong, was hard hit by Asian financial crisis. Besides, Hong Kong immigration department adopted three new admission schemes in the last decade, the major purpose of these new admission schemes is to attract talents from foreign countries, in particular from China. The first new immigration policy is called Quality Migrant Admission Scheme which was started in 28 June 2006; the second immigration policy is related to capital investment, called Capital Investment Entrant Scheme, which was launched in October 2003; the third admission scheme was implemented in July 2003, Mainland Talents and Professionals Admission Scheme. The existing literature will be amplified by this research as one of the research results provides a more comprehensive

picture of assimilation patterns by considering immigrants' characteristics as well as incorporating the two important incidents occurred in Hong Kong and several new admissions schemes adopted in the last decade. This thesis makes an original contribution to existing migration knowledge as it bridges the gap in the literature related to fundamental reasoning for migration impacts. Chapter 2 presents various migration research results which mostly founded on general human capital model whereas chapter 2 concludes that the general human capital model has no specific conjecture on migrants assimilation pattern, most results are the "average" assimilation patterns which hardly convince policymakers and researchers; thus a gap exists in the literature which has been summarized into two research questions in section 1.2. This thesis provides a new understanding on migrants assimilation pattern to the literature by means of analysing immigrants' characteristics, the author combines both quantitative and qualitative approaches to data collection, analysis and interpretation, with an in-depth elaboration, review and analysis of immigrants' characteristics, which is not a standard research method in western economics research and has never been used by any others else before, but this research method will be proved that the triangulation research method does provide various new insights to understanding immigrants assimilation patterns on top of current western migration research, chapter 4, 5 and 6 give all considerations and analyses to the literature gap. In short, the importance of this thesis is its distinctive focus on fundamental and ultimate impact of China-Hong Kong migration under different economic environments and structures, these impacts are examined empirically in this thesis. The next section provides a brief history to China-Hong Kong migration.

1.4 Research in Context – Brief History of Chinese Immigrants in Hong Kong

Hong Kong is always regarded as a society of Chinese immigrants and their descendants (Lam and Liu 1998b), most Hong Kong native-born have parents or grandparents who were immigrants from mainland China. Mainland China has always been the main source of immigrants for Hong Kong. Originally, Hong Kong was a part of Chinese sovereignty, after a series of Chinese defeats during the First Opium War (1839-1842), Hong Kong was claimed as a colony of the United Kingdom on 25 January 1841, this was a preliminary cession of Hong Kong Island to the United Kingdom. The official cession of Hong Kong Island, founded as a crown colony of the United Kingdom, took place on 29 August 1842 under the Treaty of Nanjing. After China and the United Kingdom signed the agreement of First and Second Convention of Beijing (Peking Treaty) on 18 October 1860 and 1 July 1898 respectively, it represented a formal cession of Kowloon and lease of the New Territories. According to the Convention of Beijing signed by the Qing Dynasty and Britain in 1898, Chinese citizen could freely enter and leave Hong Kong. The First Convention of Beijing officially ended hostilities in the Second Opium War (1856-1858), while the execution of Second Convention of Beijing significantly expanded the size of Hong Kong and the lease was set to expire at midnight, on 30 June 1997. After the World War II, there were several massive migration flows from China to Hong Kong, Figure 1.1 shows the decomposition of Hong Kong population growth, both natural increase and net migration movement patterns indicate a drastic variation of population

growth in three different phrases, the first, second and third wave occurred during 1945-1951, 1958-1961 and 1976-1981 respectively. The various degrees of net movement can be partly attributable to different economic and political environments in China and Hong Kong, so it implies various migration incentives, immigrants' characteristics and qualities, and more importantly, its impact on the host country (Hong Kong) over time, chapter 3 and 4 would discuss the immigrants' characteristics and qualities change over time while chapter 5 and 6 would estimate the assimilation rate of different kinds of Chinese immigrants after controlling the immigrants' qualities changes. The following subsections illustrate the historical background of China-Hong Kong migration.

Figure 1.1 Hong Kong Population Growth by Component
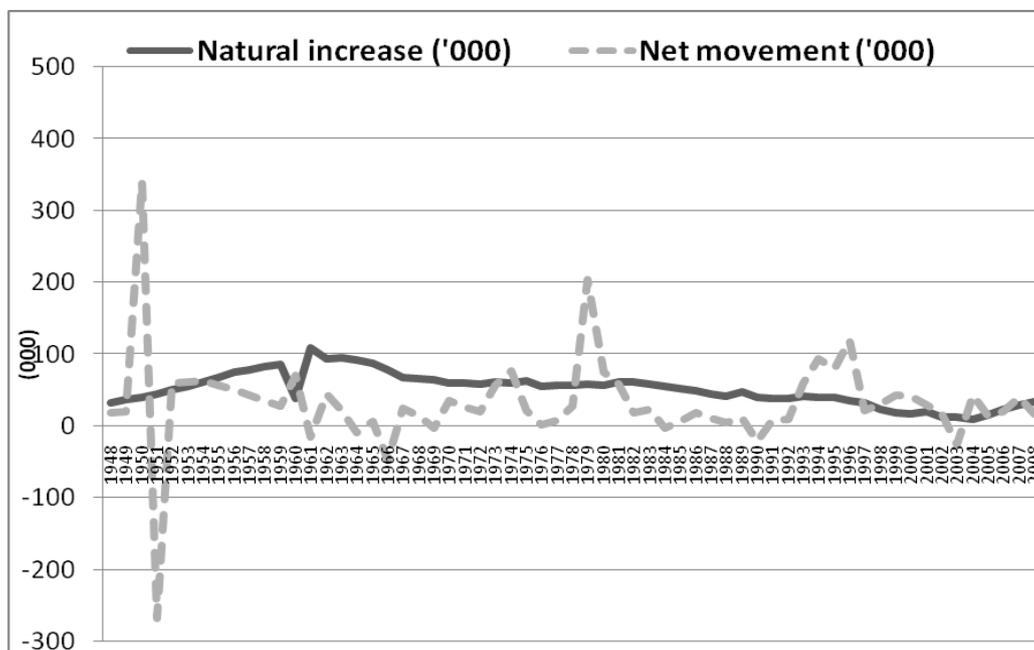
Data Source: Various Hong Kong Censuses Data

Note: Net movement refers to migration inflow minus outflow; natural increase refers to birth rate minus death rate

First Wave of China-Hong Kong Migration (1945-1951) – Civil War in China

The World War II ended in 1945, Hong Kong population was only 0.65 million (Davis, 1949), and population growth afterward mainly attributes to China-Hong Kong migration. In 1946, there was a Chinese Civil War (Nationalist-Communist Civil War) in China, Mao Zedong (毛澤東) was a Chinese Communist leader and he led the Communist Party of China in the Chinese Civil War, at that time, many Chinese people desired to leave China and went elsewhere to avoid political turbulence, thus Hong Kong naturally became a refuge country for them and their capital. From 1945 to 1949, there were 1.3 million Chinese avoided Chinese Civil War and migrated to Hong Kong. The Chinese Communist Party proclaimed the establishment of the People's Republic of China in 1949. In 1951, Hong Kong population rocketed drastically to 2.2 million.

Second Wave of China-Hong Kong Migration (1958-1961) – Collectivization and Great Leap Forward in China

Mao Zedong (毛澤東) was the leader of the People's Republic of China from its establishment. He uncovered the Great Leap Forward (大躍進, Dayuejin) at a meeting in January 1958 in Nanjing. The Great Leap Forward was the name given to the Second Five Year Plan which was scheduled to run from 1958 to 1963, though the name is limited to the first three years of this period. The fundamental idea behind the Great Leap Forward was that rapid development of China's agricultural and industrial sectors should take place in parallel, while this mission terrorized many Chinese as many of them believed

it was not a correct development policy direction for China that created a pushing force to China-Hong Kong migration. Other than incorrect policy direction, natural disaster also caused China-Hong Kong migration. In 1959 and 1960, many China provinces experienced severe famine. Droughts, floods and general unfavourable weather caught China entirely by shock. In July 1959, the Yellow River flooded in East China, starvation of crop failure and drowning directly killed an estimated 2 million Chinese people, according to statistics released by the Disaster Center. In 1960, almost 55 percent of cultivated land was destroyed by some extent of drought as well as other unfavourable weather. To keep away from natural disaster, many Chinese people struggled for survival and finally migrated to Hong Kong. Many people called the period between 1959 and 1962 as "Three Bitter Years". In 1961, around 50.5 percent of the Hong Kong population was Chinese immigrants. The second China-Hong Kong migration resulted in substantial growth of Hong Kong population, in 1971, Hong Kong population reached 4 million.

Third Wave of China-Hong Kong Migration (1976-1981) – Economic Reform and Open Door Policy in China

From 1966 to 1976, Mao Zedong (毛澤東) advocated Great Proletarian Cultural Revolution or simply Cultural Revolution (無產階級文化大革命 or 文化大革命 or 文革; Wuchan Jieji Wenhua Da Geming), the revolution created a period of extensive social and political disorder in the People's Republic of China, and finally resulted in economic anarchy, this created a huge pushing force for China-Hong Kong migration. Chinese immigrants were initially allowed to enter Hong Kong freely, but Hong Kong government

alerted of social burden created by Chinese immigrants, Mitchell (1998) found that there were excess demanded for basic infrastructures in Hong Kong, so called "problem of people", *too many migrants over too short period of time to too small an enclave with too little housing and infrastructure to accommodate this growth* (Mitchell, 1998, page 5). With the permission of China, the "free entry" policy was changed to "touch-base" or "reach-base" policy in 1974, the "touch-base" or "reach-base" policy stated that Chinese immigrants were deemed as touch base and granted a temporary residence as long as they reached an urban area and found a place of accommodation, Hong Kong army and police arrested illegal immigrants at the border and repatriated those who were unable to touch base. For those successful "touch-base" immigrants, they were permitted to stay and work in Hong Kong. After 7 years of residence, they would become permanent residents. In 1977 and 1978, Deng Xiaoping (鄧小平), the leader of the People's Republic of China from 1978 to the early 1990s, made his famous southern tour of China, visiting Guangzhou where most Chinese were intended to migrate to elsewhere, particularly Hong Kong. Deng Xiaoping said, "Out-migration problem is not a simple problem that can be solved by The Chinese People's Liberation Army Force, to a certain extent, it is related to our government policy". In 1979, Deng advocated an influential economic reform in China which can be summed by the Four Modernizations, those of agriculture, industry, science and technology, and the military, many youngsters were threatened by this policy and an enormous wave of illegal immigrants crossed the border and flooded Hong Kong in 1979–80. Since the Hong Kong government worried about the social burden induced by massive Chinese

immigrant influx, in October 1980, the "touch-base" policy was abolished under the consent of China. For all illegal immigrants, Hong Kong government adopted a more restrictive policy, so called "immediate-repatriation" policy that is for any captured illegal immigrants, police would immediately repatriate illegal immigrants to their own country. In short, from 1976 to 1981, there were almost half million Chinese migrated to Hong Kong, which accounted for 10 percent of Hong Kong population in 1976.

After 1980

Strictly speaking, immigrants in the previous three immigration waves were mostly illegal as they entered Hong Kong without exit permits from the Chinese authorities or entry visas for Hong Kong. Since October 1980, Chinese immigrants are regarded as legal immigrants if they entered Hong Kong with exit permits or they are granted a One-way permits issued by the Chinese authorities. The immigrant flow has since been drastically reduced. In accordance with an agreement with China, Hong Kong would receive only 150 legal immigrants daily from China. Like many other developed countries, reuniting of families is supposedly the most important consideration for selecting eligible immigrants for migration to Hong Kong, thus it is reasonable to believe that there has been a radical demographic changes in the population of Chinese immigrants since 1980. There were various amendments, revisions in the last three decades as well as several new immigration policies were adopted after 1997, the details of these policies changes will be illustrated in chapter 3.

1.5 Research Methodology

Research methodology is a blueprint for conducting research and is selected so that the two research problems mentioned in section 1.2 can be addressed accurately and sophisticatedly. In the thesis, the major concern is the interrelationship between immigrants' characteristics and their corresponding assimilation patterns in Hong Kong labour market. This issue will be addressed using economics reasoning. An accurate and sophisticated approach is a way that research questions can be well-fitted, and those corresponding research findings could be validated by scientific deduction and empirical data, both theoretical and practical outcomes could also be reinvestigated and tested in further research. The following methodologies are used in the thesis:

The first step is about a review and overview of available literature on issues concerned with theories of migration, assimilation and human capital investment theory. Literature search and review derives the following outcomes: (1) Formal definition for the selected variables or attributes; (2) A number of assumptions will be developed for model building; (3) Several theoretical models will be compared and contrasted so that an appropriate models can be selected for analysis. Literature search and review contributes the followings in the thesis: For the first research question, the formal definition of assimilation will be derived, also the assumptions used in theoretical models that theorize relationships between immigrants' characteristics and assimilations can also be found. Besides, literature search

also helps the author to devise an appropriate model for analyzing China-Hong Kong migration. The final theoretical model should be modified based on unique characteristics and context of China-Hong Kong migration. For the second research question, the definition of earning, employment, education, training, working experience, usual language and school quality can be derived from existing literature, also the assumptions used in the previous models that theorize human capital investment returns can be modified and reused in current research; finally, literature search can help the author to develop an appropriate model for estimating human capital investment return rate, of course, the final theoretical model should be fine-tuned based on different educational background of Hong Kong natives and Chinese immigrants as well as other aspects of China-Hong Kong migration that different from other countries' migration context.

In step two, the author will employ the theoretical models selected in step 1, logical and scientific deduction would help to infer some theoretical results from the models, and these results serve the following purposes: (1) Find out the interaction among independent variables considered in the model; (2) Devise the casual relationship between dependent variable and independent variables in the model; (3) Examine the robustness of the theoretical results, that is to examine which variables(s) is/are theoretically critical for predicting the outcomes. Logical and scientific deduction contributes the followings in the thesis. In the first research question, the author can deduce the interaction between different immigrants' characteristics and assimilations, also devise the casual relationship between migration incentive, self-selection

and assimilations from the model, and finally find out which factor(s) is/are theoretically critical for explaining Chinese immigrants' assimilation pattern in Hong Kong labour market. In the second research question, the author can develop the interaction effects among employment, education, training, working experience, usual language and school quality, and then employ such interaction pattern to devise the casual relationship between earning and employment, education, training, working experience, usual language and school quality from the model, finally, the author can find out which determinant(s) is/are theoretically critical for predicting Chinese immigrants' and Hong Kong natives' earning, the details will be discussed in chapter 4.

Chapter 4 aims to supplement the statistical results present in chapter 3, 5 and 6 by employing and analyzing qualitative data. Quantitative data allow us to studying the overall Chinese immigrants assimilation picture in Hong Kong, but if the author desires to penetrate the intimacy of the immigrants' experience of living (Cribier 2005) and extend to examining Chinese immigrants individual experience, feeling, intentions, values as well as attitudes, and then employing these qualitative materials to develop new insights and research hypotheses in order to supplement the interpretation of statistics, it is attentive to words and to the ways of being of those who are speaking. Qualitative data allow researchers to deploy a wider range of interconnected interpretive practices and always to get a better understanding of the subject matter at hand. (Denzin and Lincoln 2003). Denzin and Lincoln (2003) also advocate that qualitative materials can help to grasp the full social density of cultures, social bonds, and the complex strategies of

subjects and groups within societies where people's main concern has been to manage their lives.

As the theoretical models develop in step 2 provide a conceptual and mathematical formulation for empirical testing, thus in step 3, the author will test the validity of theoretical predictions deduced in step 2. Econometrics techniques are the major tools for empirical testing in the thesis, labour migration is regarded as an economic phenomenon, econometrics attempts to quantify this economic phenomenon and fill the gap between the abstract world of economic theories and the real world labour activities. Econometrics has three major uses in the thesis, firstly, it quantifies economic activity because econometrics allows the estimation of theoretical relationship based upon historical data; secondly, hypothesis testing allows the evaluation of alternative theories with quantitative evidence; finally, econometrics allow prediction of what is likely to happen in the future based on what has happened in the past, in other words, econometrics not only allows the measurement of assimilation pattern, but also prediction of future assimilation pattern and its impacts. Labour migration is typically an observational phenomenon rather than an experimental one, such observational data are not accumulated through controlled experiments on individuals, firms, or segments of the economy, and the author is a passive collector of observational data. Econometrics is needed since economic data possess certain properties that are not considered in standard statistics texts or are not sufficiently emphasized there for use by economists. Econometrics is a special tool for economists because it focuses on the problems inherent in collecting

and analyzing observational economic data.

However, quantitative studies emphasize the measurement and analysis of a causal relationship between variables, but not the process. In order to allow the author to interpret the statistical results realistically, the author should penetrate the intimacy of the immigrants' experience of living through the triangulation of quantitative and qualitative approach. Denzin (1978) developed the concept of triangulation which is the idea that researchers always better look at something from various angles than to look at it in only one way. Researchers who use either only quantitative or qualitative approach alone do not always communicate well (Neuman 2006), the complementarity between quantitative and qualitative approaches should not be understated, so the author adopts both quantitative and qualitative approach in this study as social sciences always aim to propose interpretation which qualitative data contribute much to it. Bryman (2006) conducted a content analysis of 232 social science articles in which qualitative and quantitative approaches were combined and so he found the potential and likelihood of unanticipated outcomes was multiplied given these two approaches were conducted simultaneously, so he suggested that there was considerable value in examining both the rationales and the ways of combining these two approaches. Maanen *et al*. (1982) illustrate the interaction between quantitative and qualitative approach in the following way:

Quality is the essential character or nature of something; quantity is the amount. Quality is the what; quantity is the how much. Qualitative refers to

the meaning, the definition or analogy or model or metaphor characterizing

something, while quantitative assumes the meaning and refers to a measure of

it…(Maanen *et al*. 1982)

Given the considerable value of combining quantitative and qualitative approaches, the author decides to employ both in this study. The contribution of chapter 4 is to consolidate the quantitative results by answering the questions of how assimilation process and experience are created and given meaning. Qualitative data do produce a less simplistic picture of social reality than the predetermined categories often used in quantitative analyses (Cribier 2005) as quantitative data carry the disadvantages of losing the richness of meaning whereas qualitative data can be richer in meaning than quantified data (Babbie 2007).   In short, qualitative data have an incomparable capacity to constitute interesting arguments about how things work in particular contexts (Mason 2006).

1.6 Data Sources

In the thesis, micro-level data of the Hong Kong Census collected by the Census and Statistics Department is used for empirical analysis. Census datasets are collected every 5 years from 1981 to 2006. Census datasets are the most detailed micro dataset available in Hong Kong, there is also no other raw dataset available for this empirical study. Census aims at collecting data on Hong Kong population in such aspects as size, age and sex composition, geographical distribution, and socio-economic characteristics. Basic data on

households, such as household size, tenure of accommodation, are also collected in the data set. The data set contains more than two hundred thousand observations which enables it to provide highly precise statistics and allows different types of econometrics analysis. On the individual level, census data cover a broad range of population characteristics such as gender, age, duration of residence in Hong Kong, place of birth, education attainment, individual earnings, job natures and unemployment status are available for analysis and thus valuable for conducting empirical research.

A census involves a complete enumeration of the elements of a population. The population parameters can be calculated directly in a straightforward way after the census is enumerated. The main advantage of census data is the large number of observations they provide. The quality of census data is high and the data are often extremely detailed which provides useful and valuable empirical evidences for the thesis. Population censuses were conducted in 1981, 1991 and 2001, a complete headcount of all persons and their age and sex information was collected, and the detailed socio-economic characteristics of the population were conducted on the basis of a large sample in these three censuses. A population by-census is conducted in between two censuses, thus there were population by-censuses conducted in 1986, 1996 and 2006. A by-census differs from a full census in not having a complete headcount of the population but simply enquiring on the detailed characteristics of the population on the basis of a large sample. The size and characteristics of the entire population can be inferred from the sample results in accordance with appropriate statistical theory. As a result, the statistics obtained from a

by-census may be slightly less precise than those from a census. Table 1.1 shows the census years and the number of person records. However, the definitions for some of the areas are different for certain census years. For example, the definition of place of birth, education level and duration of residence in Hong Kong are different in different census years records, as a result, additional approximations, decompositions and combinations are required in data preparation.

Table 1.1 Data Sources Details

Census Year	Sample Dataset	Number of Person Records
1981	Population Census 1% Sample Dataset	48117
1986	Population by-Census 1% Sample Dataset	55861
1991	Population Census 1% Sample Dataset	54343
1996	Population by-Census 1% Sample Dataset	62007
2001	Population Census 5% Sample Dataset	332632
2006	Population by-Census 5% Sample Dataset	342527

1.7 Outline of the Thesis

This section summarizes the contents of the remaining chapters. A review of literature related to the research problems is presented in Chapter 2, this chapter is divided into two parts. The first part mainly outlines literature with reference to theoretical and empirical causes of migration, this literature review underlines the fact that most studies regarding China-Hong Kong migration are only an empirical examination using Hong Kong census data, they conducted without completely referring to traditional and new migration theories, while the literature review provides correct theoretical basis and research strategy for labour migration. The second part deals with literature

about the impact of migration on host country, the issue of assimilation would be discussed as well. Chapter 2 concludes by comparing and contrasting the existing migration theories and constructs a framework for analyzing China-Hong Kong migration. Chapter 3 describes the distinct features of Hong Kong census data, socio-economic characteristics of Chinese immigrants and Hong Kong natives, as well as Hong Kong immigration policies development in the last two decades, this chapter concludes by interlinking Chinese immigrants' characteristics and Hong Kong immigration policy progression.

Chapter 4 mainly discusses the socio-economic determinants of Chinese immigrants in Hong Kong, various hypotheses will be formulated though the triangulation of both quantitative and qualitative approaches and these hypotheses would be tested in chapter 5 and 6. Chapter 5 and 6 are the core content of the thesis, which can be split into two units of analysis. This thesis follows the conventional approach to study the effect of labour migration on the host economy. The first unit of analysis is presented in chapter 5, this chapter aims to test the assimilation hypothesis though conducting an empirical analysis on the relationship between Chinese immigrants' characteristics and their corresponding assimilation patterns in Hong Kong labour market, the author hypothesizes that assimilations can be found, immigrants' and labour market characteristics are useful to illustrate different assimilation patterns of Chinese immigrants in Hong Kong labour market, assimilation rate depends upon immigrants' characteristics as well as industry and job natures. Chapter 6 investigates the earning power of Chinese immigrants who endowed China knowledge and usual Chinese languages or

dialects, the hypothesis is about the importance of language ability in earning, the author argues that language ability is essential to earning, but compares Putonghua to English ability, Putonghua is less significant in its income earning power. To further comparing the language endowments between Hong Kong natives and Chinese immigrants, since Chinese immigrants are endowed with Putonghua spoken skills, it can somewhat sufficiently narrows the income or earning gap between Chinese immigrants and Hong Kong natives even they are trained under different educational systems, where Hong Kong natives are educated under traditional United Kingdom educational system that generally provide a more systematic and comprehensive training for learning skills, such learning skills enable Hong Kong natives catch up Putonghua spoken skills even without 'endowed' environment. Chapter 7 explains why and how the author triangulate the quantitative and qualitative approach in the thesis, also summarizes, compares and contrasts the quantitative and qualitative results. Chapter 8 summarizes the findings of the thesis and concludes with policy recommendation.

1.8 Conclusion

This chapter has explained the nature of the research problems addressed in this thesis, summarized the context and motivation of this research and provided an overview of the hypotheses and conclusions. The next chapter is a literature review, literature review represent the starting point for establishing the theoretical and empirical framework, identify what research questions had already been covered and found out the theories that has been developed for understanding and discussing the research problems and the findings.

CHAPTER 2

LITERATURE REVIEW - UNDERSTANDING LABOR MIGRATION

2.1 Introduction

The thesis aims to answer the question: How do Chinese immigrants assimilate in Hong Kong labour market? The objective of this chapter is to review various migration literature, firstly introduce the research strategy that have been undertaken by the author, secondly, the author would summarize the labour migration literature including both causes and consequences of labour migration as well as Hong Kong empirical results; thirdly, assimilation hypotheses and empirical analyses results would also be discoursed. Last but not least, a conceptual framework would be constructed for further discussion and empirical studies in later chapters.

This section is an introduction of chapter 2. The next section (section 2.2) depicts the literature searching strategy, such as literature databases and approaches that used to categorize literature. A research is incomplete unless keywords and concepts have a clear definition, and section 2.3 serves this purpose, keywords like labour migration, assimilation and human capital are discussed in this section. Section 2.4 is a conceptual framework for analysis which compares and contrasts the theories of labour migration, assimilation and human capital, the aim of section 2.4 is to set out appropriate theoretical linkages between these three concepts so that testable hypotheses can be

derived for empirical studies in later chapters.

2.2 Research Strategy

Initially, *Google Scholar* is the leading World-Wide-Web search engine for searching relevant literature, using keywords like 'labour migration', 'assimilation' and 'human capital' result in a tremendous amount of materials. For instance, there are more than 833,000 relevant literature about labour migration, 666,000 about assimilation and 2,260,000 about human capital. *Google Scholar* sorts literature by number of citations of each literature, thus some popular literature can be found through this search engine. However, full paper is not downloadable through *Google Scholar* as most journal articles are required subscription. With such a considerable amount of materials, it is hard to judge their relevance to this research, so the author changed to use the library search engines at The University of Leicester, The Open University of Hong Kong and The Hong Kong University of Science and Technology, using academic journal name as keyword for searching, those academic journals come out through library journals databases which allow the author to access and download the paper abstract and full paper.

The author accessed some library journals databases such as *ProQuest Asian Business and Reference*, *ProQuest Social Science Journals*, *ProQuest Dissertations and Theses*, *Social Sciences Citation Index*, *JSTOR*, *Business Source Premier*, *Academic Search Elite*, *ABI/INFORM Complete*, *Academic Search Premier*, *EconLit*, *Academic Research Library*, for searching academic papers that had been published. Examples of labor-related and

migration-related journals include *Industrial and Labor Relations Review; Journal of Labor Economics*; *Demography; Labour History; Labor Studies Journal; Review of Labour Economics and Industrial Relations; International Migration; International Migration Review*; Examples of Human capital journal include *Journal of Human Capital*; *Journal of Human Resources;* Examples of Economics and Econometrics journals include *American Economic Review*; *Journal of Political Economy*; *Review of Economics and Statistics; Quarterly Journal of Economics; Journal of Economic Literature; Journal of Economic Perspectives*; *Econometrica; Econometric Theory*; *Journal of Econometrics; Econometric Theory.* On top of academic papers, there are some international organizations and university research centers that also regularly publishing occasional research papers as well as policy-orientated study, international organizations comprise of International Labour Organization (ILO); International Migration and Development of United Nations (UN); International Organization for Migration (IOM); International Migration Outlook, OECD; International Migration and Development Research Group, World Bank; Center for Migration Studies of New York (CMS); Institute for the Study of Labor (IZA). University research centers consist of Center for Migration and Development at Princeton University; International Migration Institute (IMI) at The University of Oxford; Institute for the Study of International Migration at Georgetown University.

One of the difficulties to identify relevant literature is directly related to the discipline that the author chose for studying this topic as labour migration, assimilation and human capital are all interdisciplinary social science subjects,

the author is required to specify the dimension adopted for analytical purpose, as mentioned in chapter 1 that the author selected economics perspective as the principal analytical tools in the thesis, such selection does not imply any discrepancy and preclude the applicability of other social science disciplines, it only indicates the possibility of deducing alternative insights by using economics perspectives, and these possible new insights will be a complement to the migration studies in other social sciences disciplines. Andrienko and Guriev (2004) used panel data on gross region-to-region migration flows to examine international migration in Russia from 1992 to 1999, factors being considered cover economic, political and social dimensions, evidences show that migration intensity does depend on economic factors even controlling the effects of geography, initial conditions and legacies, and people move from poorer regions with worse public goods provision to those where are richer and better in career prospect. For Asia countries, Athukorala (2006) shows an evidence that labour migration is a structural feature of the economies in East Asia countries, Athukorala (2006) argues that designing market-based systems for attracting foreign talents that consistent with changing domestic labour market conditions and the priorities of national development policy, as well as minimizing social resentment, is the primary policy challenge.

The next section discusses the theoretical and empirical findings of labour migration. The final section of this chapter is an illustration of the conceptual framework that would be employed in later chapters, this conceptual framework setup serves as a platform for analyzing the interrelationships among labour migration, assimilation and human capital, and as a result, this

part provides the author clear hypotheses for empirical studies which are conducted in later chapters.

2.3 Labour Migration Literature

2.3.1 Introduction

Labour migration, also called labor mobility refers to the movement of workers. These movements happen either within countries or between countries, intra-country labour migration refers to labour movement within countries while inter-country labour migration refers to labour movement between countries. This classification is purely based on location, workers are not restricted to change their working locations, they are also allowed to change occupation, thus, to generalize the meaning of labour migration, labour can choose to change location as well as occupation simultaneously or sequentially. McConnell, Brue and Macpherson (2009) suggest the following approach to classify different types of labour migration.

Type of Mobility

		Location	
		Same	Different
Occupation	Same	Type I Job change only	Type III Geographic mobility
	Different	Type II Occupational Mobility	Type IV Occupational and Geographic mobility

Source: McConnell, Brue and Macpherson (2009)

The focus of this thesis is to study the assimilation pattern of Chinese immigrants in Hong Kong labour market, thus only type III and IV is of interest to the author as these types involve switching of occupations, geographical locations, or some combinations of them. These movements are possibly due to changes in product demand, human capital, family circumstances and labour productivity which need not be wage-related factors. Payne (2009) narrowly defines migration as the movement of people from one place to another, and argue that migration is an integral component of human behavior, in other words, this definition does not imply migration includes the movement of people within geographical boundaries of a country but also the movement across national boundaries. However, Payne (2009) subdivides migrants into several categories, namely, refugees; displaced persons; and immigrants. As immigrants are the only category of migrant that can become a permanent resident after certain periods of residence, they tend to develop themselves in various ways such that their own status or family in the host country can be secured in the long run, thus it is reasonable to assert that the assimilation patterns of immigrants in the host country are not less significant than that of other two categories, the kind of migrants being analyzed in the thesis is immigrants, but not refugees and displaced person.

2.3.2 Causes of Labour Migration

For the determinants of labour migration, the author divides the literature into the neo-classical theory and new economics of labour migration theory.

2.3.2.1 Neo-Classical Theory

Neo-classical theory of labour migration was founded by Sir William Arthur Lewis, Lewis was one of the earliest theoretical studies pioneers on labour migration and won the Nobel Memorial Prize in Economics in 1979. Lewis's study (1954) develop a model to investigate two sectors (traditional versus modern sectors) labour migration effects on macroeconomic development, traditional sectors provide unlimited labour supply and people there rely on subsistence agricultural for survival while modern sectors expand their industry for development. There is a certain amount of surplus labours exist in the traditional sector where outmigration is the only way to get rid of them, thus surplus labours migrate to modern sectors where provide job opportunity to them, such labour migration allows an expansion in modern sectors as wages rate can keep at a low level that secure a high profit rate for firm owners. This model exploits the growth potential inherent in economic disparities such that both traditional and modern sectors significantly benefit from it, the main driver of labour migration is economic disparities. However, the problem of Lewis' work is its limitation on only studying intra-country migration while inter-country migration cannot be explained by it as inter-country labour movement involves not only economic disparities, cultural and other socio-economic disparities are equally essential. Ranis and Fei (1961) propose another framework to model inter-country migration model, Ranis and Fei (1961) assert that migrations attribute to the uneven geographical distribution of factors of production, such as labour and capital. Labours are intended to migrate from countries or region with abundant labour supply and low wage to countries or region with scarce labour supply and high

wage, such movements contribute a great extent to production factors redistribution and wages equalization between countries and regions. This model analyzes labour migration from the macro perspective, the same perspective as Lewis (1954) model, they both believe migration result in redistribution of production factors under different relative prices, but they have different spatial interpretation of migration, Lewis (1954) proposes an intra-country migration while Ranis and Fei (1961) offer an inter-country migration, these two theories proposers neglect a basic decision-making unit of migration, that is individual migrant, they fail to deal with the question of "Why does migrant migrate?". In fact, it cannot deny that migration is by and large an individual decision. As such, Sjaastad (1962) and Todaro (1969) used this perspective as a starting point of their labour migration theories that explain why individuals respond to structural difference between countries or regions and engage in migration. Sjaastad (1962) pioneered to treat migration as an investment in human resources productivity that establish a foundation for human capital theory of migration while Todaro (1969) argues that rational actors always seek to improve their well-being by moving to countries or regions where labour reward will be higher than the one they obtain in the home country, such individual decision making principle apply to migrants as well after taking all tangible and intangible migration costs into account. For human capital theory of migration, because of its simplicity and consistency with mainstream economics, in particular, of its usefulness in highlighting the major causes of migration, the author has chosen human capital framework to explain assimilation pattern of Chinese immigrants and to interpret data in its light. Despite income disparities are dominating the rationale for migration, a

more fundamental question is whether there is a job in the host country available to immigrants, thus, obvious job uncertainties exist for migrants. To incorporate the uncertainties concepts in human capital model, economists make use of the unemployment rate as a new variable in this regard. For example, Harris and Todaro (1970) adopt human capital model and explicitly formulate a labour migration equilibrium model, using one minus unemployment rate in the modern sector as an estimate for probability of migrants' job opportunity in the modern sector, this probability can be used to compute the expected wage and hence, equilibrium attained because of an equalization of the actual wage in the rural sector and expected wage in developed modern sector. This model contains several predictions: (1) other things being equal, lower rural-modern wage differentials, lower migration rate, vice versa; (2) other things being equal, higher probability of finding a job in the modern sector, higher migration rate, vice versa. These two hypotheses are testable but their validity is subject to several limitations. Firstly, Harris and Todaro (1970) model disregards the risk preference of migrants, in other words, migrants in Harris and Todaro Model are assumed to be risk neutral, Fields (1975) extends Harris and Todaro (1970) model by considering the probability of employment of an educated person and the different risk preferences among migrants. Secondly, Harris and Todaro (1970) model are static which time is considered to be constant, one of the first dynamic analyses is proposed by Neary (1981), Neary theory allows intersectoral capital mobility and derives a model for dynamic migration behaviors. Thirdly, the model predicts that rural development would reduce migration rate, but Ghatak, Levine and Wheatley (1996) argue that the

complexity of rural development effect on the rural sector is far from the literature suggests, they show that the rural sector may occur an increased migration rate in the early stages of rural development because such development will give some people resources to migrate while the marginal effect of rural development may not provide enough incentive to deter migration. Moreover, higher rural-modern wage differential may not lead to migration as people who are intended to migrate may encounter liquidity and borrowing constraint (Kanbur, 1981; Ghatak and Levine, 1994). The theoretical beauty of Harris and Todaro model does not validate itself in the empirical world, various contradictory and paradoxical observations are unanswered under Harris and Todaro framework. These observations comprise of (1) people do not migrate under huge income and welfare differential among countries; (2) two countries with similar fundamental economic structures, but one country have relatively high outmigration rates than other; (3) on top of economic factors, such as income disparities, there are other factors that may also critically alter migrants' decision, such as family reunification, political asylum, natural disaster, Harris and Todaro framework has often been criticized its inattention of non-economic factors. A more comprehensive approach called Push-and-pull factors approach of Lee (1966) explains migration is determined by two forces, namely push factors and pull factors, push factors are forces that motivate people to leave their homes, these factors include poverty, high unemployment rate, natural disasters, political oppression…etc while pull factors are forces that attract people away from their homes, these forces can be economic opportunities, higher wages, political freedom, healthy environment…etc. In short, neo-classical theories

concentrate on the linkage between economic disparities and migration incentive, also how individual make migration decision, section 2.3.2.2 aims to depict the new economics of labour migration which provide another perspectives in analyzing migration decision.

2.3.2.2 New Economics of Labour Migration

A well-known text of migration, *The Migration of Labour,* written by Oded Stark (1991) started a new chapter of labour migration theory literature. Stark's contributions to migration theory are regarded as new economics of labour migration and can be summarized into two parts, the first part is related to its unit of analysis, neo-classical theory of labour migration assumes migration decision is made individually, individual migrants are assumed to be rational and theoretically weigh the expected migration benefits against total migrant cost, they will migrate to other countries as long as the net expected gain is positive regardless of their family members' concern, while Stark (1991) emphasizes collective migration decisions and theorizes migration decision on a household basis rather than on an individual basis, which reveal Stark's consideration of tied migration (or called family migration) possibility in his new framework, he believes migrants tend to maximize relative household income in its reference group, in other words, he hypotheses that inequality of income distribution is positively related to intensity of relative deprivation as well as migration incentive, more attention lends to income distribution in the economics of migration. The second part of Stark's contribution is its highlighting of uncertainties, he proposes that migration decision could depend on income uncertainty even without significant

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income-gap between rural and modern countries or regions, that is, insufficient migration under huge income differential does not imply irrationality as income distribution inequality could force families to pool risks and alter human capital investment pattern for children. Besides, using the concept of uncertainties, he further argues that migration can attribute to imperfect and incomplete markets and financial institutions. In short, Stark's (1991) theory is served as a variant of neo-classical theory with various additions and amendments, two essential amendments consist of its downplaying on the importance of wage differentials and its refinement on the role of families and households in migration decision. Stark (1991) theory is a supplement to Harris and Todaro (1970) theory as Stark (1991) explains the phenomenon of why people does not migrate under huge income and welfare differential among countries as well as takes into consideration of non-economic factors like family reunification, political asylum, natural disaster.

Another well-known theory of migration – dual labour market theory, proposed by Michael Piore in 1979, Piore (1979) hypothesizes that one intrinsic characteristic of advanced industrial societies is its permanent demand for labour, particularly foreign labour, as native workers generally keep away from unstable, unskilled, dangerous, demeaning and low paid job and these jobs are called to the "three Ds" – dirty, dangerous and difficult, so that there is a permanent demand for foreign workers for these jobs and foreign workers are required to fill jobs that native workers refuse. Hence, international migration is led by such consistent and sustainable demand for foreign labour which result in the labour market segmentation. This theory

highlights the inherent structural demand for foreign labour in the economic structure of contemporary advanced economies causes international migration, it dissolves the conventional thought that foreign workers must compete with natives and have an influence on the wages level and employment prospects for natives. However, this theory postulates all international migration is demand-driven and ignores supply side factors. In fact, most migrants initiate themselves for migration rather than or not necessarily fill pre-existing jobs in the host countries. In addition, this theory fails to explain why advanced economies with similar economic structures show evidence of contrast immigration rates.

Migration network is another topic for migration theorists in which network is a form of social capital that facilitates information flows for perspective migrants, information about job opportunities, accommodation, living standards are conveyed by return migrant, friends or relatives, the network provides information thus reduce uncertainty, and therefore smooth the progress of it. Network is a capital that cumulative and denser in nature, it is often used as a predictor of future migration flow (Bijak, 2006). Empirical evidences (Wong and Salaff, 1998) show that many migrants move because others with whom they are connected migrated before, migrants most often send job-related and accommodation information to friends and relatives (Gottlieb, 1987), some migrants provide credit and temporary lodging (Grossman, 1989) thus lower the cost of adapting to an alien environment, culture and language (Massey S. Douglas *et al*., 1987; Marks, 1989). Taylor (1986) argues that migration network as a very important pull factor for

migration.

To summarise, migration theorists propose various determinants of migration incentive, determinants include economic factor such as income differentials, non-economic factors such as family migration. If migration is regarded as a human capital investment, migration incentive always exists for migrants who are expected to obtain positive net migration return. Apart from the theories that advocate the maximization individuals' benefits or utilities, theorists also propose a family migration thesis in which migrants tend to maximize "family utilities" rather than their own individual utility.

2.3.3 Consequences of Labour Migration

The consequences of labour migration towards host labour market are usually divided into its impacts on the wage rate and its impacts on native employment. Most empirical and theoretical studies are dealing with Mexico-U.S. migration and Asia-U.S. migration. There are three common methodologies are used for examining the link between immigration and labour markets, namely, structural econometrics analyses; reduced-form regression analysis; and natural experiments. Chiswick (1978) used structural econometrics analyses and founded a landmark study regarding the impact of immigrants on labor market, this study showed that immigrant men earned as much as natives even having less education and concluded that on-the-job training investment is the key for the gap in formal schooling. Gross (1982) adopted structural econometrics analysis and used 1970 individual-level data to estimate transcendental logarithmic function, it is also called translog

function, which is a flexible functional form allowing variation of partial elasticities of substitution among factor inputs of native labour, first and second generation immigrants and capital. He found a substitution effect between all labour group pairs and a complement effect between capital and all labour groups, in other words, immigration did influence other first generation immigrants, but the impacts on natives are very small. Borjas (1987a) used a generalized Leontief production function and a more detailed breakdown of immigrant and native labour, the results are similar to those of Gross (1982).

In 1980, there were around 125,000 Cubans were allowed to leave the country to the United States from the port of Mariel, half of these immigrants permanently settled in Miami, thus suddenly increased Miami's overall labor force by 7 percent within six months. The fact of drastic and sudden increase in number of immigrants in Miami can be used as a natural experiment example in order to assess the labor market effects of increase immigration. David Card (1990) assessed the labour market effects of increase immigration under this natural experiment setting, he found that the Miami immigration had no essential effect on the wages as well as employment rate for low-skilled natives workers in the Miami labour market, even among Cubans who had immigrated earlier, Card (1990) explained this counter-intuitive results based on two market responses. Firstly, he argued that this result attributed to a massive capital inflow into Miami in order to take advantage of large immigrants influx. Secondly, there was large emigration of natives in response to the influx of immigrants. Altonji and Card (1991) used a reduced-form regression analysis to study effects of immigration on the labor

market outcome of less-skilled natives, this regression analysis relies less on theory but more on econometrics techniques, they found there is little effect of immigration on the employment outcomes. LaLonde and Topel (1991) employs similar regression methods and emphasizes Chiswick (1986) concern on the deteriorating quality of immigrants and its implication on labour market outcomes for natives, various studies alike (Card, 1990; Altonji and Card, 1991; LaLonde and Topel, 1991) end up concluding that there is little evidence of considerable labour market effects on wages and employment level for natives. Butcher and Card (1991) examine the population survey microdata from 1979 to 1989 in the United States, they conduct an econometrics analysis of domestic and foreign immigration in twenty-four major cities in the United States, they conclude that the large differences across cities in the relative growth rates of low- and high-paid workers' wages bear little or no relation to the size of immigrant inflows, in other words, the effects of high immigration on labour market are insignificant. They also found that there is considerable variation in relative growth rates of high-and low-wage workers across cities, but that this variation is essentially unrelated to immigrant flows.   After the collapse of the Soviet Union, there was a massive influx of Soviet Jews into Israel, such immigration increased Israel's population by 12 percent between 1990 and 1994, Friedberg (2001) examines the impacts of such enormous arrival of Soviet Jews into Israel, empirical results suggest no adverse impact of immigration on Israeli labour market. There are some empirical studies suggest a contrast results on labour market outcomes, Borjas (1985, 1995, 1999) concerns about the issue of assimilation and the quality of different immigrants cohort as well as its implication on labour market outcomes for

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natives, he found that immigration lowers the wage of competing workers, in particular the low skilled United States workers, these workers are mostly high school dropouts and those in the bottom 20 percent of the wage distribution. Borjas, Freeman and Katz (1997) attribute these unconventional results to competition among immigrants as they found other regional factors dominate the ups and downs of area economies. Greenwood, Hunt and Kohli (1997) conducted a structural econometrics analysis which combined human capital theory with production theory and yielded a similar results as Borjas, Freeman and Katz (1997), they found that immigration has no significant effect on natives, except the low skilled such as high school dropouts, but does have a significant effect on other immigrants of the same origin and cohort. Borjas (2003) reexamine the impact of immigration on native workers, using United States census data from 1960 through 2000, statistical results shows that when immigration increases the workers supply in a skill category, the earnings of native workers in that same category fall, this negative effect will occur regardless of whether the immigrant workers are legal or illegal, temporary or permanent. Borjas (2003) conclude that any significant increase in the number of immigrants will unavoidably lower wages for some native workers. By contrast, reducing the labour supply by strict immigration enforcement and reduced legal immigration would increase the native workers' earnings.

With respect to those empirical results outside the United States, Hirotada, Nijkamp and Poot (2000) use the case of trade between Taiwan and Canada to study the contributions of contemporary Chinese immigrant to the home country's economy as compared to the earlier generations which provided

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their labours to the receiving country and transferred part of their income to dependents in the home country. The results show a positive relationship between Chinese immigrants and export of Taiwan's goods, moreover, investor class immigrants have a smaller influence on both exports and imports than all other classes of immigrants, but this effect is not applicable to self-employed and entrepreneur immigrants since these two classes contribute positively to bilateral trade. Lundborg and Segerstrom (2000) conducted a theoretical study regarding the effect of immigration on economic growth for developed countries, they found that trade has important implications for how immigration affects economic growth in the two countries. Free migration may raise or reduce growth depending on whether migration is an adjustment to factor differences or to changes in economic policy. Free international migration raise world growth if it is driven by imbalances in labour supplies while international migration may lower growth if it is induced by policy differences across countries. In other words, migration is growth-enhancing when it is driven by imbalances in factor supplies but can be growth-retarding when it is driven by public policy differences.

2.3.4 Empirical Results in Hong Kong

In Hong Kong history, immigration that reflected by net migration was a key contributor to Hong Kong population compare to natural increase in population, Chan (1986) argued that many Chinese immigrants came from the adjacent Guangdong province, they desired to take advantage of the job opportunities created by industries in Hong Kong. Ho, Liu and Lam (1991) studied the post-war immigrant inflows and outflows in Hong Kong using a

human capital theory framework, they showed that Hong Kong's increasing prosperity exerted a pull on Chinese immigrants in 1960s and 1970s, most Chinese immigrants work with care, energy and good working attitudes which provide an additional driving force towards Hong Kong economic growth at that time, this immigrant inflow has had an accelerating trend until the changes in immigration regulations in 1980 and 1983, these immigration regulation changes partly led to serious labour shortage in Hong Kong during 1990s. Suen (1996) also found that there was a deceleration of labour force since the abolishment of 'reach-base' policy in 1980, in which labour force growth rate decreased from 5.6 percent to 1.2 percent during the period of 1976 – 1981 and 1981 – 1993 respectively.

With respect to human capital investment return, Lam and Liu (1993) used Hong Kong 1981, 1986 and 1991 census data to estimate the change in earnings differential between new immigrants from China and natives of Hong Kong over time, they show that the new male immigrants cohort quality has been improving after the abolishment of 'reach-base' policy in 1980, these quality changes are analyzed in terms of schooling endowment, experience and innate ability, but the difference in schooling return rate and experience between Hong Kong natives and immigrants are widening over the same period, they argued that such human capital investment return change is an attribute to the structural change of the Hong Kong economy during 1990s. Lui and Suen (1998) employed 1991 Hong Kong census data to analyze the differential returns to education and to language ability of natives and Chinese immigrants in Hong Kong, they show that the return rate of schooling is more

than triple higher among local-born workers than among Chinese immigrants and suggest that English language education is one important component of the success of the Hong Kong education system also explain such earning differentials, while Lui (2007) investigate further regarding the earning power of Putonghua using 1991 and 2001 Hong Kong census data and show speaking Putonghua has little impact on both native and immigrant workers' earnings. Lam and Liu (2002a) found an unusual earning divergence between natives and immigrants in Hong Kong using 1981 and 1991 census data, they explained that such divergence is mainly due to divergence between skill prices for immigrants' education and for natives' education, this skill prices divergence is due to intertemporal shifts in the demand for skills.

With respect to the effect of China-Hong Kong migration, Lam and Liu (1998a) related the earning inequality to Hong Kong immigration policy, they employed 1981 and 1991 census data to show that immigration policy does shifts the shares of different population groups, and lead to increase in earning equality. Suen (2000) establishes a theoretical model and estimates the effects of immigration to Hong Kong using 1991 Hong Kong census data, the simulation results indicate that a forty percent increase in the new immigrants stock will lower wages by no more than one percent, in other words, the effect of immigration towards local labour market is rather insignificant. Sociologists (Chiu *et al*. 2005) examine the initial labour market outcome and the subsequent mobility process of Chinese immigrants in Hong Kong, the data showed that immigrants were penalized in their initial class placement, subsequent mobility, and current income attainment, they argued that

differences in educational attainment and the lack of pre-migration human capital transferability explained this gap in part.

2.3.5 Causes and Consequences of Labour Migration: Conclusion

In migration literature, there are numerous amount of research works related to analyzing the causes and effects of migration, most of these works are country-specific case study, in particular focusing on Mexico-United States migration and Asia-United States migration. Not much of the previous studies are studying China-Hong Kong migration, but it still sounds to believe the effect of the large influx of immigrants towards small economies, like Hong Kong, is probably negative rather than positive, however, a simulation study conducted by Suen (2000) provides a surprising results that the effect of immigration towards local labour market is rather insignificant. For large economies, such as United States and Europe, a renowned Mariel Boatlift experience by David Card (1990) as well as other similar studies by LaLonde and Topel (1991), Butcher and Card (1991) and Friedberg (2001) indicated the common rationale above may not applicable to small economies but only to large economies. Only Borjas, Freeman and Katz (1997) and Borjas (2003) provide a contrasting result. It seems that empirical results are not consistently supporting each other is due to some implicit but critical factors are undiscovered, some of these factors are country-specific which cannot be generalized and further applied to other countries. In the thesis, the core research question is about the assimilation patterns of Chinese immigrants in Hong Kong labour market. Some interesting questions follow: How do Chinese immigrants assimilate in different occupations? How do Chinese

immigrants assimilate in different industries? Why some of them are assimilating better in certain industries or occupations but not others? These questions would be answered in later chapters.

2.3.6 Immigrants Assimilation

How well do Chinese immigrants get used to the Hong Kong labour market? Do Chinese immigrants who have low initial earning suffer from continuous labour market disadvantages, or do they experience growth in earning? Labour economists have discussed if immigrants assimilate into the destination country and how the immigrants' quality change over time. However, immigrant assimilation is about how immigrant partially or completely integrates themselves into a new society which never a simple issue. Immigrants can acquire host country-specific human capital in order to attain economic assimilation, besides, immigrants can accumulate social capital and establish social networks or relations in order to socially assimilate into a new society, moreover, some immigrants acquire new customs and attitudes through contact and communication with natives so as to attain cultural assimilation. In theory, three primary yardsticks are always employed by researchers to assess immigrant assimilation, they are socioeconomic status, second language attainment, and geographic distribution. Socioeconomic status refers to educational attainment, occupation, and income. By measuring socioeconomic status, researchers desire to investigate if immigrants eventually catch up to natives in terms of human capital characteristics. The thesis deals with this issue in chapter 5. Second language attainment refers to the ability to speak host country language and the loss of the immigrant's

mother tongue. The author investigates if immigrant's mother tongue can facilitate the integration of immigrants into a new society given the usage of immigrant's mother tongue is getting higher in the host country. The thesis deals with this issue in chapter 6. Geographic distribution or spatial concentration refers to immigrants' geographical or residential patterns. Spatial residential model states that increasing socioeconomic attainment, higher generational status, and longer years of duration in the host country lead to decreasing residential concentration for a particular ethnic group. There have been a large number of research papers on the housing outcomes of immigrants. For example, Clark (2003) argues that immigrants tend to have relatively lower homeownership rate and higher residential crowding rate. Some research findings (Coulson 1999; Painter, Gabriel & Myers 2001) show the absence of housing gaps and find that housing gaps shrinks among immigrants who left immigrant gateways, econometrically, since immigrants are showed to be more mobile than native-born residents and over-represented the renter sample, thus, the housing choice model may have the problem of sample selection bias.

In section 5.2, the author compares and contrasts a large literature on economic assimilation of immigrants, the main finding is that immigrants wages tend to rise relatively faster than natives', but not fast enough so as to fill the initial gap. However, social assimilation is an equally crucial dimension of immigrants' assimilation, social assimilation refers to the discovering and adopting host country's cultural norms. Durlauf (2002) referred the process of social assimilation as the extent of social relations,

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which is a key factor in the establishment of social capital. The pioneering work of social assimilation is probably done by Warner and Srole (1945), they proposed a concept of "straight line assimilation" and argued that migrants behavior will become over time increasingly similar to that of natives, in other words, longer the time that immigrants stay in the host country, it is expected more similar life style of immigrants to native, this concept has been an essential concept in the sociological literature. Another theory about social assimilation was proposed by Glazer and Moyniham (1970), is called melting pot paradigm, Glazer and Moyniham (1970) theory focus on the process of immigrants assimilation and argue that immigrants tend to assimilate to a common model but at the same time increasingly retain their ethnic origin traditions. Gans (1996) proposed the "bumy line theory" which questions the presence of a progressive assimilation process due to discrimination and institutional barriers to employment and other opportunities, Gans (1996) particularly highlight a situation that the years of duration of immigrants is not necessarily directly related to their economic and social conditions, Gans (1996) believed that even second generation of immigrants was possibly being marginalized. Portes and Zou (1993) developed an idea of "segmented assimilation" which stated that immigrants assimilate in different strata of the destination country, both individual social promotion and self-supporting communities and networks can possibly create upward mobility and ultimately improve the living standard of the disadvantaged immigrant groups. Migration network have also attracted a lot attention of assimilation researchers, Granovetter (1974) proposed that stronger network ties will allow immigrants to have more intense social relations with their peers while Coleman (1988)

argued that networks can be regarded as tool in establishing productive social capital and social relations, which turn out facilitate assimilation. The aim of chapter 5 is to analyses the assimilation patterns of Chinese immigrants in the labour market of Hong Kong. The process of immigrant assimilation to the host country labour market has obtained a great extent of attention in economic literature. Economic assimilation is defined as the change of income differentials between similar background immigrants who has stayed longer periods of time and who has stayed shorter periods of time, in general, immigrants who stay longer in the host country is to be expected to have a better living standard as their life style converge to those natives once they adapt their skills to the ones demanded in the host country. Section 5.2 summarizes the literature regarding assimilation empirical results.

2.3.7 Human Capital and Languages Acquisition

Economics assimilation of migrant workers has attracted a huge amount of theoretical and empirical research which concludes the earnings of immigrants assimilate to those of native counterpart workers over their years of residence, this conclusion generally attribute to the accumulation of the host country specific human capital, including labour market information and language skills. Language skills in immigrants' mother tongue are developed when young, however, immigrants are always to learn language capital relevant for the host country, the learning process can be very costly and does not appear to be an effortless process when this language differs sharply from the mother tongue. Chiswick and Miller (1995) called this process as "Linguistic adjustment". The author employs language skills as a stepping stone in order

to understand a new assimilation process in Hong Kong. Previous research studies in this area are twofold, one is about the determinants of investing in host country-specific language skills, the other is related to the effect of possessing host country-specific language skills on immigrants' earnings, both theoretical and empirical studies have been conducted extensively for the United States labour market. However, this empirical studies for China-Hong Kong migration is very rare and inadequate, chapter 6 aims to supplement the existing literature in this regard. In the economic literature, two research questions related to language of immigrants have attracted the attention of researchers, the first question is about the determinants of language proficiency of migrants and the second question is related to the relationship between fluency in the host country's dominant language and the labour market performance. Section 6.2 summarizes the literature in these two regards.

2.4 Conceptual Framework

Figure 2.1 shows the three different but related variables types for further investigation in later chapters. The first type of variable is called independent variable, it is a variable that manipulated by the author and thereby causing an effect or change on the dependent variable, in the thesis, independent variables consist of, firstly, the standard human capital determinants, such as years of schooling and work experience; secondly, the year of duration which measure the number of years of residence for immigrants since migration, it is employed for testing assimilation hypothesis; thirdly, language ability, it allows the author to test if Chinese immigrants possess certain specific

language could alleviate their earning disadvantage against natives. The second type of variable is called moderating variable, it is a second independent variable that believed to have a significant contributory or contingent effect on the originally stated relationship between independent variables and dependent variable. In the thesis, four variables are employed as moderating variables, namely, gender; marital status; occupation and industry, there is a differential pattern of relationship between income and independent variables that result from gender, marital status, industry and occupational differences among Chinese immigrants. The third type of variable is called dependent variables, it is a variable measured, predicted, or otherwise monitored by the author and expected to be affected by a manipulation of the independent variable. Income is the only dependent variable that undertaken by the author in this thesis, income is expected to be affected by both independent variables as well as moderating variables. This conceptual framework is conceptually interlinking the concepts of assimilation, human capital and labour migration together, and this framework formulates various channels amongst variables that used for empirical testing in later chapters.

Figure 2.1   Conceptual Framework

Independent Variables		Moderate Variables	Dependent Variable
Standard Human Capital Determinants		Gender	Income
Years of Duration		Marital Status	
Language Ability	Cantonese	Occupation	
	English	Industry	
	Putonghua		
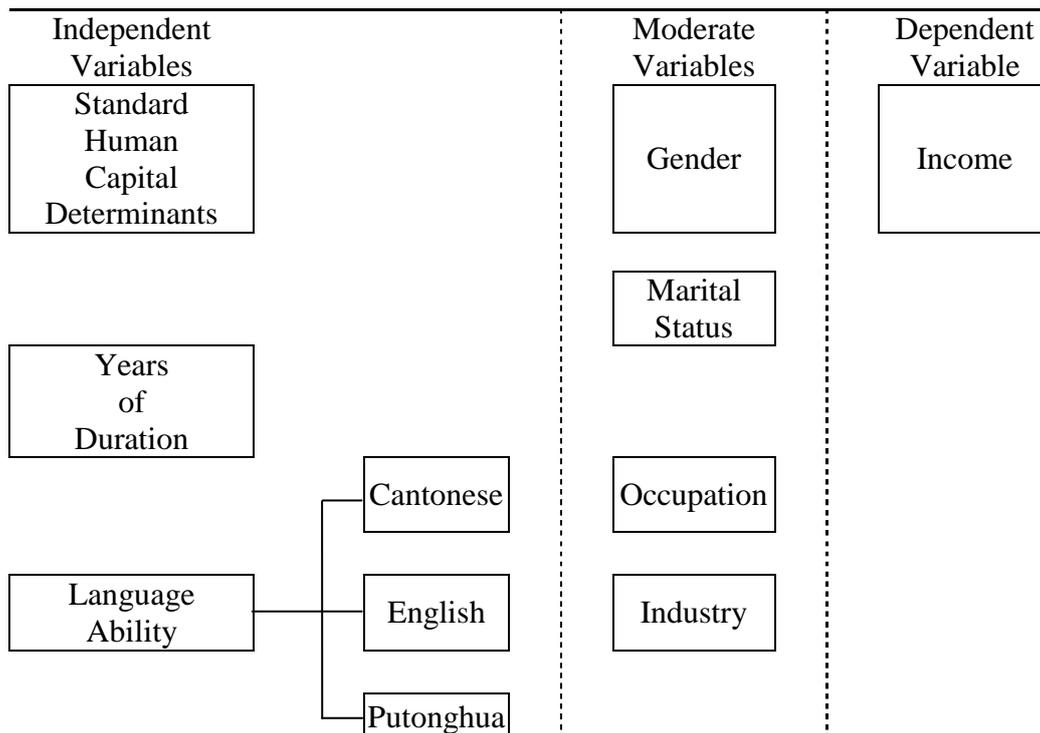
Source: Author

2.5 Conclusion

This chapter reviews various migration literature, including causes and consequences of labour migration as well as Hong Kong empirical results, the discourse about assimilation hypotheses and empirical analyses results have also been presented. In the final section, a conceptual framework has been constructed for further discussion and empirical studies in later chapters. The next chapter describes the distinct features of Hong Kong census data, socio-economic characteristics of Chinese immigrants and Hong Kong natives as well as Hong Kong immigration policies development in the last two decades.

CHAPTER 3

DATA DESCRIPTION - EXAMINING THE CHARACTERISTICS OF CHINESE IMMIGRANTS IN HONG KONG

3.1 Introduction

Chapter 2 reviews migration literature which consists of both theoretical and empirical causes and effects of migration. This chapter serves various purposes, it firstly introduces several recent Hong Kong immigration policies, and then discusses some misconceptions regarding immigration and economic outcomes, also gives an introduction to the datasets that will be employed for empirical modeling and analysis in chapter 5 and 6, finally discuss the profile of immigrants that reveal their quality changes over the last three decades. After the World War II, due to various economic or political reasons (discussed in section 1.4), there were large influxes of Chinese immigrants to Hong Kong. Chinese immigrants entered Hong Kong without entry visas and exit permits from the Chinese authorities, strictly speaking, they were mostly illegal immigrants. Before 1974, Hong Kong admitted all entrants regardless of their resident status, but it changed to what is known as the "touch-base" policy in 1974 which all entrants were granted a temporary right to stay and work in Hong Kong as long as they were able to reach an urban area and successfully found an accommodation, otherwise, the police repatriated those who were caught. "Touch-base" policy was used until 1980 which caused a

drastic reduction in immigration flow. As immigrants from China are treated as legal immigrants when they entered Hong Kong with exit permits issued by the Chinese authorities since 1980, most Chinese immigrants were dependants of Hong Kong residents mainly comprising of children and spouses (ISS-HK 1997), until now, Hong Kong would officially receive only 150 legal immigrants daily from China, preference will be granted to those with "family-reunion"[1] purpose, Table 3.1 shows the changes of the quota system for Chinese immigrants. An "immediate-repatriate" policy has been used for all illegal immigrants. As of 2006, about 54,000 mainlanders joined their families in Hong Kong under the One-way Permit Scheme, which admits 150 mainlanders each day.

Table 3.1 Changes in the quota for Chinese immigrants

Year	Quota	Remarks for additional quota
1983	75	
Nov 1993	105	An increase of 30 quota
		- 15 for eligible minors aged under 21
		- 15 for the spouse
Jul 1995	150	A further increase of 45 quota
		- 30 for children aged 0-5 and 15-20
		- 15 for spouse having split for over 10 years
1996	unchanged	Age limit of children among the 30 quota was waived

Source: Reproduce the Table 1 of ISS-HK (1997), page 5

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[1] Strictly speaking, before 1980, Chinese immigrants came to Hong Kong can also be regarded as family reunion but these families include relatives. Most Hong Kong people with relatives in China supported and sympathized Chinese immigrants since most of these Chinese immigrants are their family members.

In last two decades, the population of Hong Kong increased from 5.18 million to 6.86 million. The increase of 1.67 million constituted an average growth rate of 1.1 percent per annum. In the early 1980's annual growth rates exceeded 1.5 percent was mainly attributable to high level of entrants from mainland China. From the mid-1980's to early 1990's, population recorded was lower mainly because of the large emigration. While the population resumption happened from 1993 to 1996, as many emigrants returned (return migrants) to Hong Kong, Ley and Kobayashi (2005) found that most emigrants returned to Hong Kong due to economic reasons. In 2003, due to the outbreak of the Severe Acute Respiratory Syndrome, population growth rate was only negative 0.2 percent, except this special case in 2003, the population growth remained steady at a low level.

Table 3.2   Place of Birth (%)

Year	Hong Kong	China	Elsewhere
1981	57.6	39.3	3.0
1986	59.1	36.3	4.6
1991	59.9	34.0	6.2
1996	60.0	32.6	7.3
2001	59.3	33.2	7.5
2006	60.1	32.6	7.2

Notes:

(1) China includes Macau in 1981 census

(2) China includes Taiwan in all censuses

Table 3.2 shows the proportion of three different groups of people in Hong Kong, namely, Hong Kong natives, Chinese immigrants and elsewhere migrants, after the abolishment of "touch-based" policy in 1981, the percentages of Hong Kong natives and Chinese immigrants in 1981 were 57.6 percent and 39.3 percent respectively. From 1981 to 2006, it is quite obvious that the proportion of Chinese immigrants was declining a bit while the proportion of "elsewhere" was increasing. According to 2006 Hong Kong census results, 32.6 percent of Hong Kong population was Chinese immigrants, only 60.1 percent are natives. On average, almost 40 percent of Hong Kong's population born outside Hong Kong. The proportion of Hong Kong natives always forms the largest group that remained effectively around 57% to 60% between 1981 and 2006. Concurrently, there was a slight decrease in Chinese immigrants' population proportion, from 39.3 percent to 32.6 percent. The moderate change in the place-of-birth proportions over the last 25 years can be explained by the large inflow from China in pre-1980 period. In terms of population size, even there has been a moderate declining trend of Chinese immigrants' population proportion, but the proportion is still substantially higher than other ethnicities, these numbers imply the importance of Chinese immigrants in Hong Kong economy. Moreover, the data reflects Hong Kong is a society of immigrants and no longer only attracting Chinese immigrants, there are more immigrants comes from foreign countries other than China, it reflects Hong Kong is globalizing in terms of ethnicity.

Hong Kong was handed over to the People's Republic of China on 1st July

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1997 and experienced Asian financial crisis in 1998, since then, Hong Kong economy has been restructuring for a decade (Li 2006). More importantly, Hong Kong is moving towards a knowledge-based and high value-added economy supported by high-skilled workforce, its economic competitiveness hinges much on if it can attract talents to live and work in Hong Kong, thus Hong Kong government have proposed three new immigration schemes to attract mainland and overseas talents since 2003. It is reasonable to believe that intertemporal shift in the demand for skill caused by economic restructuring and integration in Hong Kong has a differential impact not only on prices of different levels of skill, but also on prices of skills from different sources (Lam and Liu 2002a). In this chapter, six Hong Kong censuses data will be used to examine if the characteristics of Chinese immigrants in Hong Kong after 1997 have been changed or not.

The chapter is structured as follows. Section 3.1 introduces the immigration background of Chinese immigrants while pre-1997 and post-1997 Hong Kong immigration policy developments will be discussed in Section 3.2. Section 3.3 clarifies several misconceptions regarding immigration policy and economic outcomes. Section 3.4 is a review of data sources. Section 3.5 discusses Chinese immigrants' characteristics. Section 3.6 concludes.

3.2 Pre-1997 and Post-1997 Hong Kong Immigration Policy Development

3.2.1   Quality Migrant Admission Scheme

Hong Kong Immigration Department have adopted a new admission scheme since 28 June 2006, called Quality Migrant Admission Scheme, which aims to

attract highly skilled or talented persons from the Mainland and overseas to settle in Hong Kong, this is expected to enhance Hong Kong's overall economic competitiveness in the globalizing market. The scheme is quota-base and operates on a points-based system, applicants can successfully be granted residency in Hong Kong even without an offer of local employment, under the prevailing dependent policy, their dependent spouse as well as unmarried children below the age of 18 can also be brought under this scheme. Despite a secure job offer is not a prerequisite, all applicants are required to satisfy a set of conditions before they can be awarded points under one of the two points-based tests, namely 'General Points Test' and 'Achievement-based Points Test', in order to compete for admission quota with other applicants.

There are five point-scoring factors being considered in General Points Test, these factors include age, academic or professional qualifications, work experience, language proficiency and family background. A minimum passing threshold will be set and may be revised whenever necessary. While 'Achievement-based Points Test' is provided for individuals who have outstanding achievements which have been acknowledged by their peers or have contributed significantly to the development of their field, achievements such as Olympic medals, Nobel prize and other national and international awards are being considered and always awarded a maximum marks, no points will be awarded otherwise. Several amendments have been made since 15 January 2008, such as lifting the upper age limit of 50, adjusting the marking scheme and reshuffling the stay extension requirement for immigrants admitted through the 'Achievement-based Points Test'.

Under the 'General Points Test', those applicants who fulfill both the prerequisites and the minimum passing threshold are ranked according to points awarded, high-scoring applicants will be shortlisted for further assessment by a non-statutory Advisory Committee appointed by the Hong Kong SAR Chief Executive. Under the 'Achievement-based Points Test', those applicants who satisfy the prerequisites would be forwarded for further discussion by the Advisory Committee. Successful applicants are normally granted an initial stay of twelve months, before the extension of stay is granted, entrants should demonstrate that they have taken steps to settle in Hong Kong such as securing employment or starting a business at the end of initial stay period. As at 31 March 2008, there are 398 quotas allocated to applicants.

3.2.2   Capital Investment Entrant Scheme

The Capital Investment Entrant Scheme was launched in October 2003, which aims to facilitate the entry for residence by capital investment entrants, this capital investment means that any person who make capital investment of not less than HKD 6.5 million in permissible investment assets in Hong Kong but would not be engaged, permissible investment assets include real estate and financial assets. For real estate investment, the entrant may invest in commercial, industrial or residential properties and no limitation is imposed on the number of properties bought for the purpose of the scheme; for financial assets investment, the entrants may invest in one or a combination of

financial assets which comprise of equities, debt securities, certificates of deposits, subordinated debt and a list of eligible collective investment schemes. Entrants are normally allowed to make their investments choice amongst permissible investment assets without the need to start or join in a business.

Table 3.3 and 3.4 indicate that as of 30 September 2010, the total amount of investment under this scheme is HKD 57.82 billion, 14102 entrant applications were approved, include 8154 for formal approval and 1229 for approval-in-principle, on average, there is around HKD 7 million per formal approval. When approval-in-principle is granted to an entrant, he or she will be initially allowed to enter Hong Kong on visitor status for three months, the visitor status can be extended if active investment progress is evident, formal approval will be granted if the entrant has furnished proof that the requisite investment level has been made. The likelihood to succeed depends upon the assets declared are truly permissible, statistics shows that only 8154 formal approval out of 14102 entrant applications are granted, that means 57.82 percent of them is successful applications. Noted that 14102 entrant applications are together with 25666 related dependant applications, on average, 1.82 dependents per application, dependents are mostly the spouse and unmarried children aged under 18. Table 3.3 shows the largest group of applicants under capital investment entrant scheme is Chinese nationals with permanent residence overseas, most of them (around 67 percent) invest in specific financial assets, around 33 percent of applicants are investing in real estate. To enhance Hong Kong's edge in attracting professionals and investors, with effect from 15 May 2006, dependants of persons admitted into Hong

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Kong for employment as professionals or as entrants under the Capital Investment Entrant Scheme are no longer required to obtain permission from the Director of Immigration before taking up employment in Hong Kong. However, this change is not applicable to dependants of persons admitted studying in Hong Kong, who will still need to obtain prior permission to work. The Hong Kong government announced on 13 October 2010, with effect from 14 October 2010, that the threshold of investment for admission to Hong Kong is raised from HKD 6.5 million to HKD 10 million and real estate is temporarily suspended as a class of Permissible Investment Assets under this scheme.

Table 3.3 Breakdown of the Applicants under Capital Investment Entrant Scheme

As at 30 September 2010

	Received	%	Approval-in-principle granted	%	Formal Approval granted	%
Foreign nationals	2046	14.51	123	10.01	1078	13.22
Macao SAR residents	335	2.38	16	1.3	215	2.64
Chinese nationals with permanent residence overseas	11240	79.71	1075	87.47	6570	80.57
Stateless persons with permanent residence in a foreign country	3	0.04	0	0.00	3	0.04
Taiwan residents	478	3.39	15	1.22	288	3.53
Total	14102		1229		8154	

Source: Hong Kong Immigration Department

Table 3.4 Breakdown of Investment Classes in Formal Approval Cases

As at 30 September 2010

	Value (million)	%
Real Estate	18967.96	32.80
Specific Financial Assets	38854.46	67.20
Total	57822.42	

Source: Hong Kong Immigration Department

3.2.3   Mainland Talents and Professional Admission

Admission Scheme for Mainland Talents and Professionals, was designed for Mainlanders which implemented in July 2003. The purpose of this scheme is to attract qualified Mainland talent and professionals to work in Hong Kong in order to accommodate local human resources demand and enhance Hong Kong's overall competitiveness in the globalizing market. This scheme allows intra-company reallocation of senior managers and professionals and has no sectoral restrictions. It also provides for the entry of talent and professionals in the arts, culture and sports sectors as well as those in the culinary profession so as to enhance Hong Kong's status as Asia's world city. As at 31 March 2008, 21697 talent and professionals were admitted under this scheme.

3.2.4   Individual Visit Scheme for Mainland Residents

Tourism sector has become one of the most important sectors to Hong Kong economy since 1980 but it was also the harshest sector during the Severe Acute Respiratory Syndrome (SARS) outbreak,   as the outbreak of the

Severe Acute Respiratory Syndrome (SARS) led to a severe economic downturn in Hong Kong, the Chinese government permitted Hong Kong Special Administrative Region government adopted a new admission scheme, so called 'Individual Visit Scheme', in which residents of all of the 21 cities in the Guangdong Province and 28 other cities are allowed to visit Hong Kong on an individual basis in July 2003. Until 31 January 2007, these cities consist of Beijing, Shanghai, Tianjin, Chongqing, Nanjing, Suzhou, Wuxi, Hangzhou, Ningbo, Taizhou, Fuzhou, Xiamen, Quanzhou, Chengdu, Jinan, Shenyang, Dalian, Nanchang, Changsha, Nanning, Haikou, Guiyang, Kunming, Shijiazhuang, Zhengzhou, Changchun, Hefei and Wuhan. Individual visitors from the Mainland are permitted to stay in Hong Kong for a period of not more than seven days upon each entry. This arrangement benefits not only Hong Kong tourism, but also retail and other related industries. Lo and Ng (2007) argues that Individual Visit Scheme is a step for China to move forward to regionalism in which a conceptual framework to formalize regional trade by forming trading bloc with preferential trade agreements.

3.2.5   Overseas Chinese Professionals Scheme

Highly skilled and talents overseas Chinese professionals are a valuable asset to Hong Kong economy, since September 1990, an immigration policy called Oversea Chinese Professionals Scheme has been adopted whereby Mainland residents residing overseas would be permitted to come to Hong Kong for employment provided that they apply from overseas and have been residing overseas for at least two years immediately before the submission of application. In the interest of Hong Kong's economic development, the

overseas residential requirement for these overseas Chinese entering Hong Kong to take up employment has been relaxed, with effect from 1 November 2000, the residential requirement period was shorten from at least two years to one year. From November 2000 to March 2008, there are 2121 overseas Chinese professionals were admitted to work in Hong Kong under this policy.

3.2.6   Immigration Arrangements for Non-local Graduates

Immigration arrangement for non-local graduates aims to retain the outstanding non-local graduates, especially mainland students who graduated from educational institutions in Hong Kong, this arrangement was effective from 1 August 2001. Under this policy, degree or above level Mainland students graduated from University Grants Committee (UGC)-funded institutions in 1990 or afterwards with job offers may be allowed to re-enter Hong Kong for employment. This policy is expected to enhance Hong Kong's competitiveness in the knowledge-based and globalizing economy. As at 31March 2008, 1821 Mainland students were admitted. This arrangement has been superseded by the 'Immigration Arrangements for Non-local Graduates' (IANG) in which a broader definition of non-local graduates is used, the new arrangement has been implemented on 19 May 2008 which served as a new effort to attract non-local graduates to stay or return and work in Hong Kong so as to strengthen Hong Kong's human resources and competitiveness and enhance Hong Kong's attractiveness to non-local students.

Under the new arrangement, non-local graduates refer to persons from outside Hong Kong who have obtained a degree or higher qualification in a full-time and locally-accredited programme in Hong Kong, that means non-local graduates from both University Grants Committee (UGC)-funded institutions and Non University Grants Committee (Non-UGC)-funded institutions are qualified to apply for admission under the new arrangement. Those who apply to stay and work in Hong Kong within six months after the date shown on their graduation certificates are classified as non-local fresh graduates. They are not required to secure an offer of employment upon application. Returning non-local graduates are those who submit applications after six months of the date shown on their graduation certificates, they are required to secure a job offer upon application. Their applications will be favorably considered so long as the job is at a level commonly taken up by degree holders and the remuneration package is set at the market level.

In general, successful applicants under the IANG who are able to meet the normal immigration requirements are granted twelve months' stay on time limitation without other conditions of stay. During their permitted stay, they are free to take up and change employment without the need to seek prior approval from the Immigration Department. Under the prevailing dependant policy, successful applicants may apply to bring in their spouse and unmarried dependent children under the age of 18 to Hong Kong for residence.

3.2.7   Imported Workers

The Supplementary Labour Scheme was introduced in 1996 which aims to alleviate the labour shortage problem in Hong Kong, the scheme is implemented on a limited scale by filling vacancies which could not be filled by local workers. It is monitored by a Labour Advisory Board which consists of representatives from labour unions and employers. As at 31 March 2008, 14023 workers had been admitted under this scheme and 1229 of them were still in Hong Kong. The employment contracts are normally valid for a maximum period of two years and the normal initial stay period granted to imported workers is twelve months, imported workers are required to return to their places of origin on completion of their employment contracts.

3.2.8 Entry of Dependants

Stark (1991) emphasizes collective migration decisions and theorizes migration decision on a household basis rather than on an individual basis, Stark's thesis is regarded as new economics of labour migration. Tied migrants probably include dependent family members, which can be categorized into three groups: (1) dependent spouse; (2) unmarried dependent children under 18 years of age; (3) dependent parents aged 60 or above. It is necessary to consider not only the qualifications and background of applicants, but also whether applicants are able to support the dependants' living at a standard well above the subsistence level and provide them with suitable accommodation in Hong Kong, as such, the dependants will not become a charge on public funds,

thus dependency is always an essential element of the policy on entry of dependants. Sponsors of dependents include Hong Kong permanent residents, non-permanent residents comprise entrants under the Capital Investment Entrant Scheme or the Quality Migrant Admission Scheme, entrants who are not admitted as foreign domestic helpers or imported workers under the importation of labour scheme and full-time students in tertiary educational institutions. From April 2007 to March 2008, 20593 dependant visas were issued. For Mainland residents who have been admitted into Hong Kong to work or take up full-time tertiary study under the various schemes or arrangements catering for Mainland residents, their dependent spouses and unmarried dependent children under the age of 18 may apply for entry for residence in Hong Kong as dependants. In total, there are 1638 dependant entry permits or visas under this category were issued in 2007-2008. As such, it is essential to differentiate the assimilation rate of immigrants with different marital status.

3.2.9 Conclusion Remarks

Hong Kong government focuses on attracting the most talented and wealthy people over the world, in particular, Chinese immigrants, it aims to enhance Hong Kong's overall competitiveness in the globalizing market. Table 3.3 shows a large proportion of immigrants under Capital Investment Entrant Scheme is Chinese immigrants as well. Table 3.5 summarizes the basic information of current Hong Kong immigration policies; After 1997 handover, Chinese immigrant is the 'core' target group in Mainland Talents and

Professionals Admission Scheme, Individual Visit Scheme for Mainland Residents and Immigration Arrangements for Non-local Graduates.

Table 3.5 Summary of Hong Kong Immigration Policies

Immigration Scheme	Time	Aims	Target Immigrants
Supplementary Labour Scheme	1996	To alleviate the labour shortage problem	Non-local labors
Immigration Arrangements for Non-local Graduates	August 2001	To retain the outstanding Mainland students who graduated from University Grants Committee (UGC)-funded institutions in Hong Kong	Mainland graduates
Individual Visit Scheme for Mainland Residents	July 2003	To facilitate the recovery of Hong Kong tourism, retail and other related industries	Mainland residents of 21 cities in the Guangdong Province and 28 other cities
Mainland Talents and Professionals Admission	July 2003	To attract qualified Mainland talent and professionals to work in Hong Kong	Mainland highly skilled or talented persons

Scheme			
Capital Investment Entrant Scheme	October 2003	To facilitate the entry for residence by capital investment entrants	Non-local wealthy persons
Quality Migrant Admission Scheme	June 2006	To attract highly skilled or talented persons from the Mainland and overseas to settle in Hong Kong	Non-local highly skilled or talented persons
New Immigration Arrangements for Non-local Graduates	May 2008	To retain the outstanding non-local students (includes Mainland students) who graduated from locally-accredited full time programme	Non-local (includes Mainland) graduates

3.3 Immigration Policy and Economic Outcomes

In theory, the effects of immigration on labour market cannot be determined unilaterally and directly if we differentiate labors into different categories, such as by different kinds and levels of skills they acquired, properly the most controversial impact of immigration on labour market is its effect on host country employment, in particular the low skilled domestic labour employment. In the labour market, firm owners create demand for labour, but not all types of labour are equally welcomed by firm owners. For

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instance, when there is only one job vacancy, and there are ten job candidates, the outcome is the firm owner would grant the job offer to the most suitable[2] candidate. In general, overapplication (i.e. the number of job applicants is more than job vacancies) always exists in filling job opportunity, this overapplication can possibly be reinforced by foreign workers, not necessarily solely determined by domestic workers, that is why ordinary people argue that immigrants would directly compete with local workers in labour supply side. However, this argument is only partially correct as we learn from basic economics model, demand and supply model, that is if the labour supply curve shifts rightward by the amount of X (let's assume X is the amount of foreign workers), holding other things being constant, Figure 3.1 shows that the equilibrium labour quantity (labour employed) would not increase by the same amount of supply change (X), in theory, unless the wage elasticity of supply is perfectly inelastic, otherwise, the equilibrium labour employed quantity would increase (L** minus L*) by less than X, and the corresponding equilibrium wage would be lower than the original wage level.

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[2] 'Suitable' involves both objective and subjective criterion which are not going to be discussed in this chapter.

Figure 3.1 The Effect of Immigrant on Real Wages and Employment
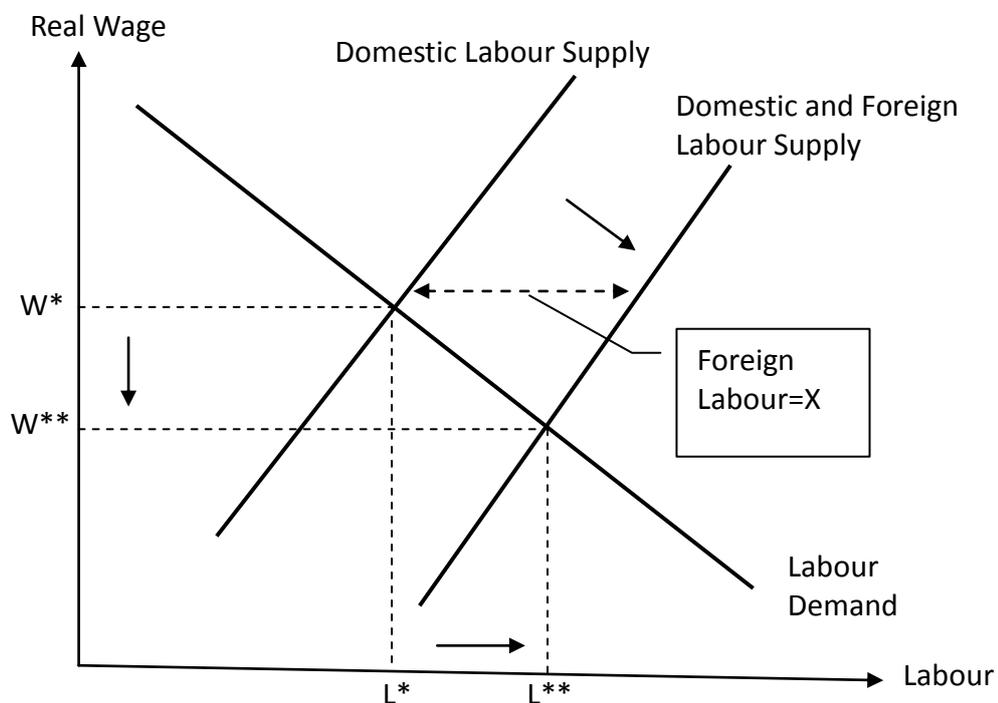
Using a simple mathematical approach, it is not hard to show the change in employment level is less than the change of foreign labour, X.

Labour Demand

$$Ld = \alpha - \beta w$$

$$\alpha > 0; \beta > 0$$

Domestic Labour Supply

$$Ls = \gamma + \delta w$$

$$\Gamma > 0; \delta > 0$$

Domestic and Foreign Labour Supply (X)

$$L_s^N = \gamma + X + \delta w$$

$$X > 0$$

Without immigration, at equilibrium:

$$Ld = Ls$$

$$\alpha - \beta w = \gamma + \delta w$$

$$w^* = \frac{\alpha - \gamma}{\beta + \delta}$$

$$L^* = \alpha - \beta\left(\frac{\alpha - \gamma}{\beta + \delta}\right)$$

Thus, equilibrium employment level:

$$L^* = \alpha - \frac{\beta\alpha}{\beta + \delta} + \frac{\beta\gamma}{\beta + \delta}$$

With immigration, at equilibrium:

$$Ld = L_S^N$$

$$\alpha - \beta w = \gamma + X + \delta w$$

$$w^{**} = \frac{\alpha - \gamma - X}{\beta + \delta}$$

$$L^{**} = \alpha - \beta\left(\frac{\alpha - \gamma - X}{\beta + \delta}\right)$$

Thus, new equilibrium employment level:

$$L^{**} = \alpha - \frac{\beta\alpha}{\beta + \delta} + \frac{\beta\gamma}{\beta + \delta} + \frac{\beta X}{\beta + \delta}$$

<u>Change in employment level:</u>

$$L^{**} - L^* = \left(\alpha - \frac{\beta\alpha}{\beta + \delta} + \frac{\beta\gamma}{\beta + \delta} + \frac{\beta X}{\beta + \delta}\right) - \left(\alpha - \frac{\beta\alpha}{\beta + \delta} + \frac{\beta\gamma}{\beta + \delta}\right) = \frac{\beta X}{\beta + \delta}$$

$$= \left(\frac{\beta}{\beta + \delta}\right) X < X$$

However, the graphical analysis and mathematical exercise above contain some misconceptions as it disregards some important points which are essential to understand the impact of immigrations on labour market as well as economic development. There are four important points: Firstly, it is not necessary that all immigrants (foreign workers) can obtain a job offer in the destination country, as even the change in equilibrium labour quantity (the marginal employment) is all for immigrants, there are still some of them being unemployed, those successful immigrants may not necessarily a 'substitute' to all local workers, they can be a 'complement' either. If immigrant labour is a substitute for domestic labour, it implies there exists a direct competition of job between immigrants and domestic labour, by contrast, if immigrant labour is a complement to domestic labour, then larger supply of immigrant labour would create larger demand of domestic labour. Thus the implication of immigration on labour market depends upon the characteristics (possibly the skills level as well as attitudes) of local workers and immigrants. Secondly, in general, the employers desire to hire the most 'suitable' candidate, even if immigration does not exist, it does not imply that those local workers become a 'suitable' candidate automatically. In fact, if the job is not urgently required, some employers may choose to frozen the vacancy until 'suitable' candidate apply this job, this practice often happen in firms where permanent job tenure

is given to employees once they perform satisfactorily during the probation period, this kind of firm also finds it difficult to fire those employees who are not performing well after probation period, employers tend to play safe and intend to frozen the job vacancy until suitable applicants appear. Thus, the labour market outcome is inevitably and undeniably related to the job matching issue rather than just simply substitution effect, also again, the effect of immigration on labour market depends upon the characteristics of immigrants. Thirdly, from both graphical and mathematical approach, the wage level after immigration is lower than the original level. Generally speaking, whenever product or factor supply increases, its price will decrease accordingly, other things being equal. However, this conclusion may not fully reflect the reality as this theoretical result simply assume labours are homogeneous, as mentioned before, labours can be substitute as well as a complement with each other, it can be the case that increasing supply of foreign labour X which is a complement to domestic labour, thus induce a demand for domestic labour, in practice, this foreign labour X is mostly the high-skilled labour. In short, simply assuming other factors remain constant and only one type of labour exist in the labour market may over-simplify the true picture which ultimately weaken the explanatory and predictive power of the theory. Lastly, quality migrants come to Hong Kong may not necessary provide their labours, some of them may start their own business, if it is the case, immigrations affect demand side instead of supply side of labour market. In other words, immigrants may not pull down the wage, but uphold the wage level, thus the overall labour market outcome all depends on immigrants' quality.

In short, immigrants are not necessary bringing adverse effects on local labour market, as it all depends on the characteristics and quality of immigrants comparative to local labours. In effect, the free market model may not be an appropriate tool for analyzing the impact of migration towards labour market. One constraint of free market model is its implicit assumption on the homogeneity of labour supply and demand. In the labour supply side, the presence of different labour qualities would not allow only one labour supply curve exists, rather, different shape and elasticity of supply should be used in order to accommodate different labour qualities. In the labour demand side, the hiring decision is basically determined by firm owner, if there exist a discrimination against immigrants, it is not sensible to only using one demand curve, again, there should be more than one demand curve in the analysis, and each demand curve can only represents one kind of consumption preference towards labour. As such, the constraint of free market model is obviously exist and its applicability to understanding assimilation is somewhat limit. Migration is always not unregulated while the impact of border constraints on free migration models is the bias towards migrants who are self-selected. Before 1980, Chinese immigrants were mainly economic migrants, they came to Hong Kong to search a better economic opportunities, their assimilation rate is expected to be higher and the impact towards labour market outcomes are also expected to be different as if they were not coming to Hong Kong for better job opportunities, such as those came to Hong Kong for family reunion. Thus, simply using basic demand and supply model may bias the assimilation results as all different kinds of Chinese immigrants are mixed in the analysis.

Moreover, simple demand and supply model always involves an identification problem in econometrics analysis, for example, in theory, linear labour supply and demand model specify an inverse relation between wage level and labour demand and positive relation between wage level and labour supply, however, when the author observes the data on wage level, immigrant flow, employment rate. Unfortunately, this is not sufficient to identify the two demand and supply equations using regression analysis on observation on wage level and employment, that is, we cannot estimate a downward sloping and an upward sloping with one linear regression line involving only two variables, thus, additional variables are needed in order to identify the individual relations. Figure 3.1 shows the labour demand depends on wage while the labour supply depends on the wage level and also on some additional variable X. This X variable might be the immigration policy change that allows specific kind of immigrants migrates to the host country, such as Quality Migrant Scheme that may shifts the labour supply curves rightwards. Other things being constant, the observations on employment and wage level are like the two equilibrium points in the graph which reveal the demand curve, hence, the effect of X on the labour supply makes it possible to identify the negative slope of the labour demand equation, but the positive slope parameter of the labour supply curve cannot be identified in this case. On the other hand, in figure 3.2, the labour supply depends on the wage while the labour demand depends on the wage level and also on some additional variable Y. This Y might be the skills and social networks of Chinese immigrants, with higher skills and/or better social networks shifting the labour demand curves rightwards. Other things being

constant, the observations on employment and wage level are like the two equilibrium points in the graph which reveal the supply curve, hence, the effect of Y on the labour demand makes it possible to identify the positive slope of the labour supply equation, however, the negative slope parameter of the labour demand curve cannot be identified in this case. In other words, the parameters of a demand and supply equations can be identified if it is known that some variable does not enter into the equation, while it does enter the other equation. These additional variables (X and Y) include socio-economic characteristics of immigrants, industry, occupation…, which are being taken into account in assimilation analysis in chapter 5 and 6. After clarifying several misconceptions, the following section (section 3.4) presents the main data sources employed for the empirical studies in chapter 5 and 6.

Figure 3.2 The Effect of Change in Labor Demand on Real Wages and Employment
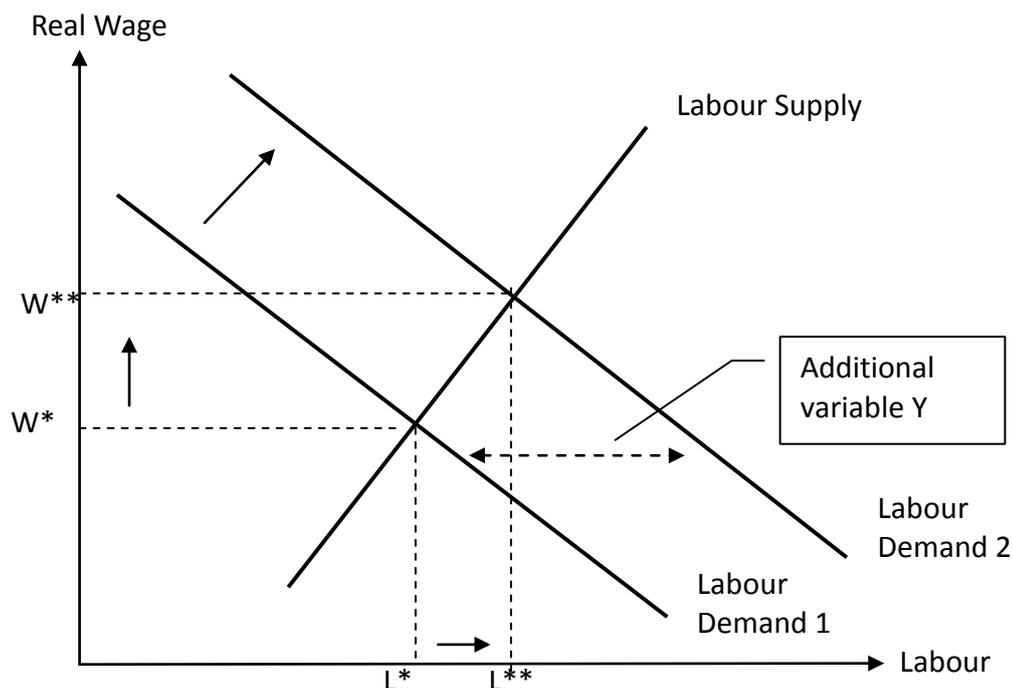
3.4 Chinese Immigrants Characteristics

In this section, all statistical results are generated by using the 1981, 1986, 1991, 1996, 2001 and 2006 Hong Kong census data, the details of these censuses are discussed in section 1.6.

3.4.1 Gender

Table 3.6   Gender (By place of birth)

	Male		Female	
	Place of birth		Place of birth	
	HK	China	HK	China
1981	58.40	41.60	60.70	39.30
1986	61.40	38.60	62.60	37.40
1991	63.70	36.30	64.00	36.00
1996	65.00	35.00	64.60	35.40
2001	65.30	34.70	63.20	36.80
2006	67.00	33.00	63.00	37.00

According to Table 3.6, in the last decade, more than 60 percent of males are Hong Kong native, less than 40 percent of males are Chinese immigrant. Overall speaking, the male proportion of Hong Kong natives is higher than Chinese immigrants. A similar pattern occurs for female while 60 percent of Hong Kong female is natives, and not more than 40 percent of female come from China. The trends for both Chinese immigrants male and female proportions are declining, and the reduction magnitude is much greater for

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male than female.

Table 3.7　　Place of birth (by gender)

	HK		China	
	Male	Female	Male	Female
1981	50.90	49.10	53.30	46.70
1986	51.70	48.30	53.00	47.00
1991	51.40	48.60	51.70	48.30
1996	51.10	48.90	50.60	49.40
2001	51.00	49.00	48.80	51.20
2006	50.70	49.30	46.30	53.70

In Table 3.7, we can see some effects of "touch-base" policy abolishment. For those Hong Kong natives, the gender proportion is around fifty-fifty and steady; while a more obvious and significant change in gender proportion occurs for Chinese immigrants, for instance, as of 1996, the proportion for male was larger than female, but this trend has been changing conversely since 1996, it seems that the trend will persistent in the future. One possible reason for this phenomenon is that at the earlier time, most Chinese immigrants were male, they were self-selected and came to Hong Kong due to economic and political reasons after the abolishment of "touch-based" policy, Chinese immigrants without valid and official visa were disallowed to enter Hong Kong, people with family reunion purpose have a higher chance to be offered a One-way immigration visa, thus a large proportion of these people are

female. In line with the higher women labour participation rate, the contribution of Chinese immigrant to Hong Kong economy should still be situating at a critical level and should not be understated.

3.4.2   Age Group

Table 3.8 indicates that in 1981 and 1986, most Hong Kong natives (over 85 percent in 1981 and over 77 percent in 1986) were aged under 30. In contrast, most Chinese immigrants were aged above 30, more than 75 percent of Chinese immigrants were aged above 30 in both 1981 and 1986. Around half of Chinese immigrants are aged between 30 and 60, and more than 25 percent of them are over the retirement age 60.

Table 3.8   Age Group (%)

	Place of Birth	0-10	11-20	21-30	31-40	41-50	51-60	61-70	Over 70
1981	HK	28.50	32.00	24.60	7.10	3.70	2.20	1.20	0.60
	China	2.60	6.30	14.20	17.00	19.60	19.60	13.30	7.40
1986	HK	25.30	23.90	28.60	13.60	3.60	2.80	1.60	0.60
	China	1.80	5.90	11.40	17.30	17.50	20.40	15.80	9.90
1991	HK	23.20	20.80	24.60	19.70	5.70	3.30	1.80	0.90
	China	2.10	6.20	8.50	16.40	18.30	20.00	17.20	11.30
1996	HK	18.80	19.60	19.30	23.20	11.90	3.30	2.50	1.50
	China	2.50	5.20	9.30	15.60	18.60	16.50	18.20	14.10
2001	HK	16.20	18.20	17.50	21.50	16.80	5.10	2.80	1.80
	China	3.10	6.60	7.90	12.40	18.50	17.10	17.10	17.10

	HK	12.60	16.30	17.00	17.70	20.80	10.50	2.50	2.60
2006	China	2.80	7.60	7.20	12.90	17.40	17.80	14.90	19.40

In 1990s, there was more Hong Kong natives become middle aged while Chinese immigrants middle-age proportion is similar to that of 1980s. For the retirement population, 1991 and 1996 data show that around 30 and 5 percent of Chinese immigrants and Hong Kong natives had reached retirement age respectively. The experienced workers' age (around aged 30-60) proportions are around the same (almost 50 percent) for both Chinese immigrants and Hong Kong natives in 2001 and 2006. To conclude, the variability of age proportions is relatively higher in Chinese immigrant population than that of Hong Kong natives. Given that the working population composes of aged 20 to 60 and similar labour-participation rate between these two populations, the labour supply contribution of Chinese immigrants was comparatively higher than Hong Kong native in 1980s, for instance, almost 70% of Chinese immigrants are in the working population while Hong Kong native only contributes 37.6% of its population to labour market. However, this pattern did not persist and has been reversing over time, in 2006, 66% of Hong Kong natives are in the working population while only 55.3% of Chinese immigrants contribute to labour market, even so, Chinese immigrants' involvement in Hong Kong labour market is still highly significant.

3.4.3 Duration of Residence in Hong Kong

Table 3.9 Duration of Residence in Hong Kong (%) (by Place of birth)

	1991		1996		2001		2006	
Years	HK	China	HK	China	HK	China	HK	China
0-<5	10.00	7.00	8.80	8.30	6.80	10.60	5.20	7.70
5-<10	11.00	7.80	9.60	7.00	8.70	8.60	7.00	11.50
10 and over	78.90	85.10	81.50	84.70	84.50	80.70	88.00	80.80

With regard to the residence duration, Table 3.9 indicates a decreasing trend of Hong Kong natives with less than 10 years residence duration whereas an increasing trend occurs for Chinese immigrants. However, a reverse pattern can be observed for 10 years and over residence duration, this pattern is shown in Figure 3.3. The proportion of more than 10 years residence duration for Chinese immigrants is declining gradually. Due to the unavailability of data about return migrants who return from Hong Kong to China, the author cannot estimate the number of immigrants return home to China because of assimilation failure. However, one of the most critical incidents between these four censuses was the handover of Hong Kong to the People's Republic of China on 1st July 1997. Before 1997, many Hong Kong residents, including Chinese immigrants and Hong Kong natives suspected and predicted pessimistically to Hong Kong's prospect under Chinese government authority, in particular Chinese immigrants as they experienced the governance of Chinese government in 1960s and 1970s and eventually emigrated to Hong Kong, one possible reason for the change in proportions of 10 years and over is related to immigrants' desire to avoid Chinese government authority, some

of them did not regard Hong Kong as a permanent living place, and always ready for re-migration or return migration, some other immigrants stay and work in Hong Kong for a certain period of time, after saving sufficient amount of money, they planned to return to China where their families are rooted. In fact, Chinese immigrants have been observing the development of Chinese economy, what they found is a higher living standard and better institutional arrangement for entrepreneurs and employees, thus they are more intended to return to China after 1997, moreover, they have learned and accumulated management know-how in Hong Kong which prepare them to start a new business in China, these two possible reasons can partly explain a substantial reduction of 10 years and over residence duration of Chinese immigrants proportion after 1997. Immigrants who choose to stay in Hong Kong are those more willing to adapt the life in Hong Kong, thus, after controlling the immigrants' qualities change, assimilation hypothesis can be verified based on this logic and chapter 5 presents the empirical results.

Figure 3.3 10 Years and over Duration of Residence in Hong Kong (%)
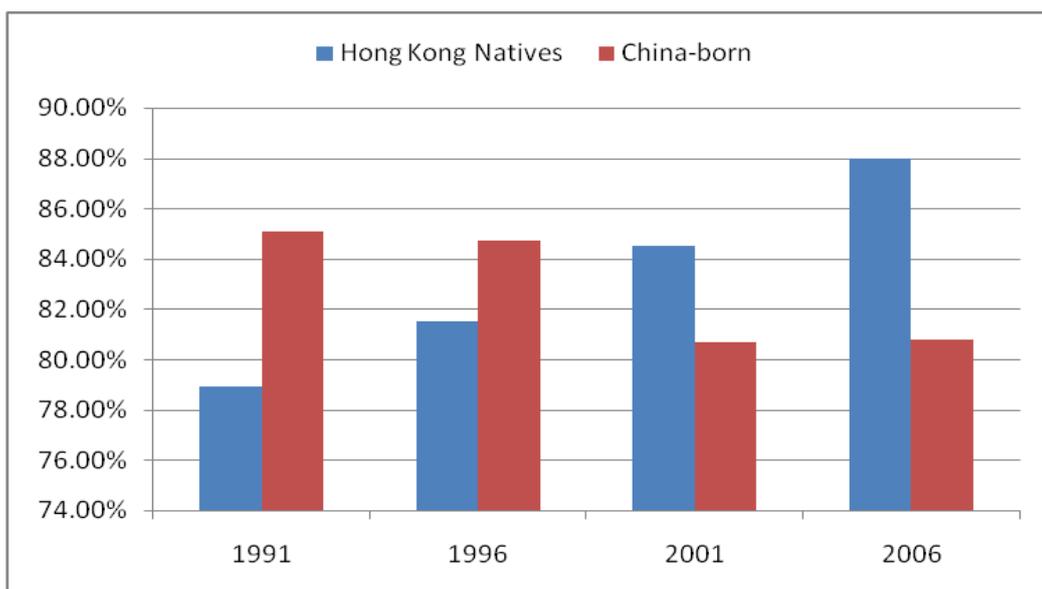
3.4.4 <u>Usual Language</u>

Table 3.10 Usual Language (%) (by Place of birth)

	1991		1996		2001		2006	
	HK	China	HK	China	HK	China	HK	China
Cantonese	97.80	81.40	89.90	82.40	98.40	83.50	97.60	87.20
Chinese Dialects	1.60	16.10	0.90	13.30	0.80	14.40	1.30	10.80
Putonghua	0.10	2.30	0.20	2.90	0.10	1.90	0.30	1.70
English	0.40	0.10	0.50	0.20	0.50	0.10	0.70	0.20
Others	0.10	0.10	0.10	0.20	0.10	0.10	0.40	0.10

Notes:

(a) Cantonese includes the Tan Ka dialect

(b) Chinese Dialects include Chiu Chau, Sze Yap (San Wui, Hoi Ping, Yan Ping, Toi Shan), Hakka, Fukien (including Taiwanese), Shanghainese.

(c) Others include Japanese, Pilipino, Hindi (India), Bengali (Pakistan and Bangladesh)

Table 3.10 shows that the most usual language used by Hong Kong natives and Chinese immigrants is Cantonese, around 13 percent of Chinese immigrants are using Chinese dialects and 1 to 3 percent of them using Putonghua. Obviously, there are more Chinese immigrants use Chinese dialects and Putonghua than Hong Kong natives, this finding is similar to the results in Table 4.4 and Table 4.6. One possible corollary of language skills on China economic development is that, as China is moving towards a market-based and open economy, such a strong potential demand attract many

multinational firms attempt to enter China market, Putonghua is a common language used in China, businessmen may not be able to obtain a successful business without using Putonghua, this factor may somewhat contribute to a better life for Chinese immigrants as their language skills become more valuable, for example, after 2003, many Chinese immigrants are hired as a tour guide for "individual walk" tourists (tourists who come from China after the Individual Walk Scheme adopted in 2003, tourists are allowed to stay in Hong Kong for at most 7 days even without an entry permission), thus the relative labour demand between immigrants and natives should be getting higher in this sense. In addition, given more talent Chinese immigrants live and work in Hong Kong, Hong Kong labour quality could be strengthen further in a way to advancing business communication skills that supplement to globalizing business environment. Chapter 6 aims to estimate the earning power of language (Cantonese, Putonghua and English) proficiency and its effect on natives' earning as well as immigrants' earning.

3.4.5   Educational Attainment

Table 3.11 shows that there are more "no schooling" Chinese immigrants than Hong Kong natives throughout all census years. On average, around 55 and 40.12 percent of Chinese immigrants and Hong Kong natives respectively complete only primary school education, but both trend downward from 69.9 percent in 1981 to 46.6 percent in 2006 for Chinese immigrants and from 53.9 percent to 29.2 percent for Hong Kong natives, overall speaking, there are more Chinese immigrants complete only primary school education than Hong Kong natives. As regards secondary school education, almost 50 percent of

Hong Kong natives complete secondary school education while there is only 35 percent of Chinese immigrants complete secondary school education which implies Hong Kong natives are relatively well prepared with basic generic skills than Chinese immigrants. Interestingly, there were more Chinese immigrants obtained a first degree than Hong Kong natives in 1981 and 1986, but this pattern disappeared in the later census years. People acquired professional skills are expected to complete postgraduate degree education, data shows that the population proportions between natives and immigrants were around the same in 1980s. Since 1991, there has been an obvious acceleration of both Hong Kong natives and Chinese immigrants postgraduate degree holder, but the acceleration rate is much higher for Hong Kong natives. To conclude, the overall skills level for Hong Kong population is rising throughout all census years, Hong Kong natives have a relatively higher skills level than that of Chinese immigrants, nevertheless, Chinese immigrants are also pursuing a significant improvement on both generic and professional skills, which is highly essential and critical to Hong Kong economic development if those quality immigrants can stay and work in Hong Kong after their graduation in the long run.

3.4.6   Occupation

Table 3.12 reveals that the polarization of occupation between Hong Kong natives and Chinese immigrants since there are more Chinese immigrants perform the managers and administrators job than Hong Kong natives while for those non-professionals grades including service workers and craft workers…etc, are mostly performed by Chinese immigrants. More Hong

Kong natives are working in professionals, associate professionals and clerical grade than Chinese immigrants, and the employment proportion in professionals and clerical grades of Hong Kong natives and Chinese immigrants are increasing, but the acceleration rate is much greater for Chinese immigrants, for example, the average growth rate in employment proportion of professionals for Hong Kong native is 15.75 percent while it is 31.43 percent for Chinese immigrants, similar growth rate patterns happen for associate professionals and clerks, in other words, the managerial role played by Chinese immigrants is getting more significant in Hong Kong labour market. In July 2003, Hong Kong adopted the Admission Scheme for Mainland Talents and Professionals, the aim of this scheme is to attract qualified Mainland talent and professionals to work in Hong Kong in order to satisfy Hong Kong manpower demands and enhance Hong Kong's competitiveness in the globalized market. This new admission scheme can partly explain the trend of employment proportion in professionals sectors.

In non-professionals grades, most sectors are getting lower employment proportion except service workers and shop sales workers, for those declining sectors, such decreasing rates are much lower for Chinese immigrants than Hong Kong natives, in other words, most non-professionals jobs are engaged by Chinese immigrants. According to the dual labour markets theory (Piore 1979), one attractive point of capitalism development is to create two distinct jobs, one is professionals which consist of high-paid and secure career, another is non-professionals which comprise of poorly-paid jobs, sometimes these jobs are referred to the "three Ds" – dirty, dangerous and difficult. This

theory can explain part of the employment evolution between Hong Kong natives and Chinese immigrants in non-professionals sectors as non-professionals grades are mostly poorly-paid jobs.

Table 3.11 Educational Attainment (Highest Level Completed) (%) (by Place of birth)

	1981		1986		1991		1996		2001		2006	
	HK	China	HK	China	HK	China	HK	China	HK	China	HK	China
No Schooling	13.20	26.00	10.30	24.40	9.00	22.80	7.30	18.40	10.90	17.50	8.90	14.50
Kindergarten	7.20	0.60	7.70	0.50	6.40	0.50	5.60	0.70	1.70	0.50	1.20	0.40
Lower Primary (Note 1)	15.70	20.00	13.50	17.30	12.00	14.30	7.70	10.10	7.10	11.50	6.30	9.80
Upper Primary (Note 1)	17.80	23.30	15.50	22.10	14.40	22.20	14.90	24.50	13.60	23.80	12.80	21.90
Lower Secondary (Note 1)	38.20	24.60	40.90	29.10	43.80	32.00	45.30	34.10	44.90	34.10	44.40	38.00
Upper Secondary (Note 1)	3.40	1.30	4.40	1.70	4.40	2.30	5.00	3.80	7.50	5.30	5.70	5.20
Craft Level	0.30	0.00	0.40	0.10	0.40	0.10	0.30	0.10	0.10	0.10	0.10	0.20
Certificate / Diploma Courses (Note 2)	1.60	0.90	3.70	1.60	4.00	2.00	3.10	2.00	2.80	1.50	3.10	1.50
Higher Diploma Courses (Note 3)	0.90	0.80	1.00	0.10	1.40	0.30	2.40	0.70	2.10	0.70	3.20	1.40
First Degree Courses	1.60	2.30	2.50	2.80	3.80	3.20	7.20	5.00	7.90	4.30	10.10	4.90
Postgraduate Degree Courses	0.20	0.20	0.20	0.20	0.40	0.20	1.20	0.50	1.50	0.60	2.70	1.10

Notes:

(1) Lower Primary: Primary 1 – 3, Grade 1 –3; Upper Primary: Primary 4 – 6, Grade 5 – 6; Lower Secondary: Secondary 1 – 5, Grade 7 – 11; Upper Secondary: Secondary 6 – 7, Grade 12

(2) Certificate / Diploma Courses: Diploma / Certificate courses in Vocational Training Council / Clothing Industry Training Authority / Construction Industry Training Authority; Diploma/Certificate courses in Open University / School of Professional and Continuing Education of Universities; Diploma/Certificate courses in former Polytechnics / other statutory or approved Post-secondary Colleges; Diploma/Certificate courses in other colleges providing post-secondary courses; Diploma/Certificate courses in former Teacher Colleges; Diploma/Certificate courses in Commercial schools; Nurse training courses at diploma/certificate level; Dental training courses at diploma/certificate level; Distance learning courses at diploma/certificate level and other at diploma/certificate level courses

(3) Higher Diploma Courses: Higher Certificate/Higher Diploma/Professional Diploma/Associate Degree/Pre-Associate Degree/Endorsement Certificate/Associateship or equivalent courses in Universities / Vocational Training Council; Higher Certificate/Higher Diploma / Professional Diploma / Associate Degree / Pre-Associate Degree or equivalent courses in former Polytechnics / other statutory or approved Post secondary Colleges; Higher Diploma / Professional Diploma / Associate Degree / Pre-Associate Degree or equivalent courses in other colleges providing post secondary Courses; Sub-degree courses in Hong Kong Institute of Education; Sub-degree level nurse training courses; Sub-degree level dental training courses; Distance learning sub-degree level courses; Other Sub-degree courses in Universities funded by University Grants Committee; Other sub-degree level courses

Table 3.12 Occupation (%) (by Place of birth)

	1991		1996		2001		2006	
	HK	China	HK	China	HK	China	HK	China
Managers and Administrators	8.50	9.60	11.50	12.30	11.20	10.20	11.10	9.50
Professionals	4.90	1.40	5.90	2.10	7.00	2.30	7.60	3.10
Associate Professionals	14.40	5.20	15.90	6.50	20.00	8.40	20.30	8.90
Clerks	22.20	7.70	21.90	11.10	20.80	10.40	21.10	11.10
Service Workers and Shop Sales Workers	14.20	12.50	14.80	14.90	15.40	17.70	16.30	20.80
Skilled Agricultural and Fishery Workers	N.A.	N.A.	0.50	0.60	0.30	0.30	0.20	0.30
Craft and Related Workers	12.50	18.60	10.60	17.40	8.30	15.30	7.20	14.20
Plant and Machine Operators and Assemblers	11.90	16.60	8.40	10.40	7.30	9.00	6.50	7.00
Elementary Occupations	11.70	28.50	10.30	24.70	9.70	26.40	9.60	25.30

Table 3.13 Economic Activity Status (%) (by Place of birth)

	1981		1986		1991		1996		2001		2006	
	HK	China	HK	China	HK	China	HK	China	HK	China	HK	China
<u>Economically Active Population</u>												
Employed												
- Employees	33.50	47.20	38.90	44.30	42.20	42.40	43.80	39.30	45.00	33.90	47.70	32.70
-Outworkers	1.10	2.70	0.60	1.10	N.A.	N.A.	0.00	0.00	0.00	0.00	0.00	0.00
-Employers	0.80	2.90	1.30	3.30	2.30	3.90	2.70	4.00	3.00	3.70	2.90	3.20
-Self-employed	1.20	5.80	1.70	5.80	1.70	3.70	1.70	2.90	2.00	2.20	2.10	2.10
-Family workers (Note 1)	1.50	1.60	0.70	1.20	0.60	0.70	0.40	0.50	0.30	0.40	0.30	0.30
Unemployed	1.80	2.30	2.00	2.00	1.70	1.70	2.40	2.40	2.70	2.90	3.10	3.00
<u>Economically Inactive Population</u>												
Home-makers	7.20	21.70	7.30	18.00	8.10	16.80	8.60	16.50	8.00	15.50	7.40	13.30
Students	40.20	4.70	37.60	6.60	34.10	6.50	31.10	6.80	29.00	9.30	24.80	9.80
Retired persons	1.00	8.40	1.40	13.50	2.10	20.00	3.10	24.20	3.80	27.00	5.60	30.10
Others (Note 2)	11.00	2.30	8.30	4.10	7.10	4.20	6.10	2.80	6.00	5.20	6.10	5.30

Notes:

(1) Family workers: both paid and unpaid family workers are included in 1981 census; there were only unpaid family workers in other censuses.
(2) Others include Persons of independent means; Inmates in penal institutions, in-patients in psychiatric hospitals / infirmaries / convalescent hospitals; Persons not seeking work because of temporary sickness / injury; Persons not seeking work because of permanent sickness / disablement

3.4.7   <u>Economic Activity Status</u>

Table 3.13 shows the economic activity status of Hong Kong natives and Chinese immigrants aged 15 or above. The overall economically active population of Hong Kong native is relatively larger than that of Chinese immigrants, particularly in the categories of employees, employers and self-employed. Wong and Salaff (1998) relates this observation to network capital, network capital refers to the number of contacts that immigrants can use to find a job in the destination country, these networks are probably established all the way through immigrants' relatives in the destination country. Chinese immigrants who possess network capital are mostly referred by relatives to perspective employer, some immigrants are hired by their relative, also some other immigrants establish their own business, so data shows that most Chinese immigrants are employees, employers and self-employed in 1980s. A relatively large proportion of Chinese immigrants start a business instead of searching a job after arrivals, that creates demand for labour and thus immigration can benefit Hong Kong natives, this result can be further validated through investigating the proportion of employee and home-makers, there are relatively more Hong Kong natives are employed and more Chinese immigrants are home-makers, that means immigration would not create a large impact on labour supply. Immigrants who end up start their own business does not imply they are fail to assimilate in Hong Kong society, rather, self-employed immigrants are possibly regarded as a relatively better assimilated group, as they are able to establish the business network, merchandising and searching capital source…etc, more importantly, self-employed immigrants' risk tolerance is expected to be higher than

employed immigrants, hence, including self-employed immigrants into the assimilation rate estimation sample would create an upward bias, thus in chapter 5 and 6, the author only consider employed Chinese immigrants in the sample data. Moreover, the proportions of inactive population of Chinese immigrants are larger than that of Hong Kong natives throughout these census years. In 2006, there was 56.25 percent of Chinese immigrants not active on the labour market, most of them are retired persons. For those employed immigrants, Table 3.12 shows that once the Chinese immigrants are employed, they are mostly working as service workers and shop sales workers or working in elementary occupations. In short, Hong Kong natives are more economically active than Chinese immigrants, also the structures and contents of such activeness are somewhat varying in the last two decades. Beside, Chinese immigrants may not pull down the wage, but uphold the wage level as they are creating labour demand but not expanding labour supply.

3.4.8 Real Income Differentials

Table 3.14 Real Income Differentials (by Place of birth)

		Real Monthly Income from Main Employment (Base year = 2006)	
		Mean	Std. Error of Mean
1981	HK	1820.54	18.78
	China	1783.51	23.27
	Difference*	37.03	
1986	HK	3488.22	32.39
	China	3070.14	40.03
	Difference*	418.08	
1991	HK	7853.82	72.93
	China	5860.27	69.63
	Difference*	1993.55	
1996	HK	14334.87	113.71
	China	10707.83	128.65
	Difference*	3627.04	
2001	HK	17254.21	55.82
	China	12194.22	66.7
	Difference*	5059.99	
2006	HK	16502.19	52.52
	China	11662.66	66.62
	Difference*	4839.53	

*Hong Kong minus China

Figure 3.4

Real Income Differentials between

Hong Kong Natives and Chinese Immigrants
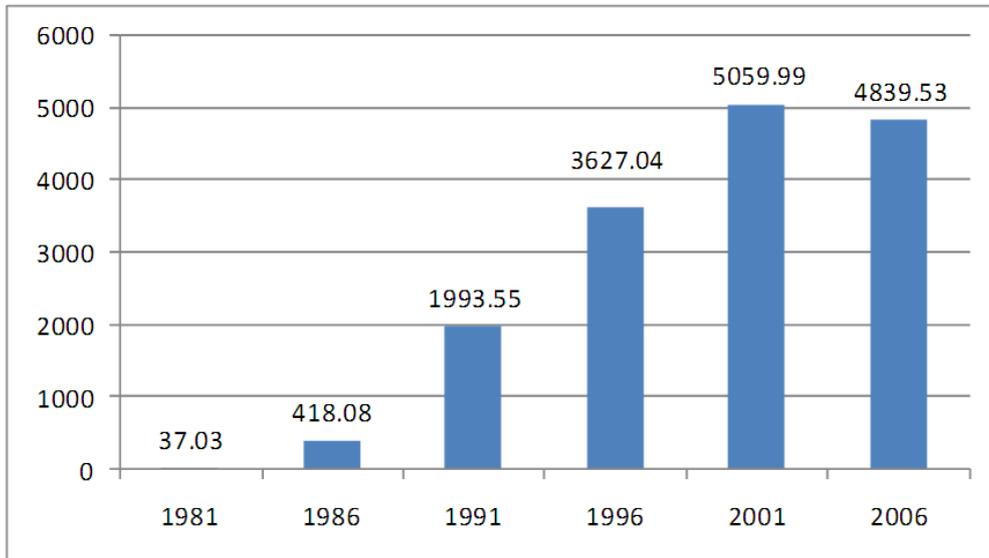
Figure 3.4 and Table 3.14 show the information regarding real income differentials between Chinese immigrants and Hong Kong natives. Figure 3.3 shows that there has been an increasing trend (but the rate is declining) of income differentials between Chinese immigrants and natives from 1986 to 2006. In the United States, Borjas (1989, 1995) finds that immigrants in the United States earn substantially less than their native-born counterparts when they first arrive in the United States, whereas Lam and Liu (2002a) find earnings divergence between Chinese immigrants and natives-born in Hong Kong is mainly due to divergence between skill prices for immigrants' education and natives' education. Theoretically, there are several reasons to explain this observation. From the demand side, firm owners always prefer hiring Hong Kong native to Chinese immigrants as Hong Kong natives are trained under Hong Kong educational system which provide better training in

communication, presentation and analytical skills, that incontestably very essential to businesses. From the supply side, according to the Educational Bureau language policy in China, Chinese immigrants start learning English in high school, compare to Hong Kong natives who start learning English in nursery, with almost ten more years in English training, it is expected that Hong Kong natives are better equipped in English usage. Most professional sectors, like accounting and law, the standard way to obtain an international qualification is through examination which is all in English. Thus, Hong Kong natives have a comparative advantage in taking these professional examinations which eventually provide them a better paid.

3.5 Conclusion

Hong Kong is a society of immigrants, but it is no longer a society of Chinese immigrants, immigrants from other countries also consider Hong Kong as a nice working place. Hong Kong government has launched three different admission schemes since 2003 with the purpose of attracting global talents, in particular China-born talents. The immigrants' gender proportion of male to female has been declining since 1996, and since women participation rate is rising, the contribution of Chinese immigrants to Hong Kong economy should certainly become more significant, this result would be strengthened further through the age-group analysis, previous results indicate that more than half of Chinese immigrants are in working population age. For the residence duration, the proportions of more than 10 years residence duration for both Chinese immigrants and Hong Kong natives are both declining gradually, one possible reason is related to Chinese immigrants' intention to start their own

business in China. Besides, proficiency in Putonghua can be one of the factors that allow Chinese immigrants to gain a better life in Hong Kong under the open door policy in China.

Regarding the skill levels, Hong Kong natives have a relatively higher skills level than that of Chinese immigrants, but Chinese immigrants are pursuing a significant improvement on both generic and professional skills. The adoption of Admission Scheme for Mainland Talents and Professionals can partly accommodate the sectoral employment shifts in Hong Kong, even the structures and contents of economical activeness are somewhat varying in the last two decades, based on different demographic and economic dimensions, it is of great blessing that the three admission schemes are very essential and critical to Hong Kong economic development in the long run. Chapter 4 aims to develop several testable hypotheses for empirical analysis in later chapters. One of the purposes of the next chapter is to supplement the statistical results present in chapters 3, 5 and 6 by employing and analyzing qualitative data.

CHAPTER 4

THE SOCIO-ECONOMIC DETERMINANTS OF IMMIGRANTS EARNINGS ASSIMILATION

4.1 Introduction

This chapter aims to investigate immigrants' characteristics and assimilation determinants through analyzing secondary data and qualitative data, also develop various testable hypotheses for empirical analyses in chapters 5 and 6. Social scientists observe and explain phenomena in society, they always suggest some statements about observable phenomena which can be judged as true or false, these statements are called proposition. When a proposition is formulated for empirical testing, then it becomes hypothesis. A hypothesis directs the research study and identifies relevant facts for further investigation, it also suggests the appropriate research design form and provides a framework for structuring the conclusions. Methodologically speaking, the author triangulate the statistical estimates through the analysis of qualitative data, the scripts and observations provide additional insights in chapter 5 and 6 empirical studies and also enable the author to identify some potential or essential variables in assimilation model.

The major purpose of this chapter is to reinforce the interpretation of the statistical results present in chapter 3, 5 and 6 by employing and analyzing

qualitative data. As discussed in section 1.5, there exists a considerable value of combining quantitative and qualitative approaches, the author decides to employ both in this study. The next question is, researchers or statisticians are always able to calculate the extent of data required in statistical analysis so that the parameters can be estimated accurately for the purpose of the study, however, regarding qualitative data, to what extent the utilization of qualitative data can sufficiently maximize its complementarity with quantitative data? The answer associates to the sufficiency of qualitative data used in this study.

Qualitative researchers usually talk about data saturation (Strauss and Corbin, 1998) that data collection can be terminated if new cases no longer disclose new features. However, such limit is always unavailable and unknown in advance (Stenius *et al*. 2008). One dimension to justify the sufficiency of qualitative data used in a study is the variety and variation of experience, intentions and attitudes being collected, section 4.2 presents fifteen individual interview transcripts, all respondents are Chinese immigrants whose background are diverse and varied from each other, some of them have been residing in Hong Kong for longer than ten years, some have just been living in Hong Kong for a few months; some respondents were working in professional sectors before migration while some of them were low-skilled workers; some immigrants are well-educated and some others have only completed primary school education. Transcripts reveal a variety of difficulties that Chinese immigrants have encountered since they have been residing in Hong Kong, these difficulties consist of qualification unrecognition, skills inadequacy, age discrimination, skills non-transferability, occupations mismatch, complex

working environment culture and unfair paid. As the value of qualitative data is not directly related to the number of records, but the fruitfulness and varieties of the records, thus a long lists of interview transcripts does not signify quality contents can be extracted, the author assure the following qualitative materials have a proper data coverage as long as the whole qualitative materials are carefully interpreted.

As discussed in chapters 1, 2 and 3, Hong Kong is a society of Chinese immigrants whose adaption to an ethnically-similar but culturally-dissimilar society has become a great concern to both policymakers and scholars. Officially, Chinese immigrants are allowed to apply for One-way permit in order to migrate to Hong Kong, they always eager to know the quickest way as well as the main considerations taken by Chinese authority during the screening process, one commonly known determinant is family reunification, a preferential status in prioritizing the One-way permit registration are granted to Chinese immigrants with family reunion purpose, this determinant implies that there has been close family members who are currently living in Hong Kong, the close family members can either be a male or female, historical records in section 1.4 and descriptive statistics in section 3.5.1 demonstrated that the close family members are mainly male whose mostly possess hard-working attitude, Wong (1990) argued the hard-working attitude of Chinese immigrants played a critical role and contribute greatly to Hong Kong economic growth.

"*Hong Kong would not be the prosperous city it is today if we had refused to take immigrants after 1945*" (Wong 1990).

One common way to distinguish migrants is to categorise migrants into 'voluntary' and 'forced' migrants (Koser 2007), the former are people who may find attractive economic opportunities somewhere outside their own country, but the later are always forced to leave their own country because of political or environmental reasons, these people are usually described as refugees. In mid-1970s, many Vietnamese people migrated to Hong Kong due to the persecution and war in Vietnam, however, under the auspices of the United Nations and humanitarian policy adopted by the Hong Kong government, Hong Kong declared itself the "First Port of Refuge" in 1979, some Vietnamese were even permitted to settle in Hong Kong while Hong Kong people regarded the Vietnamese refugees as "outsiders". As these "outsiders" created a ponderous public and social burden to Hong Kong society, thus hostility towards Vietnamese refugees could always be observed since the 1980s. The illegal immigration of Vietnamese refugees was a problem which baffled the Hong Kong government for 25 years, even the Hong Kong government officially revoked the status of "First Port of Refuge" on 9 January 1998, but Hong Kong Immigration Department still issued identity cards to the non-repatriated Vietnamese refugees in Hong Kong in order to allow them to assimilate into the society until 2000. In effect, Hong Kong people spread the hostility towards "outsiders" to Chinese immigrants even Chinese immigrants are characteristically and ethnically different from Vietnamese refugees (Wong 1990), such newly-developed hostility towards

outsiders was advocated by a number of legislators, as such, it is easy for Hong Kong people to neglect the possible positive complementarity created by Chinese immigrants. As a matter of fact, the impact of immigration depends on the types of immigrants that being referred to the discussion, there are at least two types of Chinese immigrants come from China, skilled immigrants and unskilled immigrants, the formers are expected to be more productive and without much substitution effect with low-skilled local workers while the latter tend to be a replacement for low-skilled local workers. However, the spread of hostility towards "outsiders" (including Chinese immigrants) would indirectly induce various difficulties to Chinese immigrants, such as qualification unrecognition, skills inadequacy, age discrimination, skills non-transferability, occupations mismatch, complex working environment culture and unfair paid. Siu (1990) supported this argument in some way by differentiating outsiders into immigrant workers and imported workers and argued that immigrant workers have more incentives to invest in country-specific human capital than imported workers as immigrant workers tend to stay longer in Hong Kong. Siu (1990) emphasized the economic implication of skilled professional immigrants towards Hong Kong society was different from that of non-professional immigrants.

"*Over time, skilled professional immigrants from China will be integrated smoothly into Hong Kong's society. Some of them will blossom to take up responsible positions.*" (Siu 1990).

Thus, it implies that pooling both professional immigrants and

non-professional immigrants into one assimilation analytical model can be a problematic strategy, one of the contributions of this thesis is to analyzing the assimilation models using different immigrant categorizations so that a more precise and accurate patterns can be estimated. Siu (1990)'s viewpoint also echoed with Wong (1990)'s regarding the contribution of Chinese immigrants toward Hong Kong economic success, both of them advocate the past economic success of Hong Kong has been largely built on the efforts of past immigrants.

Suen (1995) supported the positive view of immigration flow toward Hong Kong economic growth as well, due to the presence of an ageing population and low fertility rate in Hong Kong, he suggested an additional role played by Chinese immigrants towards Hong Kong is an additional supply of labour via immigrants flow will benefit employers and hence Hong Kong economy. Suen (1997) also support Siu (1990) argument of immigrants having greater incentive to invest in Hong Kong specific human capital as immigrants have a long-term stake in the Hong Kong economy, thus to some extent, the human capital investment initiative of high quality immigrants should be different from that of low quality immigrants, as mentioned in section 1.3 and 2.3.6, immigrants are always assumed to be a homogeneous group in assimilation literature, as such, researchers and policymakers may not fully understand how assimilation patterns are different between high quality immigrants and low quality immigrants, this thesis contributes to assimilation literature as the author differentiates the assimilation analysis between high quality immigrants and low quality immigrants, which is obviously in need. Li and Suen (1998)

suggest Hong Kong government to change its immigration policy in a way that mainland talents are attracted to study, work and stay in Hong Kong, as mentioned in section 3.2.1, Hong Kong government have accepted this suggestion and adopted Quality Migrant Admission Scheme since 28 June 2006. Besides, Li and Suen (1998) also urged Hong Kong government import skilled labor directly from China since talented mainlanders can bring skills as well as specific knowledge that are crucial for the success of China-related business, this specific knowledge complements Hong Kong's hardware advantages and such complementarity tend to raise the demand for other skilled labour as well as for raw labour power, unlike ordinary thought of skilled labour importation will reduce the job opportunities for Hong Kong natives.

"*Much of the fear is based on an underlying zero-sum view of the economy*" (Wong 1999).

Wong (1999) regarded this ordinary thought as "zero-sum" view and argued both substitutability and complementarity between Chinese immigrants and Hong Kong labours have been simultaneously existed, this misconception has also been clarified in section 3.3. As discussed in section 2.3, there are a number of studies conducted in Hong Kong as well as elsewhere indicate that immigration has very little adverse effect on wages and employment of local workers. Wong (1999) also argued that there is no necessity that further immigration will hurt the Hong Kong economy whereas immigration from China has become the main source of population growth under the condition

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of extremely low fertility rate in Hong Kong, since immigrants will bring with them not only human capital but also an increase in consumption spending, adding to demand in the domestic economy, and will pay taxes on the income they earn, thus Wong (1999) believes that immigrants are assets instead of a burden to Hong Kong economy. However, Cheng (1999) counter-argued that the experience of Hong Kong immigration history in 1950s and 1960s is valuable but may not necessarily repeatable in the twentieth century, Cheng (1999) doubted if Hong Kong labour market can absorb those new Chinese immigrants, even additional resources can be utilized on human capital training that may help Chinese immigrants to adapt in Hong Kong but the question is regarding the source of these extra resources. Besides, Cheng (1999) argued that even low-skilled immigrants may not be a "close" substitute to local low-skilled workers, but it is still a substitute to them, otherwise, it is hard to understand why there are developed countries impose a strict immigration quota. The validity of various arguments above depends upon the immigrants' characteristics and moderating variables are employed in empirical modeling, chapter 5 and 6 aim to test the assimilation hypothesis and answer the question of how well do Chinese immigrants get used to the Hong Kong labour market, the next section depicts the socio-economic characteristics of Chinese immigrants.

4.2 Socio-Economic Characteristics of Chinese Immigrants

In this section, statistical tables are extracted from two Thematic Household Survey reports which were conducted by Hong Kong Census and Statistics Department. The first source is the Thematic Household Survey Report No. 17

- Needs of Persons from the Mainland Having Resided in Hong Kong for 3 years and less which was conducted from November 2002 to May 2003, the questionnaire is designed to collect information on the needs of persons from the Mainland having resided in Hong Kong for 3 years and less, in total, 8022 interviewees were successfully enumerated, hereafter referred to Group A immigrant in this chapter. The second source is the Thematic Household Survey Report No. 28 - Needs of Persons from the Mainland Having Resided in Hong Kong for less than 7 years which was conducted during October to December 2005, the questionnaire is designed to collect information on the needs of persons from the Mainland having resided in Hong Kong for less than 7 years, in total, 15062 interviewees were successfully enumerated hereafter referred to Group B immigrant in this chapter. The purpose of these two surveys is to gathering latest information regarding the needs of recent Chinese immigrants who are living in Hong Kong. This section aims to show several important socio-economic characteristics of Group A and B Chinese immigrants so that various testable hypotheses can be formulated for further empirical testing, this section is divided into five different but related subsections, they are (1) general characteristics: income, education and marital status; (2) languages: problem and training; (3) skills and occupations; (4) economic activeness; (5) intention to work: before and after migration.

4.2.1 General Characteristics: Income, Education and Marital Status

Table 4.1   Persons from the Mainland having resided in Hong Kong for 3
years and less and less than seven years by monthly household
income

Monthly household income (HK$)	≦3 yrs %	<7 yrs %	Entire population %*
< 5,000	13.8	8.2	5.8
5,000 - 9,999	30.8	41.1	15.3
10,000 - 14,999	34.0	30.0	17.2
15,000 - 19,999	8.9	11.6	14.0
20,000 - 29,999	10.7	6.4	19.2
≥30,000	1.8	2.6	28.6
Total	100.0	100.0	100.0
Median monthly household income (HK$)	10,600	10,100	18,900

Note: Compiled from the results of the General Household Survey
*   conducted during October - December 2005.

Table 4.1 shows the income distributions among Chinese immigrants and an

entire population, 13.8 percent of Group A immigrants earn less than $5000

per month, this percentage is much higher than that of Group B immigrants

(8.2 percent) and that of the entire population (5.8 percent). For the

"$5000-$9999" income group, 41.1 and 30.8 percent of Group B and Group A

immigrants fall into this income group respectively while these two

percentages are much larger than that of the entire population. Higher

percentage of immigrants is in low income group while most natives are in

high income group, these results are comparable to section 3.5.8. Years of

residence can somehow explain immigrants' income change, income converge

in this way can attribute to the accumulation of country-specific human capital,

such as schooling, language…etc. The traditional thought regarding

assimilation hypothesis can be validated preliminarily, different source of

human capital accumulation and the number of years for full convergence can

also be investigated after controlling the possible immigrants' quality change
(known as cohort effect).

Table 4.2   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than 7 years by educational attainment

Educational attainment	$\leqq$3 yrs %	<7 yrs %	Entire population %*
No schooling / kindergarten / primary	28.5	26.6	26.0
Secondary / matriculation	67.8	68.3	51.0
Tertiary	3.7	5.1	23.0
Total	100.0	100.0	100.0

Note: Compiled from the results of the General Household Survey
*   conducted during October - December 2005.

Table 4.2 shows an interesting fact that Group A , Group B immigrants and the

entire population have almost identical percentage in the lowest educational

attainment group (No schooling / kindergarten / primary). Most Group A (67.8

percent) and Group B (68.3 percent) immigrants possess secondary or

matriculation education and around 3.7 to 5.1 percent of them obtain tertiary

education. Educational attainments of natives are relatively higher than

Chinese immigrants regardless of their years of residence (these results are

comparable to section 3.5.5), this educational attainment gap can also possibly

explain income differentials between Chinese immigrants and natives.

Economics theory states that marginal contribution of human capital towards

output or income is diminishing, it implies that given the same amount of

human capital (education or schooling is a typical human capital) acquired by

natives and Chinese immigrants, the marginal impact of that extra human

capital on earnings should be more significant towards immigrants' earning

compare to that of natives' as immigrants who are generally possessing lesser human capital. Based on this logic, the author can test if the marginal impact of schooling on earning is different between natives and immigrants, this test would be conducted in chapter 5 and 6. Another relevant issue is that some Chinese immigrants acquired their qualifications in China, but these qualifications may not fully be recognized in Hong Kong (Lui and Suen 1998; Lam and Liu 2002), Hong Kong Council of Social Services (HKCSS thereafter) conducted a qualitative research in 2002, which consisted of fifteen individual in-depth interviews, the qualitative interview was designed to collect the data on Chinese immigrants' difficulties in employment, the target interviewees are Chinese immigrants who have already resided in Hong Kong for less than 7 years and with a paid job or with job searching experience. Individual unstructured interviews were conducted based on four major dimensions: (1) immigrants' job expectation; (2) immigrants' potential and limitations of participating in labour market; (3) effects of the potential and limitations on immigrants' employment; (4) strategies on utilizing potential and alleviating limitations. As the individual interviews are all conducted in Cantonese, the author has recorded all transcripts in Chinese, the translated version is provided by Dr Li E.S.H, Accredited Professional Translator, National Accreditation Authority for Translator and Interpreters, New South Wales Australia. One of the interviews conducted by HKCSS is related to qualification recognition problem.

Here is the stamp to certify that the translated version is provided by Dr Li E.S.H, Accredited Professional Translator, National Accreditation Authority for Translator and Interpreters, NSW Australia.

Respondent A – Mr Cheung

Translated version:

For better employment prospects, Mr. Cheung has taken some technician training courses at the Apprentice Training Council. According to his own experience, he noted that even a higher qualification [in mainland China] might not be recognized: "When I am taking the (technician) courses, my qualifications gained in the mainland China, in general, are not recognized. Although I have finished my high school, they still thought I should retake those Form 3 courses."

Original Text:

張先生：爲了就業前途，在學徒訓練局報讀一些技工訓練課程，根據他的經歷，他表示學歷再高也未必獲承認：「去讀書（技工課程）既時候，多

數都唔承認我大陸既學歷，咁我雖然讀完高中，但係佢地都覺得你不如讀返中三個 D（課程）」

Respondent A – Mr Cheung concerned his career development, and was willing to invest in human capital, he enrolled in apprentice training programme in order to enhance his own practical working skills and secure his job career. He experienced a qualification unrecognition problem, academic institute advanced standing or credits transfer officer suspected the quality of Mr Cheung's academic achievement that he acquired in Mainland China. As a result, Mr Cheung was required to study a lower level educational programme which can be exempted in principle.

Table 4.3   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years by marital status

Marital status	≦3 yrs %	<7 yrs %	Entire population %*
Never married	21.1	18.8	31.6
Married	76.5	74.6	58.9
Divorced / separated / widowed	2.5	6.7	9.5
Total	100.0	100.0	100.0

Note: Compiled from the results of the General Household Survey
*   conducted during October - December 2005.

Table 4.3 shows the distribution of several marital statuses of Group A, Group B immigrants and the entire population. The immigration approvals are always granted specifically to applicants with family reunification purpose, the percentage of "married" is much higher in immigrant group than that of the entire population, one of the general consensuses for "married" group is about its self-selectivity, married group individuals are generally regarded as a

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more responsible and reliable group compare to other marital status groups, married group is keen to earn as much as possible so that their assimilation rate is expected to be higher than "non-married" group, the validity of this statement is an empirical question and will be tested in later chapters.

4.2.2 Languages: Problem and Training

Table 4.4 Persons from the Mainland having resided in Hong Kong for less than seven years by whether had difficulties encountered since coming to Hong Kong / type of difficulties encountered

Whether had difficulties encountered since coming to Hong Kong / type of difficulties encountered [#]	% [*]
Yes	43.3
Financial problem	(30.2)
Employment problem	(26.9)
Accommodation problem	(17.2)
Study problem	(16.7)
Language barrier	(15.3)
Adaptation to the local culture & way of life	(12.1)
Teaching children	(11.9)
Handling pressure	(8.5)
Marital relationship	(4.3)
Developing social network	(3.6)
Relationship between mother-in-law & daughter-in-law	(3.0)
No	56.7
Total	100.0

Notes:

[#]   Multiple answers were allowed

[*]   Figures in brackets represent the percentages in respect of those 104,400 persons in the above Table.

Table 4.4 indicates that 43.4 percent of Chinese immigrants encountered difficulties since coming to Hong Kong, financial and employment problems

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are two common problems for them. In this survey, 15.3 percent of Group B immigrants encountered language barriers since coming to Hong Kong, it reveals that language barrier is one of the issues that have to adapt and resolve when Chinese immigrants move to Hong Kong (these results are comparable to section 3.5.4). Regarding the job related skills, Table 4.5 reveals that most immigrants, 97 percent of Group A immigrants and 81.6 percent of Group B immigrants, require job-related training. Among different types of job-related skills, Group A immigrants desire to learn job seeking and interviewing skills, language skills as well as skills required of a domestic helper. While Group B immigrants are eager to be trained in computer related office skills, skills required of a domestic helper and job seeking and interviewing skills. Two of the interviews conducted by HKCSS are related to skills deficiency problem:

Respondent B – Ms　Cheung

Translated version:

Ms. Cheung could not forget her unsuccessful job hunting experience due to her low proficiency in English and computer skills. To answer the question of what she thought was the crux of not being hired as a salesperson, she said, "My greatest weakness is my poor English, which is the main reason. They (the employers) want someone who can use computer but I can't. They (the employers) want someone who speaks English, but again I can't. That's why I am a loser."

Original texts:

張女士最難忘自己曾因為英文和電腦知識不足求職失敗：「（問：你見唔成售貨員，覺得最輸蝕係咩？）。最差係英文，英文唔得就係輸嘅最大原因。人哋要電腦嘅你又唔識，人哋要英文嘅你又唔識英文，咁就係失敗啦。」

Respondent B - Ms Cheung lacks the skills of using the computer and English usage, which she thinks that is the main reason for her failure in job searching. She tried to find a job which may not be demanding much on these two kinds of skills, such as salesperson, however, she is still fail to get a job.

Respondent C – Mrs Chan

Translated version:

Mrs. Chan has no confidence to handle jobs in the catering sector that require relatively high qualifications. She said: "I once tried a job with the monthly salary of $7,000. But my salary would be deducted if I made any mistakes in writing the orders. As I'm not well-educated, I'm afraid my monthly salary wouldn't be enough for the penalty, so I quit after the first day."

Original texts:

一些需要有較高學識的飲食業職位，陳太亦沒有自信可以勝任：「曾經試工，月薪七千元，但如果落單便要扣錢，因自己沒有文化，擔心賺了不夠賠，所以試了一日便沒有做。」

Respondent C - Mrs. Chan desires to work in the catering sector, however, she is not confident to take the job as any mis-order would lead to salary deduction,

she afraid of the monthly salary, around $7000 Hong Kong dollar, would not

enough for deduction, thus she quits after the one trial work day. Obviously,

the main problem in Mrs. Chan's case is the lack of confidence to working in

the catering sector, it can attribute to the insufficiency of basic skills of

recording and message dissemination.

Table 4.5 Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years who had plan to work in Hong Kong in the coming year or would consider to work in Hong Kong if certain services were available by whether saw the need to attend selected types of job-related training / type of job-related training required

Whether required to attend selected types of job-related training / types of job-related training required [#]	$\leqq$3 yrs~	<7 yrs*
Yes	97.0	81.6
Job seeking and interviewing skills	(66.5)	(31.4)
Language	(57.6)	N/A
Skills required for Chinese restaurants	N/A	(13.6)
Skills required of a domestic helper	(56.6)	(32.3)
Computer related office skills	(51.7)	(49.7)
Security and property management	(49.1)	(16.3)
Non computer related office skills (e.g. filing, accounting)	(46.7)	(18.0)
Construction / maintenance skills	(23.3)	(3.6)
No	3.0	18.4
Total	100.0	100.0

Notes:
[#]   Multiple answers were allowed

~   Figures in brackets represent the percentages in respect of those 23,500 persons in the above Table.

*   Figures in brackets represent the percentages in respect of those 32,900 persons in the above Table.

Some estimates are based on only a small number of observations and thus should be interpreted with caution.

Table 4.6 reveals that most Chinese immigrants possess very good Cantonese

language skills regardless of their years of residence in Hong Kong, over 50

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percent of respondents self-reported their possession of "very good" Cantonese language skills and the percentage is much greater for Group B immigrants than Group A immigrants, this pattern is viable across different age groups. By contrast, younger (aged 15 – 34) Group A and Group B immigrants declared their possession of very good Putonghua language skill and this pattern reverse in other age group, older Group A and Group B immigrants only possess a bit Putonghua language skill. Over 70 percent of Group A and Group B immigrants do not possess any English language skills, for those aged 15 – 24 immigrants, around 70 percent (range from 68 – 80 percent) of them possess a bit or very good English language skills in Hong Kong whereas almost 100 percent of Hong Kong natives in this age group possess English language skills, this fact is one critical explanation for earning disadvantage of Chinese immigrants. Theoretically, labours possess different kinds of human capital and supply them in the labour market, firm owners demand labours' human capital after taking into account of output demand. In equilibrium, labour demand equals labour supply, and the corresponding real wage and employment determined through market mechanism, in other words, labour supply, or human capital per se, cannot determine labours' earning. Rather, earning and employment depend upon the necessity and scarcity of the types of skill that labours possess. In fact, Hong Kong has been undergoing structural changes in different sectors since 1980s, one of the driving forces is the open door policy adopted by Chinese government in the early 1980, since then, a number of foreign enterprises and multinationals are desire to establish subsidiaries in China due to skyrocketing economic growth in China, Putonghua is the major communication medium language in China which

could play a critical role in a business establishment, thus, this fact indirectly create demand for Putonghua native speaker who understand Chinese culture as well as Western management style. Foreign enterprises and multinationals may demand Chinese immigrants as they possess "inherent" human capital in this sense. The hypothesis is that, other things being constant, Putonghua language skill is one of the factors that reduce the income gap between immigrants and natives, this hypothesis will be tested in later chapters.

| Table 4.6 | Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years by whether possessed selected types of language skills and age |

	Age group									
	15 - 24		25 - 34		35 - 44		≥45		Overall	
Whether possessed selected types of language skills	No. of persons (%)		No. of persons (%)		No. of persons (%)		No. of persons (%)		No. of persons (%)	
	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs
Cantonese										
Yes - very good	53.1%	91.8%	53.7%	70.1%	57.0%	78.1%	48.0%	65.4%	53.5%	76.2%
Yes - a bit	43.9%	7.3%	44.1%	29.1%	41.8%	20.8%	41.9%	30.1%	42.9%	22.3%
No	3.0%	0.9%	2.2%	0.9%	1.2%	1.1% ^	10.1%	4.5%	3.6%	1.5%
Putonghua										
Yes - very good	73.0%	78.1%	58.0%	75.9%	35.7%	49.7%	36.6%	33.9%	49.3%	59.4%
Yes - a bit	23.3%	20.1%	38.9%	21.1%	49.6%	41.3%	39.3%	41.2%	39.7%	32.0%
No	3.6%	1.8% ^	3.1%	3.0%	14.7%	9.0%	24.1%	24.9%	10.9%	8.6%
English										
Yes - very good	6.2%	14.1%	2.0%	2.7%	0.6%	0.9% ^	(-)	0.6% ^	1.9%	3.6%
Yes - a bit	61.9%	67.5%	25.4%	27.4%	12.2%	15.3%	10.8%	6.5%	24.4%	26.2%
No	31.9%	18.4%	72.5%	70.0%	87.1%	83.8%	89.2%	92.9%	73.8%	70.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: ^   This estimate is based on only a small number of observations and thus should be interpreted with caution.

4.2.3 Skills and Occupations

Table 4.7 reveals the office-related work skills possessed by Group A and B immigrants, most immigrants aged over 25 do not possess English typing, Chinese typing, general computer software application as well as accounting skills, on average, this skill deficiency problem is much more serious for Group A than Group B immigrants. For Group B immigrants who aged 15 to 24, around 30 to 40 percent of them possess these four types of office-related work skills. Table 4.8 indicates that the situation of non-office work skills, most Group A and B immigrants, regardless of age, do not acquire construction (or maintenance) and driving skills, Group B immigrants possess both skills required of domestic helper and cooking skills in all age groups, such skills possession pattern does direct the way that immigrants' search for appropriate occupations in Hong Kong. On top of skills, age also play a role to alter immigrants' job selection as age discrimination may exist, several interviews conducted by HKCSS are related to age discrimination.

Respondent D – Mrs Chan

Translated version:

Mrs. Chan is working at a restaurant where the age requirement for dim-sum workers is 45 or below. Although there was no such age requirement at the time she joined the company, she has been worrying that the aged and senior workers will be made redundant since the implementation of Mandatory Provident Fund.

Original texts:

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陳太現職的酒樓，對點心工人入職年齡的要求是四十五歲以下，雖然陳太入職前，公司並沒有列明年齡的要求，但自從強積金推行以來，陳太擔心公司想慳錢而解僱年齡較大，年資較長的工人。

Respondent D - Mrs Chan worries about the age discrimination problem exists since the implementation of the Mandatory Provident Fund scheme, Mandatory Provident Fund scheme is an obligatory saving scheme for the retirement of residents in Hong Kong. Most employees and employers are required to contribute monthly to Mandatory Provident Fund Schemes provided by approved private organizations. As employers are required to contribute to this retirement scheme regardless of age and potential of their employees, thus Mrs Chan has been worrying if employers tend to fire those aged or senior workers and hire those younger and energetic workers in order to improve the company efficiency, the author compares the age profile between natives and immigrants in section 3.5.2 and concludes that immigrants are, on average, older than natives. However, this age bias should not be only adversely affecting Chinese immigrants, but also to locals, the problem is whether employers are intended to protect locals but discriminate immigrants.

Respondent E – Miss Chan

Translated version:

Miss Chan looks extremely childlike. Despite the fact that she could work legally (aged 17), she was always being asked about her age in job interviews

for shop attendants. Every so often, the interview ended after a quick chat and she was asked to leave her [telephone] number and wait for the news.

Original texts:

陳小姐因爲外貌極爲年輕，雖然法律上他可以工作（十七歲），雖當她往一些售貨店求職時，人們總問她的年齡，而往往在簡單一兩句對答後便叫她留下電話等消息。

Respondent E - Miss Chan aged 17, as she looks extremely young even she is legally permitted to join the labour force and applies for a sales job, she is usually asked to wait for further notice of job offer, this situation can also be happening for locals, not only immigrants, the problem is whether employers are intended to favor locals but not immigrants.

Respondent F – Ms Cheung

Translated version:

Ms. Cheung originally planned to be a domestic helper. When she was taking a course in housekeeping, the instructor told her that she was a bit young (30 something) and would not be hired. Ms. Cheung said: "My instructors said that I was too young. That meant, when I went to seek a job, the employer wouldn't hire me to be a domestic helper. That is, the employers couldn't be at ease when I work in their home. Even if the husband would like to hire you, the wife wouldn't."

Original texts:

章女士原也計畫當家庭傭工，但在上家務助理課的時候，有導師告訴她年紀還算輕的（三十多歲），僱主也不會聘用：「啲阿 sir 話你年輕，即你出去呢，家務助理 D 人唔想請你。即喺人地屋企做，有啲唔係幾放心果隻囉，係先生想請你，太太都唔想。」

Respondent F - Ms Cheung aged 30 something and planned to be a domestic helper, during the training programme, instructor reminded her about the preference of masters and mistress, and encouraged her to seek another job instead of being a domestic helper. Based on the instructor's words, it is obvious that age plays a critical role in employment opportunity, but this bias can be occurring on natives and immigrants, again, the dilemma is if employers plan to hire locals but not immigrants.

Table 4.9 and 4.10 reveal the occupation of Group A and B immigrants in China and Hong Kong respectively, the immigrant distributions amongst occupations are comparable to the results in section 3.5.6. Before Group A immigrants moved to Hong Kong, they are mainly (around 30 percent) service workers and shop sales workers, about 12 percent of them work in elementary occupation after moving to Hong Kong, more Group A immigrants work as service workers and shop sales workers while elementary jobs are around the same. Some immigrants may originally being a clerk or craft and related worker, or even managers and administrators in China, they changed their job and became service workers and shop sales workers after migration. Immigrants tend to change their occupations in this way can attribute to the

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transferability of their qualifications and skills acquired in China, in fact, some local employers do not recognize or discount Chinese immigrants' qualifications and work experience, it can be verified quantitatively using econometrics, empirical testing will be conducted and presented in later chapters.

Table 4.7   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years by whether possessed selected types of office-related work skills and age

Whether possessed selected types of office-related work skills	Age group									
	15 - 24		25 - 34		35 - 44		≥45		Overall	
	No. of persons (%)		No. of persons (%)		No. of persons (%)		No. of persons (%)		No. of persons (%)	
	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs
English typing										
Yes - very good	8.1%	37.9%	3.6%	8.1%	1.2%	2.3%	-		2.9%	9.6%
Yes - a bit	50.2%	41.7%	13.1%	17.2%	5.7%	11.9%	4.2%	2.2% ^	15.1%	17.0%
No	41.7%	20.4%	83.2%	74.7%	93.1%	85.8%	95.8%	97.8%	82.1%	73.4%
Chinese typing										
Yes - very good	13.6%	45.5%	7.0%	14.4%	1.8%	3.9%	1.5%		5.4%	13.5%
Yes - a bit	53.9%	37.3%	14.5%	25.1%	8.2%	13.1%	5.6%	4.4%	17.1%	19.1%
No	32.5%	17.2%	78.5%	60.4%	90.0%	83.0%	92.9%	95.6%	77.5%	67.4%
Knowledge of general computer software application										
Yes - very good	22.1%	35.9%	5.6%	8.4%	1.3%	2.3%	1.5%		6.1%	9.4%
Yes - a bit	43.8%	40.3%	18.2%	21.9%	7.5%	10.1%	5.6%	2.7% ^	16.5%	17.3%
No	34.1%	23.8%	76.2%	69.7%	91.2%	87.6%	92.9%	97.3%	77.3%	73.2%
Accounting										

Yes - very good	1.5%	4.7%	1.6%	4.8%	0.5%	2.3%	1.5%		1.2%	3.6%
Yes - a bit	13.3%	13.4%	9.5%	6.9%	5.0%	5.8%	5.1%	4.9%	7.9%	6.7%
No	85.1%	81.9%	88.9%	88.3%	94.4%	91.9%	93.4%	95.1%	90.9%	89.7%

Note: ^This estimate is based on only a small number of observations and thus should be interpreted with caution.

Table 4.8   Persons aged 15 and over from the Mainland having resided in Hong Kong for less than seven years by whether possessed selected types of non-office work skills and age

Whether possessed selected types of non-office work skills	Age group									
	15 - 24		25 – 34		35 - 44		≥45		Overall	
	No. of persons (%)		No. of persons (%)		No. of persons (%)		No. of persons (%)		No. of persons (%)	
	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs
Construction / maintenance skills										
Yes	2.3%	2.2%	17.4%	4.1%	17.1%	5.70%	10.8%	4.60%	13.5%	4.50%
No	97.7%	97.8%	82.6%	95.9%	82.9%	94.30%	89.2%	95.40%	86.5%	95.50%
Skills required of a domestic helper										
Yes	39.4%	8.9%	63.8%	33.2%	67.3%	34.6%	68.1%	24.1%	61.8%	28.2%
No	60.7%	91.1%	36.3%	66.8%	32.8%	65.4%	31.9%	75.9%	38.3%	71.8%
Cooking										
Yes	54.5%	14.0%	78.0%	34.6%	81.6%	33.3%	78.9%	24.8%	75.5%	29.0%
No	45.6%	86.0%	22.0%	65.4%	18.4%	66.7%	21.1%	75.2%	24.5%	71.0%
Driving										
Yes	6.1%	3.1% ^	15.7%	10.1%	14.9%	7.1%	1.4%	6.0%	11.1%	7.1%
No	93.9%	96.9%	84.3%	89.9%	85.1%	92.9%	98.6%	94.0%	89.0%	92.9%

Note: ^This estimate is based on only a small number of observations and thus should be interpreted with caution.

Table 4.9   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years and had worked in the Mainland before coming to Hong Kong by occupation in the Mainland

Occupation in the Mainland	≦3 yrs	<7 yrs
Service workers and shop sales workers	30.7	27.1
Elementary occupations	12.1	18.5
Clerks	8.1	11.9
Craft and related workers	6.9	11.5
Managers and administrators, professionals and associate professionals	13.8	11.3
Plant and machine operators and assemblers	8.7	10.2
Others	19.8	9.5
Total	100.0	100.0

Table 4.10   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years and had worked in Hong Kong by occupation in Hong Kong

Occupation in Hong Kong	≦3 yrs	<7 yrs
Service workers and shop sales workers	46.5	42.0
Elementary occupations	12.0	38.3
Craft and related workers	4.1	7.6
Clerks	3.6	5.5
Plant and machine operators and assemblers	25.4	3.4
Managers and administrators, professionals and associate professionals	5.6	3.2
Total	100.0	100.0

Note: Some estimates are based on only a small number of observations and thus should be interpreted with caution.

Some immigrants also expressed their view regarding the non-transferability of skills and share their experience thought individual in-depth interview conducted by HKCSS, the respondent's experience is as follow:

Respondent G – Ms Yuen

Translated version:

Ms. Yuen ran a small shop, selling mainly garments, when she was in mainland China. Whenever there were customers, she had to promote the products and bargain with them. She got use to the job. After she came to Hong Kong, one time she looked for a job as a salesperson in a shoe shop, the shop owner asked whether she had any sales experience. She [Ms. Yuen] said she was a salesperson when she was in mainland China. However, the owner replied that the experience in mainland China did not count as it was different from the one in Hong Kong. Ms. Yuen then backed off.

Original texts:

宛小姐在大陸的時候，有自己的小鋪，以賣成衣為主，每次客人進鋪，除了要向客人推介一兩句外，還要經常與客人討價還價，這些工作她都習以為常。但來港後，有一次她到鞋店求職當售貨員，店主問她是否有售貨經驗，她說自己在大陸時曾經當過售貨員，那僱主卻回應說：大陸的經驗和香港的經驗不同。宛小姐當時就知難而退。

Before moving to Hong Kong, Respondent G - Ms Yuen was self-employed as a boutique owner, she has substantial experience in operating a shop, trading, bargaining and front-line servicing. Nevertheless, when she desires to find a similar sales job in Hong Kong, she was backed off as employers thought the skills that Ms Yuen acquired in China are not transferrable to Hong Kong. It is an obvious example to shows the skills non-transferability problem, even immigrants are well-trained and highly skilled, it does not imply that similar

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job would be offered to them as host country employers do not recognize immigrants' skills.

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Respondent H – Ms Yu

Translated version:

Ms. Yu had been teaching in Guangzhou for two decades. She intends to find a relevant job in Hong Kong – even though it may not be a teaching position of the same rank, she hopes that she can work as a teaching assistant. Ms. Yu is now trying to figure out ways to take care of her son. She knows that her education qualifications and work experience may not be recognized; however, she still hopes for the best. Yet she worries about her job prospects from time to time.

Original texts:

余女士在廣州教了廿年書，來港希望找到一份相關的工作，即使不是同等的教席，也希望可以找到一份助教的工作。現正全力想方法安頓兒子照顧問題的余女士，一方面知道自己的學歷和經驗未必獲承認，但也有一絲的期盼，不時也為了將來的就業而徬徨。

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Respondent H - Ms Yu has been a teacher for twenty years, she would like to find a teaching-related job (even a lower rank teaching job) in Hong Kong, but her qualifications and teaching experience are all acquired in China, and they are not recognized in Hong Kong, thus, she is so worrying about her career. Again, Ms Yu case is another typical example that indicates the qualifications and skills non-transferability problem, even immigrants are well-educated, it

does not necessarily mean that similar job would be offered to them as host country employers do not recognize immigrants' qualifications.

To act as constraint maximizer, economic agents always choose to work in an occupation that provide them the highest return given their own possession of human capital, this maximization principle can also be applied to Chinese immigrants when they search and match an appropriate job in Hong Kong, they tend to search a job which allow them to apply their skills in the workplace so that a reasonable return can be generated, if this principle is true, two types of occupation can be deduced as an attractive job for Chinese immigrants, the first one is those occupations that widely recognized immigrants' qualifications and experience, that is the occupation that allow the highest transferability of skills for immigrants while the second one is this occupation that are less demanding on relevant work experience, one hypothesis can be examined based on this logic, that is assimilation rate should be higher in occupations which less demanding on relevant work experience, the occupation such as managers and administrator which strictly require relevant and substantial work experience, its assimilation rate should be relatively lower, this hypothesis will be tested in later chapters. Table 4.11 and 4.12 show the intended occupation of Group A and B immigrants respectively, service sectors jobs which may not require much relevant job experience is the most attractive job for them.

Table 4.11   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less who had plan to work in Hong Kong in the coming year or would consider to work in Hong Kong if certain services were available by intended occupation to work in

Intended occupation to work in	%
Service workers and shop sales workers	56.4
Plant and machine operators and assemblers	13.2
Elementary occupations	8.9
Clerks	8.3
Managers and administrators, professionals and associate professionals	4.9
Others	8.2
Total	100.0

Table 4.12 Persons aged 15 and over from the Mainland having resided in Hong Kong for less than seven years who had plan to work in Hong Kong in the coming year or would consider to work in Hong Kong if certain services were available by interested occupation

Interested occupation [#]	%
Domestic helpers	31.5
Shop sales workers	30.5
Cook / restaurant services workers	19.8
Cleaning services workers	14.1
Security guards / property management officers	11.3
Fashion / sample purchasers	7.7
Accounting clerks / bookkeepers	6.8
Merchandising clerks	6.1
Construction / mechanical engineering workers	5.6
Manipulation / personal care workers	3.7
Barbers	3.3
Teachers / tutors	2.5
Others	5.2
Overall	

Notes: Multiple answers were allowed.

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Several immigrants expressed their view regarding their intended or interested occupations as well as remuneration through individual in-depth interview conducted by HKCSS.

Respondent I – Mrs Chan

Translated version:

Mrs. Chan is already over forty. With the qualification of primary education (so-called "uncivilized") and more than 10 years work experience in the mainland China, she could only find jobs in some service sectors or jobs which do not require any educational qualification. [Her present job is] to push the dim-sum cart in a restaurant, with a $5,400 salary, and four days irregular leave. The fringe benefits are also unsatisfactory. She said: "The only increments are the working hour and the workload, but not the income. [I have been] working [here] for more than 4 years but my salary has just increased by $200. My current basic salary is $4,700, plus $700 tips (which is unstable, though everyone has tips every month up till now). (I am supposed to have) Statutory labour holidays but I can't take them all. (I am also entitled to enjoy) the Employer medical benefits. However, the working hours are long, and there is no break in between. (When I) go home, (I am) already very tired, and (I) have to take a nap before cooking (for my family).

Original texts:

陳太以年過四十，學歷只有小學程度（口中的沒有文化，但有十多年在大

陸工作的經驗），只能找某些服務行業的工作，或一些沒有學歷要求的工作。現於酒樓推點心車，月入五千四百元，四天不定時例假。其他的福利亦不理想，她說：「只加工時及工作量，沒有加薪，做了四年多，才加了二百元，現時四千七百元底薪，七百元小帳（不穩定，但直至現在每月都有）。放勞工假，但放唔足。僱主看病優惠。工作時間長，中間沒有休息，回家後已經很累，要睡一回才可煮飯。」

Respondent I - Mrs Chan have been working in China for long than 10 years, with only primary school qualification, she can only opt for some elementary servicing jobs that do not require high educational qualification. She is now working in a restaurant and claiming that remuneration package and workload are unfair. In fact, unfair treatment on remuneration and workload are everywhere, the point is if the unfair treatment can solely attribute to place of birth, or some others factors.

Respondent J – Ms Wong

Translated version:

Ms. Wong does not have any working experience, and she has only finished the first year of high school. Through the referral of a voluntary centre, (she is) now working at a private elderly care home as a care worker, with a salary of $5,500. Her main duties are helping the elderly to shower, to change their diapers and to take care of their daily needs. In spite of the long working hours (12 hours per day), the fixed time arrangement enables her to take care of her children during the day.

Respondent J - Ms Wong's experience is a positive and encouraging story, she does not have any work experience and only have first year high school qualification, and even so, she get a job in elderly care home which provides her a stable and fair income as well as regular working hours. This case provides us evidence that immigrants are not always being discriminated, some of them are fairly treated by local employers. To differentiate the working environment between China and Hong Kong, several immigrants present their views in in-depth interviews about their new understanding of working culture and attitude in Hong Kong. Respondent K - Ms Cheung's experience reflects the varied working culture between Hong Kong and China. She found that people should always aware of their words and sometimes need to be phony.

Respondent K – Ms Cheung

Translated version:

Ms. Cheung is very cautious in terms of words and deeds.   She thinks that one has to be aware of one's words at work. She has learnt to be phony in the

work place in Hong Kong: "Don't speak mindlessly. I might have offended someone by talking too much when I was working at the Chinese cuisine sector (in the restaurant). I thus gave myself a piece of advice that one has to be phony; or one won't have anywhere to stand if one is truthful…Actually, I've learnt a lot from this job – one has to kiss ass. Though I can't really do it, I know how to please him (the boss). That means you have to laugh even you don't want to."

Original text:

張女士在言行方面，可算是最爲謹慎。她覺得在工作的時候，要注意自己的說話，她更學懂了在香港工作一定要虛僞：「唔好亂講嘢囉。因爲我做中菜嗰時講得太多嘢，可能得失人哋囉。咁我就寫咗啲忠告比自己，係香港一定要虛僞，你真實呢就無立足之地。。。其實呢份工我學到好多嘢，你一定要擦鞋，擦鞋我就做唔到啦，但係呢識得巴結下佢呀。即係明明自己係唔想笑嘅都要笑。」

Respondent L - The highest qualification that Mr Lee obtained is the third year of high school, with a well-built body and younger age (aged only twenty), he is working at courier centre of airport express, his paid is around average (8000 monthly income) but he claimed the time off is varied. In fact, varied time off is very common in Hong Kong, the point is if this treatment can solely attribute to place of birth, or some others factors.

Respondent M - Mr Cheung was educated in China and obtained a high school third year qualification which is unrecognized in Hong Kong, he does not give up and works in an air-conditioner company for 6 days per week, in his spare time, he continues his study in which the tuition fee is paid by his employer, besides, the employer pays him fairly. This case provides us evidence that immigrants are not always being discriminated, some of them are willing to learn and their employers would treat them fairly.

Hong Kong, (he was) studying in mainland China (the 3rd year of high school, preparing for the university entrance exam).   After coming to Hong Kong, (He finds that) his qualification is recognized.   Now he is studying, and at the same time working at an air-conditioning maintenance company, with the duties of air-conditioner repair and installation, etc.   He has to work 6 days per week, in which 1 day is to attend courses (the tuition fee is paid by employer). His salary is more than $8,000.

Original texts:

張先生比李先生 (受訪者 M) 年輕，未來港前，在大陸讀書（高三程度，準備應考大學試）。來港後，學歷不被承認。但他一邊進修，一邊在一間冷氣維修公司工作，負責維修冷氣機及裝機等工作。每星期工作六天，其中一天是上課（當返工，學費由僱主支付），月入八千多元。

Respondent N - Mrs Wong's experience reflects the diverse ideology between Hong Kong and China. She found that fairness is a very essential concept in Hong Kong working environment, fairness means Hong Kong people always work in a way that customers would find the price is reasonable as customers receive the value of product that sufficiently reflect what they pay. Mrs Wong likes this practice very much as unfairness always happens when she was working in China.

Respondent N – Mrs Wong

Translated version:

Comparing the working environment in the mainland China and Hong Kong, Mrs. Wong thinks that working in Hong Kong has to be fair.   The "fairness" which Mrs. Wong referred to is: "If you are given $10, you have to work for the value of $10.   Such feeling is very good, that is, in comparison with the time when I worked in the mainland China. If you gave them (the employees) $10, nine out of ten of them would not work for as much as the value of $10. Now I understand if you are given $10, you should have worked for the same value. That's a fair game."   Not only does Mrs. Wong follow this principle, she also advocates this principle whole-heartily.

Original text:

黃女士比較大陸和香港的工作環境，覺得在香港工作要「公平」。黃女士所指的公平就是：「比十蚊你做就會做足十蚊的價錢比你囉。呢種感覺係好好囉。即係比我想起在大陸做工，比十蚊佢地呢，十個有九個係唔會做足十蚊比你囉。我而家明白到比十蚊，你就應該做足十蚊的人工比人，咁樣先公平。」對於這項守則，黃女士不單跟從，而且甚為認同。

Respondent O - Mrs Cheung's experience reflects the different culture between Hong Kong and China. She found that Hong Kong is all about civilized, people are required to be responsible and provide quality services. This culture is totally different from China.

Respondent O – Mrs Cheung

Translated version:

Mrs. Cheung pointed out that working in Hong Kong is all about being civilized: "Working in Hong Kong, we don't have these things at all, not when I was working in the mainland China. That means the way people speak has got to be well mannered, the voice has got to be soft and polite, saying 'thank you' all the time. You know, you can't speak loudly like this when you are working." Another (working) principle would be the principle of reliability and quality: "Whatever you do, you have got to be responsible, and you have got to finish the job before handing it over to others. Do ask if you have any questions; don't do it on your own assumption if you are not sure."

Original text:

章女士則指出在香港工作要講文明:「係香港做嘢呢,我地從細到大都無呢啲,係大陸做嘢都無,即講嘢要斯文,要細聲,要有禮貌呀,唔該前,唔該後呀。即你出嚟做嘢係咁嘛,即唔可以好似而家咁大聲大氣。」另一守則就是工作要有交帶,亦要講質素:「做嘢有頭有尾呀,有個交帶,做咩都好,一定要做好俾人地,你唔明問人,唔好自己亂做。」

These interviews reveal that immigrants are hardworking and willing to work, also present several new understanding regarding the working attitude in Hong Kong, but most immigrants encounter the qualification unrecognition problem, Table 4.13 summarizes respondents' characteristics and the job market outcomes. The next subsection would further investigate immigrants'

economic activeness.

Table 4.13
Summary of Respondents' Characteristics and Job Market Outcomes

	Males	*Females*
Gender ratio	3 (A, L, M)	12 (B, C, D, E, F, G, H, I, J, K, N, O)
Qualification or skills unrecognition	2 (A, M)	2 (G, H)
Underpaid or unfair paid	2 (L, M)	4 (C, I, J)
Poor working condition or long working hours	1 (L)	1 (I)
Worries	Nil	4 (C, D, F, H)
Fail to find a job	Nil	5(B, C, E, F, G)
Continuing study or new skills learner	2 (A, M)	3 (K, N, O)

4.2.4 Economic Activeness

Table 4.14   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years by economic activity status

Economic activity status	$\leqq$3 yrs %	<7 yrs %	Entire population %*
Economically active [+]	46.4	48.0	60.8
Economically inactive	53.6	52.0	39.2
Home-makers	32.3	35.0	11.6
Students	11.4	12.6	8.5
Retired persons	7.7	2.8	15.3
Others	2.3	1.5	3.8
Total	100.0	100.0	100.0

Note: *   Compiled from the results of the General Household Survey conducted during October - December 2005.

+   Economically active persons comprise employed persons and unemployed persons.

Economic activeness always attracts scholars' and policymakers' attention as it

reflects the overall productivity and production incentives in the labour market

which Table 4.14 reveals. There exists a similar economic activeness between

Group A and B immigrants, but both groups are less economically active than the entire population, it is possibly due to a larger proportion of home-makers and students in immigrants groups than natives, this result is comparable to the economic activity status result shown in Table 3.14. For those immigrants who are willing to work, around 50 percent of them desire to find a full time job, another half prefer a part time employment, the preferred number of weekly working hours for part time job seekers are shown in Table 4.15, these results are comparable to section 3.5.7.

Table 4.15   Persons aged 15 and over from the Mainland having resided in Hong Kong for 3 years and less and less than seven years who had plan to work in Hong Kong in the coming year or would consider to work in Hong Kong if certain services were available by whether preferred to work full-time or part-time / preferred number of working hours per week

Whether preferred to work full-time or part-time / preferred number of working hours per week	≦3 yrs#	<7 yrs*
Full-time	57.2	46.3
Part-time	42.8	53.1
≤15	(22.1)	(31.8)
16 - 20	(25.2)	(17.8)
21 - 25	(35.0)	(30.2)
26 - 30	(17.7)	(20.3)
Total	100.0	100.0

Notes
Figures in brackets represent the percentages in respect of those 10,300 persons in the above Table.

*   Figures in brackets represent the percentages in respect of those 21,700 persons in the above Table.

4.2.5 Intention to Work: Before and After Migration

Table 4.16   Persons aged 15 and over from the Mainland having resided
                in Hong Kong for 3 years and less and less than seven years
                by age / sex and whether had worked in the Mainland before
                coming to Hong Kong

| | Whether had worked in the Mainland before coming to Hong Kong | | | |
| | Yes % | | No % | |
Age group / Sex	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs
Age group				
15 - 24	12.3	5.8	87.7	94.2
25 - 34	85.0	81.3	15.0	18.7
35 - 44	80.7	80.7	19.3	19.3
≥45	78.9	75.2	21.1	24.8
Sex				
Male	65.0	51.8	35.0	48.2
Female	72.4	70.2	27.6	29.8
Overall	70.7	67.3	29.3	32.7

Table 4.17   Persons aged 15 and over from the Mainland having resided
                in Hong Kong for 3 years and less and less than seven years
                by age / sex and whether had worked in Hong Kong

| | Whether had worked in Hong Kong | | | |
| | Yes % | | No % | |
Age group / Sex	≦3 yrs	<7 yrs	≦3 yrs	<7 yrs
Age group				
15 - 24	21.3	25.1	78.7	74.9
25 - 34	47.4	51.3	52.6	48.7
35 - 44	47.0	57.4	53.0	42.6
≥45	32.1	42.8	67.9	57.2
Sex				
Male	54.6	57.5	45.4	42.5
Female	35.7	46.1	64.3	53.9
Overall	40.0	47.9	60.0	52.1

To further understand if gender can be employed to explain economic
activeness. Table 4.16 and 4.17 show a pattern that Group A male immigrants

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are less intended to work, but the case is reverse for Group B male immigrants, for female immigrants, both Group A and B immigrants are less willing to work after the move to Hong Kong. It reveals a fact that male immigrants tend to work after staying in Hong Kong for a few years whereas female has much less intention to work after migration as they mainly come to Hong Kong for family reunification and probably work as home-makers after migration. In summary, based on the respondents' experience and various statistical results, Table 4.18 summarizes the hypotheses that generated for further empirical analysis in chapter 5 and chapter 6.

Table 4.18 Research Hypotheses Summary		
Research Hypotheses	*Main Argument*	*Sources from Respondent*
(1) Male immigrants should have a higher assimilation rate than female immigrants	Male immigrants are self-selected, and more willing to take those dirty, difficult and dangerous (3Ds) jobs	A, C, D, I, J, L
(2) Given the positive wage increment, assimilation rate is higher for occupations with higher work experience transferability, and vice versa.	Immigrants' skills and qualifications are not always transferrable and recognized	A, B, C, E, F, G, H, K, M, N, O
(3) Assimilation rate is higher for industries with less emphasis on interpersonal skills, and vice versa.	Immigrants takes time to familiarize themselves with host country language	B, C, G, H, K, M, O
(4) Both English and Putonghua language skills can positively enhance immigrants' earning, the effect of Putonghua on earning is becoming more significant compare to English.	Due to diminishing marginal return of language skills, the total effect of English and Putonghua on earning is positive, but the marginal effect of English and Putonghua on earnings should be converging over time.	B, M

4.3 Occupation and Industry

In order to examine hypothesis (2) and (3), the author is required to differentiate occupations by their work experience requirement, and distinguish industries by their emphasis on interpersonal skills. This section discourses various occupations as well as industries that the author used for data decomposition and sub-sampling in later chapters. The purpose of this

discussion is to ascertain a basic understanding of industries nature and occupations characteristics which can explain immigrant assimilation pattern. In the following, eight occupations consist of managers and administrators; professionals; associated professionals; clerks; service workers and shop sales workers; craft and related workers; plant and machine operators and assemblers and elementary occupations and six industries include manufacturing; construction; wholesale and retail trade; transport, storage and communication; financing, insurance, real estate and business services; community, social and personal services will be discussed. The descriptions of the following occupations and industries are extracted from statistical standard and classification documents prepared by The Hong Kong Census and Statistics Department. Two hypotheses are developed throughout the following discussion: (1) given the positive wage increment, the assimilation rate is higher for the occupations with higher work experience transferability, vice versa. (2) The assimilation rate would be lower in those industries which personal contact or interaction, communication skills are essential, in other words, industry requires less interpersonal interaction would have a higher assimilation rate.

4.3.1 Occupation

Managers and Administrators - Managers and Administrators are responsible for formulating, determining, advising and planning on government as well as non-government policies. In public sectors, they may involve the job of laws and regulations formulation, also represent governments to monitor the implementation of government policies. In private sectors, managers and

administrators are required for planning and coordinating the enterprises'
policies and activities. Most managers and administrators had acquired
substantial and wide-ranging experience in different sectors or companies so
that they can perform in a way that different views and perspectives are taken
into account. Relevant experience possessed by managers and administrators
are mainly those host-country cultural-based experiences which may not be
possessed by Chinese immigrants even they are in the same occupation before
migrate to Hong Kong. Assimilation rate refers to the change of immigrants'
earnings given one additional year of residence in Hong Kong, because only
those immigrants who possess host-country cultural based experience could
enter in this occupation after migration, thus assimilation rate in this
occupation is probably lower than that of other occupations.

Professionals - Professionals are people who possess professional
qualification and knowledge in a specific field, such as humanities, life
sciences, physical sciences as well as social sciences, their duties include but
not limit to enhancing the existing literature, apply scientific theories, also
lecture scientific theories systematically. Professionals' jobs usually include
conducting research and analysis, formulating theories and operational
methodology, commenting on existing knowledge and preparing scientific
reports, some of them involve the job of creating and performing art works.
Professionals' experience content is dissimilar to that of managers and
administrators and their job natures are bit different from each other,
professionals' jobs are mainly related to the enhancement and application of
scientific knowledge to the workplace, as a result, possession of relevant

professional qualification and knowledge is relatively more essential than holding relevant experience. Immigrants who hold appropriate professional qualification would undoubtedly prefer this occupation and its corresponding assimilation rate should be higher than that of managers and administrators.

Associated Professionals - Associated Professionals are people who possess technical knowledge and experience in a field of, but not limit to social sciences and humanities. They perform mainly technical tasks that connected with research and the application of scientific concepts and operational methods, and teach those scientific concepts at different educational levels. Associated Professionals' jobs consist of undertaking technical work that related to application of conceptual knowledge and operational methods in different fields. They may receive guidance from managers or professionals and initiate various technical services related to trade, finance, and administration. To become associate professionals, the host country relevant experience is less important than that of managers and administrators or professionals, thus the assimilation rate in this occupation should be comparatively higher than two previous occupations.

Clerks - Clerks are responsible for recording, organizing, sometimes computing and retrieving information related to the research work performed by associate professionals and professionals. In some circumstances, clerical duties are related to travel arrangement, money handling operations, appointment and requests for information. Typing, entering data, operating word processors, conducting secretarial duties, recording and working out

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quantitative data, filing documents are mainly performed by clerks. As such, the host country relevant experience requirement is similar to that of associate professionals, thus the assimilation rate of clerks and associate professionals should be comparable.

Service Workers and Shop Sales Workers - Service workers provide personal services related to personal care, catering, housekeeping, also include workers who provide protection against fire and unlawful acts, shop sales workers usually demonstrate and sell goods in retail or wholesale shops as well as at stalls. The jobs mainly performed by service workers and shop sales workers consists of preparation and serving of food and beverages; rudimentary nursing and related care at homes or in institutions; hairdressing or beauty treatment. Depending on the jobs done by immigrants, the jobs related to personal care, catering, housekeeping allow immigrants to apply the skills that they acquired in China, while the jobs related to selling goods in retail or wholesale shops require proficient in host-country language as well as understanding of the host country culture, thus, the assimilation rate in this occupation is expected to be around the average amongst other seven occupations.

Craft & Related Workers - Craft and related workers apply their specific skills and knowledge in the fields of mining and construction or make, maintain and repair machinery, conduct printing work as well as process textiles, or wooden, metal and other articles, including handicraft goods. The work is conducted by hand and by hand-powered and other tools which are used to reduce the

amount of time and physical effort required for specific tasks, as well as to improve the quality of the products. The tasks performed by craft and related workers always call for an understanding of all production process stages, the materials and tools used, and the nature and purpose of the final product, these jobs include, but not limit to constructing, maintaining and repairing buildings and other structures; making equipment, machinery and other metal articles; making precision instruments, glass and related products, household and other precious-metal articles, pottery, jewellery; producing handicrafts. To be craft and related workers, immigrants are required to know several technical skills which can be acquired in China and almost entirely transferrable to their workplace in Hong Kong. In principle, this occupation should yield a higher assimilation rate to immigrants compare to other occupations.

Plant & Machine Operators & Assemblers - Plant and machine operators and assemblers operate and monitor industrial equipment and machinery, drive and operate motor vehicles and mobile machinery and equipment, or assemble products from component parts according to strict specifications and pre-specified procedures. This job mainly requires workers possess relevant experience toward an understanding of industrial machinery and equipment as well as an ability to adapt to technological innovations. They are required to involve the job of operating and monitoring mining or other industrial machinery and equipment, some of them perform the job of driving, operating and monitoring mobile industrial and agricultural machinery and equipment. Being plant and machine operators and assemblers, immigrants are required to know some basic mechanical and technical skills which can be acquired in

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China and entirely transferrable to their workplace in Hong Kong. In principle, this occupation should yield a comparable assimilation rate to that of craft and related workers.

Elementary Occupations - Elementary Occupations workers are people who perform mostly simple and routine tasks, involving the use of hand-tools and occasionally considerable physical effort, and generally only limited personal initiative and judgment. These jobs comprise selling goods in streets and public places; cleaning, washing, pressing; taking care of apartment houses, hotels, offices; washing windows; delivering messages or goods; carrying luggage; collecting garbage; sweeping streets and similar places…etc. Being worker in elementary occupations, immigrants are only required to perform simple and routine tasks which can be done by all type of immigrants as no specific skills and experience are needed, however, by the nature of this occupation, the paid is almost fixed at an extremely low level and increments are rare to even experienced workers, this occupation should yield a lower assimilation rate to immigrants compare to other occupations.

In short, occupations such as craft and related workers, plant and machine operators and assemblers allow higher transferability of work experience, thus assimilation rate should be the highest amongst other occupations. While the occupations such as managers and administrators and professionals are more demanding on local and host country work experience, and occupations like associate professionals, clerks and service workers has a higher allowance on work experience transferability than managers and administrators and

professionals, thus these two occupations should yield different assimilation rates.. Last but not least, elementary occupation is an occupation that does not have much wage increment, even if immigrants accumulate much host country experience, their wage is still remain constant, so the corresponding assimilation should not be too strong. Section 5.6.4 would discuss the fundamental reasoning of considering occupational differentials in assimilation study. Table 5.12 and Figure 5.3 would show the empirical evidence of this result as well. Section 6.6.2 would present the language proficiency return findings amongst different occupations.

4.3.2 Industry

Manufacturing - Manufacturing industry consists of organization engaged in the chemical or mechanical transformation of materials into new products. These organizations are usually called plants and factories. Being worker in plants and factories, workers do not require much relevant host country work experience and interpersonal skills in its daily works, one should expect higher assimilation rate in this industry.

Construction – In the construction industry, it includes additions, reconstruction, alterations, installations, and repairs. Special trade contractors are primarily engaged in specialized construction activities, such as plumbing, painting, and electrical work, and work for general contractors under the subcontract or directly for property owners. Construction workers are required physical ability rather communication ability, immigrants work in this industry should yield a higher assimilation rate as most of their skills acquired in China

is transferrable.

Wholesale and retail trade - Wholesale industry consists of organizations or places of business primarily engaged in selling merchandise to retailers or to industrial or commercial and construction contractors. While retail industry comprise establishments engaged in retail trade selling merchandise to the general public for personal or household consumption.

Transport, Storage and communication - Transport industry consists of organizations that provide sea transport, air transport as well as land transport, these transportation services is provided to the general public or to other business enterprises, passenger and freight transportation, communications services. Storage industry encompasses organizations that providing warehousing services while communication industry includes companies that provide telecommunications services to the general public.

Financing, Insurance, Real Estate and Business Services - In financing, insurance, real estate and business services industry, it includes non-depository credit institutions, depository institutions, other investment companies, holding companies, brokers and dealers in securities and commodity contracts as well as security and commodity exchanges. Organizations such as banks, insurance companies, audit firms are included in this industry.

Community, Social and Personal services - Community, social and personal

services industry includes institutions that engaged in providing medical or other health services, private households which employ workers who serve on the premises in occupations usually considered as domestic servants are classified in this industry.

To conclude, manufacturing and construction industries, they are less demanding on interpersonal and communication skills, while financing, insurance, real estate and business services industries have a higher requirement on interpersonal and communication skills. Section 5.6.5 would discuss the fundamental reasoning of considering industrial differentials in assimilation study. Table 5.13 and Figure 5.4 would show the empirical evidence to support this result. Section 6.6.4 would present the language proficiency return findings amongst different industries.

Hong Kong Immigration Department has adopted Quality Migrant Admission Scheme since 28 June 2006, which aims to attract highly skilled or talented persons from the Mainland and overseas to settle in Hong Kong, this is expected to enhance Hong Kong's overall economic competitiveness in the globalizing market. Nevertheless, various qualitative studies and survey results (HKCSS 2002) show Chinese immigrants encounter various kinds of difficulties, for example, Hong Kong Census and Statistics department conducted a survey in 2004 and 2006 that particularly collected information regarding the needs of persons from the Mainland having resided in Hong Kong for 3 years and less and less than 7 years respectively, the results show that immigrants encounter the most frequent difficulty in finding a job is about

the unrecognition of their academic qualifications obtained in mainland China and employers do not acknowledge the skills and work experience acquired in the mainland, in other words, the work experience of Chinese immigrants is portable but not transferrable to Hong Kong labour market. In fact, ordinary people, including immigrants, are found it simpler to get a job which less emphasize on hand-on work experience, for instance, sales and services elementary occupations; transport and other services workers; metal and machinery trades workers; handicraft or printing and related trades workers; industrial plant operators; stationary machine operators and assemblers; drivers and mobile machine operators…etc. Chinese immigrants assimilate better in occupations with less accentuate on work experience, vice versa.

Lam and Liu (1993) provided a similar argument that, due to the country-specific nature of human capital required in the expanding service sector, new immigrants in the nineties are expected to encounter more difficulties in their assimilation into the Hong Kong economy. Before becoming indistinguishable from Hong Kong natives, Chinese immigrants are needed to adapt a new social life in Hong Kong, thus they may sacrifice their unique language, cultural and social characteristics, this adaptation process is of particular important for those immigrants who desire to stay and work in Hong Kong for a longer period of time. Different industries or jobs have different degrees of interpersonal contacts, for instance, insurance agents and front-line bankers are always required to give a presentation on different financial products while for those who are working in manufacturing and construction industries, the interpersonal contacts requirements are relatively lower. This difference in the degrees of interpersonal contacts requirement

could partially explain assimilation rate difference across industries. Chinese immigrants assimilate poorer in those industries which personal contact or interaction and communication skills are essential, in other words, industry requires less interpersonal interaction would allow a better assimilation for Chinese immigrants. In short, manufacturing and construction industry should yield a higher assimilation rate to immigrants, while the other four industries, wholesale and retail trade; transport, storage and communication; financing, insurance, real estate and business services; community, social and personal services,   should generate a lower assimilation rate.

4.4 Conclusion

This chapter justifies the importance and value of employing qualitative data in this research, also summarizes several points of view supported by Hong Kong scholars and discusses various socio-economic characteristics of Chinese immigrants, five different but related characteristics are discussed, they are (1) General Characteristics: Income, Education and Marital Status; (2) Languages: Problem and Training; (3) Skills and Occupations; (4) Economics Activeness; (5) Intention to Work: Before and After Migration, supplement with various qualitative in-depth interviews conducted by HKCSS, several explanatory and descriptive hypotheses were developed for empirical testing in later chapters. The first hypothesis is about the impact of schooling on earning, test will be conducted to examine if the impact of schooling is different between natives and immigrants; the second hypothesis is about the selectivity problem, male immigrants should have a higher assimilation rate than female immigrants. Besides, the married group individuals, married

group individuals are generally regarded as a more responsible, reliable and accountable group of persons, this group of persons keen to earn as much as possible so that their assimilation rate is expected to be higher than "non-married" group. The third hypothesis is related to language ability, other things being constant, both English and Putonghua language skills can positively enhance immigrants' earning, the effect of Putonghua on earning is becoming more significant compare to English. Besides, a Putonghua language skill is expected to reduce the income gap between immigrants and natives. The fourth hypothesis is about the impact of immigrants' qualifications transferability on job selection. Assimilation rate is higher for industries with less emphasis on interpersonal skills, and vice versa. The final hypothesis is related to the impact of working experience relevance on job selection and its corresponding assimilation rate. Given the positive wage increment, assimilation rate is higher for occupations with higher work experience transferability, and vice versa. All these hypotheses will be examined using Hong Kong census data and econometrics techniques in chapter 5 and 6.

CHAPTER 5

ASSIMILATION OF CHINESE IMMIGRANTS IN HONG KONG

5.1 Introduction

How well do Chinese immigrants get used to the Hong Kong labour market? Do Chinese immigrants who have low initial earnings suffer from continuous labour market disadvantages, or do they experience growth in earning? Labour economists have discussed whether immigrants assimilate into the destination country and how the quality of their life changes over time. This chapter analyses the assimilation patterns of Chinese immigrants in the Hong Kong labour market. The study of the assimilation of Chinese immigrants is of particular interesting for three reasons: Firstly, in the last decade, Hong Kong has been undergoing a major economic restructuring (Li 2006), with the handover of Hong Kong sovereignty to the People's Republic of China in 1997 and the Asian Financial Crisis in 1998; it is interesting to study how well the Chinese immigrants can adapt to Hong Kong's life style, given the increasing integration between Hong Kong and China. The assimilation experiences of Chinese immigrants can be a useful reference for the assimilation pattern of immigrants in other receiving countries. Secondly, before 1997, mainland residents were able to settle in Hong Kong through the One-way Permit Scheme, which mainly facilitates family reunification. This scheme effectively regulates the entry of mainland residents into Hong Kong for settlement so that the prosperity and stability of Hong Kong society can be

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maintained. Since Hong Kong is moving towards a knowledge-based and high value-added economy supported by a high-skilled workforce, its economic competitiveness hinges greatly on whether it can attract talent individuals to live and work in Hong Kong. Hence, the Hong Kong government has proposed several new immigration schemes to attract mainland and overseas talent since 2003. The immigrants' characteristics are inherently essential to Hong Kong's economic development, as different assimilation patterns are expected under several new immigration policy arrangements. Thirdly, in the past, most Chinese immigrants were illegal immigrants who came to Hong Kong without permission; they were self-selected and recognised as a more productive labour force compared to non-self-selected immigrants. However, Hong Kong immigration policy focuses on attracting mainland talent who are also expected to be highly productive. Consequently, investigating which groups, self-selected immigrants versus mainland talent, are relatively more productive can benefit future immigration policy formulation. In short, addressing the assimilation problem is not only interesting but also important, as the immigrants' economic success will greatly influence their overall economic contribution to Hong Kong's economy.

Figure 5.1 shows the earnings ratio between Chinese immigrants and natives. When it is less than 100 percent, it means that immigrants earn less than their native counterparts, whereas higher than 100 percent signifies the opposite. Obviously, the earning gap between Chinese immigrants and natives is widening. Lam and Liu (2002a) study the earnings divergence of Chinese immigrants in Hong Kong and find that it is very unusual compared to other

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receiving countries. They argue that this disparity is mainly due to divergence between skill prices for the education of immigrants and natives.

Figure 5.1 Real Income Differentials

– Ratio of Chinese Immigrant to Hong Kong Native
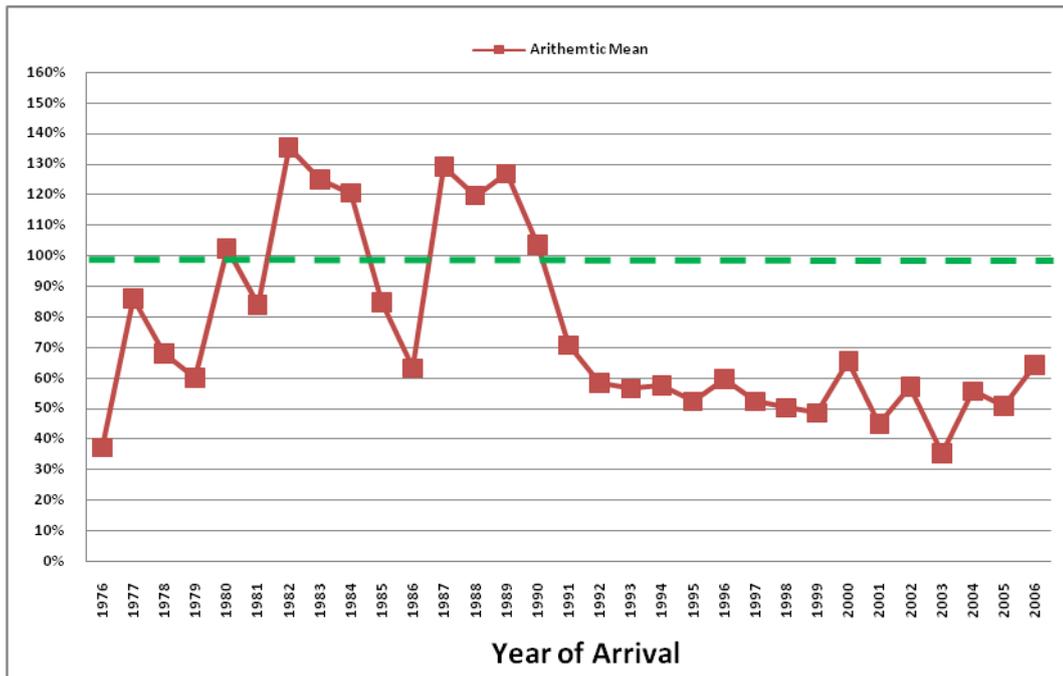
Source: Various Hong Kong census data

This chapter aims to study how the change of earnings differential between Chinese immigrants and natives relates to the year of duration. In other words, this research investigates the assimilation patterns of Chinese immigrants and how these patterns change over time. This chapter is structured as follows. Section 5.1 presents a brief introduction of Chinese immigration history in Hong Kong and Section 5.2 is a literature review. Section 5.3 describes the research hypotheses for this study. The data and descriptive statistics will be discussed in Section 5.4, Section 5.5 and 5.6 present the empirical model and

empirical results, respectively. Section 5.7 concludes.

5.2 Literature Review

The process of immigrant assimilation to the host country labour market has obtained a great deal of attention in economic literature. Economic assimilation is defined as the change of income differentials between immigrants with a similar background who have stayed longer periods of time and shorter periods of time. In general, immigrants who remain longer in the host country are expected to have a better living standard, as their life style converges with that of the natives once they adapt their skills to the ones demanded in the host country. Year of residence or duration refers to the number of years since migration, and it has been regarded as a major indicator in the study of the economic adjustment of immigrants. The pioneering work of immigrant assimilation was done by Chiswick (1978), who used cross-sectional data to study the effect of Americanisation on the earnings of foreign-born men, found that immigrants earn less than natives at the time of arrival, but their earnings overtake the corresponding natives' earnings within 15 years. In other words, the earnings of new immigrants may eventually equal to or even exceed those of corresponding natives' that may attribute to their accumulation of destination country-specific skills after arrival. Long (1980) expanded on Chiswick's work to estimate the relative earnings of foreign-born females, and the results indicate that their earnings are approximately 14 percent higher than those of their native-born counterparts, in which a foreign-born earnings advantage is relatively higher for females

and the pattern of the earnings differential seems to vary by sex. Borjas (1982) studied the earning differential amongst male Hispanic immigrants in the United States. He hypothesised and validated that political refugees have greater incentives than economic immigrants to adapt rapidly to the United States labor market. However, this positive correlation between immigrants' earning and year of duration has been criticised and challenged. Borjas (1985) identifies the potential bias and problem of using cross-sectional data to analyse immigrants' behavior. He argues that the cross-section regressions disregard the quality disparity of the prospective immigrants and conclude with a positive correlation between immigrants' earning and year of duration, which yields erroneous insight into the adaptive process experienced by immigrants. In addition, he emphasises that different immigration cohorts in the United States have a different level of skills and labour qualities. Earlier immigrants earn more than later immigrants because they have a higher skill level, not necessarily because of assimilation. These innate differences in ability and skills across cohorts may arise as a result of an immigration policy change, or they may be attributed to a change in economic or political conditions in the source and/or host countries. The best data analysis strategy to address this potential bias is to use longitudinal or panel data, that is, to follow the same immigrants and natives over time. However, in practice, longitudinal datasets are scarce or only contain very few pieces of immigrant information. Borjas (1985) proposes a second-best strategy that involves tracking specific immigrant waves across cross-sections and then creating artificial cohorts for immigrants. Beenstock *et.al* (2005) called this strategy a "synthetic cohort methodology"; this approach enables researchers to create a

quasi-panel dataset using cross-sectional data. He adopted this approach and re-estimated the United States assimilation rate. The results showed that the quality of immigrants relative to natives was declining, and this cohort effect suggests that Chiswick's (1978) convergence and assimilation results should be much lower than expected. Lalonde and Topel (1992) challenged Borjas's (1985) thesis to hold schooling and experience constant, using United States data to find significant evidence of a positive correlation between the year of duration and immigrants' earnings. The assimilation rate is higher than two percent in the first ten years of work experience in the United States labour market; however, they found Borjas's (1985) argument about immigrant cohort effect insignificant.

The literature has focused on measuring the assimilation rate using either panel data or quasi-panel data, the quasi-panel dataset is constructed using the synthetic cohort methodology proposed by Borjas (1985). For the empirical studies that employ panel data, Dustmann's (1993) studies of economic assimilation for migrants in Germany emphasise the importance of differentiating between permanent and temporary migrants when analysing economic assimilation. Since there are different degrees of incentive to invest in host country-specific skills between permanent and temporary migrants, permanent migrants are expected to be more willing to invest in host-country specific skills than temporary migrants. Thus, by employing the German socioeconomic panel collected in 1984, the results show that the "year since migration" coefficients for both permanent and temporary migrants have the expected sign. Even though the coefficient for temporary migrants is not

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significantly different from zero, it indicates that the year of duration in the host country does not have a narrowing impact on the earnings gap between German nationals and temporary workers. Hu (2000) adopted the standard regression model to analyse a panel dataset, the Health and Retirement Survey, which is an ongoing longitudinal survey of the population born between 1931 and 1941. The longitudinal data analysis results suggest a strong degree of earnings convergence. That is, immigrants who start at lower earnings quickly catch up to their counterparts. Hum and Simpson (2000) investigate the wage growth of immigrants in Canada by employing the master file of the Survey of Labour and Income Dynamics panel; the results suggest that the Canadian panel dataset does not support the usual assimilation hypothesis. Duleep and Dowhan (2002) use longitudinal data on earnings from a Social Security Administration database matched to the 1994 March Current Population Survey to address the issue of whether the earnings of foreign-born men converge with that of United Stated natives. The results show that immigrant cohorts indicate higher earnings growth than natives. Constant and Massey (2003) used German Socioeconomic Panel data for the period of 1984 to 1997 to address the question of how selective emigration affects cross-sectional earnings. The results suggest an ongoing process of economic assimilation that consistent with the prediction of human capital theory, and that wages of immigrants slowly increase with each additional year since migration, and only after the first fifteen years of residence in Germany. Hum and Simpson (2004) employed a panel dataset of Canadian households, the Survey of Labour and Income Dynamics, to investigate the wage performance of male immigrants to Canada relative to native-born men; they found that assimilation

effects are never statistically significant and do not imply a convergence of earnings between immigrants and natives. Beenstock *et al*. (2005) use a large panel sample of immigrants in Israel observed in 1983 and 1995 to make a comparison between the original cross-section methodology and synthetic cohort methodology. They performed a panel data analysis which resulted in the assimilation hypothesis, other things being equal, the growth of earnings between 1983 and 1995 should be greater for immigrants who spent less time in Israel in 1983.

For the empirical studies using quasi-panel data, Friedberg (1992) shows that age at arrival is an important determinant of immigrant earnings in the United States, and he presents corrected estimates of the assimilate rate at which the earnings of immigrants catch up to those of comparable natives with years since arrival. However, the assimilation rates are lower than uncorrected estimates performed by other previous studies, particularly for migrants who immigrated at a young age. Baker and Benjamin (1994) validate quasi-panel techniques and indicate that the cross-sectional inference of the assimilation rate provides a distorted view of immigrant integration. They found that the entry earnings are falling across successive immigrant cohorts, while their assimilation rates are consistently lower. Borjas (1995) uses the 1970, 1980 and 1990 Public Use Samples of the U.S. Census and applies synthetic cohort methodology to construct a quasi-panel dataset, he documents how the contribution of immigrants to the skill endowment of the labor force changed during the 1980s and found the relative decline in wages across successive immigrant waves continued into the 1980s, also evidence of immigrants

reaching wage parity with their native counterparts during their working lives is very insignificant. Moreover, Mexican and Asian immigrants are found to be unlikely to reach wage parity with their ethnically similar native counterparts. Friedberg (2000) employed the Census of Population in Israel, which precisely dates the timing of immigration to study the assimilation rate of immigrants in Israel. He focuses on the transferability and compatibility of skills acquired in the origin country, emphasising that a different impact on earnings is expected if the transferability and compatibility of skills are not perfect between the origin and host country. The empirical results show the positive effect of "year since migration" towards earnings, and hence support the assimilation hypothesis. Longva and Raaum (2003) present new estimates of the earnings assimilation of immigrants in Norway using the 1980 and 1990 Norwegian Population Census. They discovered that the earnings assimilation of immigrants in Norway from 1980 to 1990 differed considerably between cohorts and by country of origin. The earnings of the 1970 to 1979 immigrant cohort improved by almost six percent over the decade. Furthermore, they showed that previous Norway assimilation studies using cross-sectional estimates exaggerate the assimilation of immigrants. Card (2005) emphasised that a major constraint in the United States literature of immigrant assimilation has been the absence of true panel data. He employed quasi-panel data and found that only a few of the 40 percent of immigrants who arrive to the United States without completing a high school education will ever catch up with the average earnings of natives. Nevertheless, most second-generation immigrants will catch up with the children of natives due to their relatively strong educational progress.

Table 5.1 summarises various country-specific assimilation studies using a quasi-panel and panel dataset. It seems that the assimilation results using the panel and quasi-panel dataset are not contradictory in these countries.

Table 5.1 Empirical Studies of Assimilation Hypothesis

	Quasi-panel Data		Panel Data	
Country	Chapter	Result	Chapter	Result
United States	Friedberg (1992)	Support	Hu (2000)	Support
	Borjas (1995)	Reject	Duleep and Dowhan (2002)	Support
	Card (2005)	Reject		
Canada	Baker and Benjamin (1994)	Reject	Hum and Simpson (2000)	Reject
			Hum and Simpson (2004)	Reject
Israel	Friedberg (2000)	Support	Beenstock et.al (2005)	Reject
Germany			Constant and Massey (2003)	Support
			Dustmann (1993)	Support
Norway	Longva and Raaum (2003)	Support		

Regarding the assimilation study for Chinese immigrants, Chiswick (1979) and Borjas (1987b) regard Chinese immigrants as a homogeneous group, regardless of their country of origin. Borjas (1994) distinguishes Chinese immigrants from Mainland China and Taiwan, but excludes Chinese immigrants from Hong Kong. Since these three areas have different political systems and are on different levels of economic development, Borjas (1987b) suggests that the assimilation rates and wages levels of immigrants in host countries are significantly affected by the economic and political characteristics of sending countries. Hence, these three types of immigrants should be differing in their level of assimilation rates and qualities. Lam and

Liu (1993, 2002a) used Hong Kong 1981, 1986 and 1991 census data to analyse the assimilation rate. However, Borjas (1985)'s suggestion of an unobservable quality change in immigrants' lives is ignored in Lam and Liu's (1993, 2002a) studies, as there is no valid reason to justify this omitted variable bias. Therefore, in this chapter, the author takes Borjas' (1985) suggestion into account, even panel or longitudinal data is the best data source to perform an assimilation rate estimation, but such a valuable dataset is rare, and Hong Kong is no exception. Thus, this chapter adopts a quasi-panel dataset constructed by using Borjas (1985) strategy and original Hong Kong census data. The details of the quasi-panel dataset construction will be discussed in Section 5.4

5.3 Research Hypotheses

The target of this empirical study is Chinese immigrants whose assimilation pattern will be examined in four different but related dimensions: gender, marital status, occupation and industry. For example, as discussed in Section 4.1, since Chinese immigrants with a family reunion purpose are granted preferential status in prioritising One-way permit registration while a family reunion implies that family members have been living in Hong Kong, these first-coming family members can either be male or female, although historical records show they are mainly male (this result is shown in Table 3.6), thus, it is interesting to study if the assimilation rate pattern is different between males and females. The hypothesis is that male immigrants should have a higher assimilation rate than female immigrants when other factors remain constant,

this is due to most male immigrants are self-selected, whereas females are more often reunified after their spouse is granted permanent Hong Kong residency. In effect, male immigrants are self-selected, but female immigrants are somewhat passive in migration, it implies that male immigrants tend to be more adaptable in their workplace, hence, they reveal a higher assimilation rate, the major argument of this hypothesis has been summarized in Table 4.18.

Most people, including immigrants, find easier to learn job-specific skills that have less emphasis on hands-on work experience, for instance, sales and services elementary occupations; transport and other service workers; metal and machinery trade workers; handicraft or printing and related trade workers; industrial plant operators; stationary machine operators and assemblers; and drivers and mobile machine operators. Chapter 4 discusses the characteristics of these occupations and their implication on assimilation, the corresponding argument and hypothesis has been summarized in Table 4.18. This chapter aims to examine the hypothesis developed in Chapter 4 that hypothesises that the assimilation rate is higher for occupations with less emphasis on work experience and vice versa.

Moreover, before becoming indistinguishable from Hong Kong natives, Chinese immigrants are presumed to sacrifice their unique language (Table 3.10 shows that most immigrants are using Chinese dialects and Putonghua in daily life), cultural and social characteristics. This adaptation process is of particular important for those immigrants who want to work in Hong Kong, as successful bargains always favour persons who are ethnically similar, thus

linguistic and cultural differences can be one of the hurdles that immigrants need to overcome in order to succeed in the job market. Different industries or jobs have varying degrees of interpersonal contact. For example, insurance agents and front-line bankers are required to give presentations on different financial products, while for those employees who work in the manufacturing and construction industries, the interpersonal contact requirements are relatively lower. This difference in the degree of interpersonal contact requirement may partially explain the assimilation rate difference across industries. Chapter 4 describes various details and characteristics of different industries and its implications on the assimilation rate. Table 4.18 shows that argument for one of the research hypotheses that the assimilation rate should be lower in those industries that require more personal contact or interaction, and in which communication skills are essential. In other words, industries that require less interpersonal interaction should have a higher assimilation rate. Lam and Liu (1993) argued that due to the country-specific nature of human capital required in the expanding service sector, they expected new immigrants in the 1990s encounter more difficulties with their assimilation into the Hong Kong economy.

5.4 Data and Data Preparation

The main data source is the Hong Kong census data collected by the Hong Kong Census and Statistics Department. The details of these censuses are discussed in section 1.6. As mentioned in Section 2.3.6 and Section 5.2, the presence of omitted variables bias and "cohort effect" would distort the

assimilation rate estimation if cross-sectional data are used. Hence, Borjas (1985) suggests a way to construct a quasi-panel dataset using cross-sectional data. In the forthcoming empirical study, Borjas' approach is adopted and quasi-panel dataset construction procedures are as follows: The first step is to select all Chinese immigrants from the census dataset and use the census year minus the year of residence to estimate the approximate year of arrival for immigrants. Using "place of birth" as a categorical variable to select those respondents who were born in China, the following formulas are applied to estimate the year of arrival in the 1991, 1996, 2001 and 2006 censuses.

Estimated Year of Arrival = Census Year – Duration of Residence

1991 census formula: 1991 – Duration of residence in Hong Kong

Duration of residence in Hong Kong	Year of Arrival
Less than one year	1991
One year	1990
Two years	1989
Three years	1988
Four years	1987
Five years	1986
Six years	1985
Seven years	1984
Eight years	1983
Nine years	1982
Ten years or above	1981 or before

1996 by-census formula: 1996 – Duration of residence in Hong Kong

Duration of residence in Hong Kong	Year of Arrival
Less than one year	1996
One year but less than two years	1995
Two years but less than three years	1994
Three years but less than four years	1993
Four years but less than five years	1992
Five years but less than six years	1991
Six years but less than seven years	1990
Seven years but less than eight years	1989
Eight years but less than nine years	1988
Nine years but less than ten years	1987
Ten years but less than eleven years	1986
Eleven years but less than twelve years	1985
Twelve years but less than thirteen years	1984
Thirteen years but less than fourteen years	1983
Fourteen years but less than fifteen years	1982
Fifteen years but less than sixteen years	1981
Sixteen years but less than seventeen years	1980
Seventeen years but less than eighteen years	1979
Eighteen years but less than nineteen years	1978
Nineteen years but less than twenty years	1977
Twenty years or above	1976 or before

2001 census formula: 2001 – Duration of residence in Hong Kong

Duration of residence in Hong Kong	Year of Arrival
Less than one year	2001
One year but less than two years	2000
Two years but less than three years	1999
Three years but less than four years	1998
Four years but less than five years	1997
Five years but less than six years	1996
Six years but less than seven years	1995
Seven years but less than eight years	1994
Eight years but less than nine years	1993
Nine years but less than ten years	1992
Ten years but less than eleven years	1991
Eleven years but less than twelve years	1990
Twelve years but less than thirteen years	1989
Thirteen years but less than fourteen years	1988
Fourteen years but less than fifteen years	1987
Fifteen years but less than sixteen years	1986
Sixteen years but less than seventeen years	1985
Seventeen years but less than eighteen years	1984
Eighteen years but less than nineteen years	1983
Nineteen years but less than twenty years	1982
Twenty years or above	1981 or before

2006 by-census formula: 2006 – Duration of residence in Hong Kong

Duration of residence in Hong Kong	Year of Arrival
Less than one year	2006
One year but less than two years	2005
Two years but less than three years	2004
Three years but less than four years	2003
Four years but less than five years	2002
Five years but less than six years	2001
Six years but less than seven years	2000
Seven years but less than eight years	1999
Eight years but less than nine years	1998
Nine years but less than ten years	1997
Ten years but less than eleven years	1996
Eleven years but less than twelve years	1995
Twelve years but less than thirteen years	1994
Thirteen years but less than fourteen years	1993
Fourteen years but less than fifteen years	1992
Fifteen years but less than sixteen years	1991
Sixteen years but less than seventeen years	1990
Seventeen years but less than eighteen years	1989
Eighteen years but less than nineteen years	1988
Nineteen years but less than twenty years	1987
Twenty years or above	1986 or before

Estimated Year of Arrival	Census Source				
	1981	1991	1996	2001	2006
1976	✓		✓		
1977	✓		✓		
1978	✓		✓		
1979	✓		✓		
1980	✓		✓		
1981		✓	✓	✓	
1982		✓	✓	✓	
1983		✓	✓	✓	
1984		✓	✓	✓	
1985		✓	✓	✓	
1986		✓	✓	✓	✓
1987		✓	✓	✓	✓
1988		✓	✓	✓	✓
1989		✓	✓	✓	✓
1990		✓	✓	✓	✓
1991			✓	✓	✓
1992			✓	✓	✓
1993			✓	✓	✓
1994			✓	✓	✓
1995			✓	✓	✓
1996				✓	✓
1997				✓	✓
1998				✓	✓
1999				✓	✓
2000				✓	✓
2001					✓
2002					✓
2003					✓
2004					✓
2005					✓

In the data preparation stage, noted that in the 1981 census, there was a variable called "Year of Arrival in Hong Kong" was recorded. However, there were only six years of arrival records, namely, 1976, 1977, 1978, 1979, 1980 and 1981. This dataset can be employed to supplement other census data. For

the 1986 census, the variable 'Duration of residence in Hong Kong' and "Year of Arrival" are not available; therefore, the corresponding years of arrival are all unknown and cannot be estimated.

In the second step, after subsampling each of the census datasets by year of arrival, one open-ended group can be found in each subsample. For instance, in the 1991 census, there was an open-ended category called "Ten years or above", and the corresponding year of arrival should be "1981 or before". This includes a number of years of arrival possibilities that cannot be estimated without further information. As the characteristics of immigrants who arrived in 1981 or before can be estimated using other census data, simply disregarding this open-ended subsample in the 1991 census should not lead to a measurement and other statistical errors. This data cleansing procedure is also conducted to other census data.

After discarding the open-ended subsamples, the third step involves combining the remaining subsamples with the same year of arrival, and as a result, a quasi-panel dataset is constructed. In the combination process, some interesting variables, such as educational attainment, gender, occupation, personal income…etc, are extracted for further investigation and hypothesis testing, since different census datasets were recorded using a different coding system. Thus, the author is required to reestablish a series of codes for recoding the variables in the quasi-panel dataset. The variables extracted and codes are shown in Appendix I.

5.5 Empirical Model

Borjas (1985) suggests a possible unobserved estimation bias in modeling the assimilation effect. In the essence of econometrics, the omitted variable bias is the bias in the ordinary least square (OLS) estimator that arises when one or more included predictors are correlated with an omitted variable. This bias arises when the omitted variables are one of the determinants of the dependent variable, and at least one of the included predictors is correlated to the omitted variables.

Following Borjas's (1985) approach, there are five specific cross-section regressions

$$\ln w_{81} = \mathbf{X} \gamma_{81} + \alpha_{76} D_{76} + \varepsilon_{81} \tag{1}$$

$$\ln w_{91} = \mathbf{X} \gamma_{91} + \beta_{81} D_{81} + \beta_{86} D_{86} + \varepsilon_{91} \tag{2}$$

$$\ln w_{96} = \mathbf{X} \gamma_{96} + \delta_{76} D_{76} + \delta_{81} D_{81} + \delta_{86} D_{86} + \delta_{91} D_{91} + \varepsilon_{96} \tag{3}$$

$$\ln w_{01} = \mathbf{X} \gamma_{01} + \theta_{81} D_{81} + \theta_{86} D_{86} + \theta_{91} D_{91} + \theta_{96} D_{96} + \varepsilon_{01} \tag{4}$$

$$\ln w_{06} = \mathbf{X} \gamma_{06} + \tau_{86} D_{86} + \tau_{91} D_{91} + \tau_{96} D_{96} + \tau_{01} D_{01} + \varepsilon_{06} \tag{5}$$

where

D_{76} =1 if immigrated in 1976-1980

D_{81} =1 if immigrated in 1981-1985

D_{86} =1 if immigrated in 1986-1990

D_{91} =1 if immigrated in 1991-1995

D_{96} =1 if immigrated in 1996-2000

D_{01} =1 if immigrated in 2001-2005

By definition, the vector X in (1) to (5) does not contain a constant term. The cohort time interval is set to equal 5 years. Consider cohort k, where $D_k = 1$ (k=76, 81, 86, 91, 96, 01)

Table 5.2 Cohort groups in different censuses

Cohort	Census Year				
	1981	1991	1996	2001	2006
1976-1980	✓		✓		
1981-1985		✓	✓	✓	
1986-1990		✓	✓	✓	✓
1991-1995			✓	✓	✓
1996-2000				✓	✓
2001-2006					✓

Let $\bar{X}_k$ give the mean value of the socioeconomic characteristics for the cohort periods.

$$\hat{y}_{81,k} = \bar{X}_k \times \hat{\gamma}_{81} + \hat{\alpha}_k \qquad (6)$$

$$\hat{y}_{91,k} = \bar{X}_k \times \hat{\gamma}_{91} + \hat{\beta}_k \qquad (7)$$

$$\hat{y}_{96,k} = \bar{X}_k \times \hat{\gamma}_{96} + \hat{\delta}_k \qquad (8)$$

$$\hat{y}_{01,k} = \bar{X}_k \times \hat{\gamma}_{01} + \hat{\theta}_k \qquad (9)$$

$$\hat{y}_{06,k} = \bar{X}_k \times \hat{\gamma}_{06} + \hat{\tau}_k \qquad (10)$$

Equations (6) to (10) give the predicted (ln) earnings of the average member of cohort k in 1981, 1991, 1996, 2001 and 2006, respectively.

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$$\hat{y}_{96,k+j} = \bar{X}_k \times \hat{\gamma}_{96} + \hat{\delta}_{k+j} \qquad (11)$$

Equation 11 gives the predicted (ln) earnings in 1996 for the cohort who arrived j years after cohort k. Using the definitions in (6)-(11) and Table 5.2 information, the five regression equations predict that over j years, the cross-section growth for cohort k (net of aging) is given by

$$\hat{y}_{81,k} - \hat{y}_{81,k+j} = \hat{\alpha}_k - \hat{\alpha}_{k+j} \qquad (12)$$

$$\hat{y}_{91,k} - \hat{y}_{91,k+j} = \hat{\beta}_k - \hat{\beta}_{k+j} \qquad (13)$$

$$\hat{y}_{96,k} - \hat{y}_{96,k+j} = \hat{\delta}_k - \hat{\delta}_{k+j} \qquad (14)$$

$$\hat{y}_{01,k} - \hat{y}_{01,k+j} = \hat{\theta}_k - \hat{\theta}_{k+j} \qquad (15)$$

$$\hat{y}_{06,k} - \hat{y}_{06,k+j} = \hat{\tau}_k - \hat{\tau}_{k+j} \qquad (16)$$

The cross-section growth implies the change of immigrants' earning (logarithm) given j years of duration in Hong Kong. For instance, $\hat{y}_{81,k} - \hat{y}_{81,k+j}$ refers to 1981 census estimation of the change of cohort k immigrants' earning given j years of duration, while $\hat{y}_{01,k} - \hat{y}_{01,k+j}$ refers to 2001 census estimation of the change of cohort k immigrants' earning given j years of duration, different census datasets provide different cohort sources for estimation, Table 5.2 describes the cohort groups (k) available in different censuses. In general, higher the value of $\hat{y}$ differential implies higher assimilation rate. However, the assimilation rate can be further decomposed into "within-cohort growth" and "across-cohort" growth. For example, $\hat{y}_{01,81} - \hat{y}_{01,81+5} = \hat{y}_{01,81} - \hat{y}_{01,86}$ refers to the change of 1981 cohort

immigrants' earning given 5 years of duration, this earning change can be decomposed into "within-cohort growth" $(\hat{y}_{01,81} - \hat{y}_{96,81})$ and "across-cohort" growth $(\hat{y}_{96,81} - \hat{y}_{01,86})$, in this example, "within-cohort growth" $(\hat{y}_{01,81} - \hat{y}_{96,81})$ implies the change of 1981 cohort immigrants' earning given 5 years of duration, the earning change in 5 years of duration is computed using two censuses, they are 2001 and 1996, positive "within-cohort growth" implies increase in 1981 cohort immigrants' earning from 1996 to 2001. "Across-cohort" growth $(\hat{y}_{96,81} - \hat{y}_{01,86})$ refers to the comparison across two cohorts (1981 and 1986) immigrants' earnings using two censuses (1996 and 2001), the time difference between two censuses is 5 years which is the same as the time difference between two cohorts, this $\hat{y}$ differential implies the difference in earnings that occurred over 5 years for Chinese immigrants with a given number of years since migration, so it compares different cohorts at the same point of Chinese immigrants' Hong Kong life cycle. Positive "across-cohort" growth implies the estimated earnings of 1981 cohort immigrants in 1996 census is higher than the estimated earnings of 1986 cohort immigrants in 2001, so the quality (earning power) of later immigrant cohort is declining over time, so positive "across-cohort" growth biases upwardly the cross-section measure of earnings growth. The decomposition exercise allows an inference of the extent to which the underlying quality (earning power) of immigrant cohorts is changing. The cross-section growth given by (14) can be rewritten as (17), (18), (21), and the cross-section growth given by (15) can be rewritten as (19), (20), (22), (24), (27), also the cross-section growth given by (16) can be rewritten as (23), (25), (26), (28), (29), (30).

1976 $\hat{y}_{96,76} - \hat{y}_{96,76+15} = \left(\hat{y}_{96,76} - \hat{y}_{81,76}\right) + \left(\hat{y}_{81,76} - \hat{y}_{96,76+15}\right)$ (17)

Cohort $\rightarrow \hat{y}_{96,76} - \hat{y}_{96,91} = \left(\hat{y}_{96,76} - \hat{y}_{81,76}\right) + \left(\hat{y}_{81,76} - \hat{y}_{96,91}\right)$

1981 $\hat{y}_{96,81} - \hat{y}_{96,81+5} = \left(\hat{y}_{96,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{96,81+5}\right)$ (18)

Cohort $\rightarrow \hat{y}_{96,81} - \hat{y}_{96,86} = \left(\hat{y}_{96,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{96,86}\right)$

$\hat{y}_{01,81} - \hat{y}_{01,81+5} = \left(\hat{y}_{01,81} - \hat{y}_{96,81}\right) + \left(\hat{y}_{96,81} - \hat{y}_{01,81+5}\right)$ (19)

$\rightarrow \hat{y}_{01,81} - \hat{y}_{01,86} = \left(\hat{y}_{01,81} - \hat{y}_{96,81}\right) + \left(\hat{y}_{96,81} - \hat{y}_{01,86}\right)$

$\hat{y}_{01,81} - \hat{y}_{01,81+10} = \left(\hat{y}_{01,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{01,81+10}\right)$ (20)

$\rightarrow \hat{y}_{01,81} - \hat{y}_{01,91} = \left(\hat{y}_{01,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{01,91}\right)$

1986 $\hat{y}_{96,86} - \hat{y}_{96,86+5} = \left(\hat{y}_{96,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{96,86+5}\right)$ (21)

Cohort $\rightarrow \hat{y}_{96,86} - \hat{y}_{96,91} = \left(\hat{y}_{96,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{96,91}\right)$

$\hat{y}_{01,86} - \hat{y}_{01,86+5} = \left(\hat{y}_{01,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{01,86+5}\right)$ (22)

$\rightarrow \hat{y}_{01,86} - \hat{y}_{01,91} = \left(\hat{y}_{01,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{01,91}\right)$

$\hat{y}_{06,86} - \hat{y}_{06,86+5} = \left(\hat{y}_{06,86} - \hat{y}_{01,86}\right) + \left(\hat{y}_{01,86} - \hat{y}_{06,86+5}\right)$ (23)

$\rightarrow \hat{y}_{06,86} - \hat{y}_{06,91} = \left(\hat{y}_{06,86} - \hat{y}_{01,86}\right) + \left(\hat{y}_{01,86} - \hat{y}_{06,91}\right)$

$\hat{y}_{01,86} - \hat{y}_{01,86+10} = \left(\hat{y}_{01,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{01,86+10}\right)$ (24)

$$\rightarrow \hat{y}_{01,86} - \hat{y}_{01,96} = \left(\hat{y}_{01,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{01,96}\right)$$

$$\hat{y}_{06,86} - \hat{y}_{06,86+15} = \left(\hat{y}_{06,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{06,86+15}\right) \qquad (25)$$

$$\rightarrow \hat{y}_{06,86} - \hat{y}_{06,01} = \left(\hat{y}_{06,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{06,01}\right)$$

$$\hat{y}_{06,86} - \hat{y}_{06,86+10} = \left(\hat{y}_{06,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{06,86+10}\right) \qquad (26)$$

$$\rightarrow \hat{y}_{06,86} - \hat{y}_{06,96} = \left(\hat{y}_{06,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{06,96}\right)$$

1991
Cohort
$$\hat{y}_{01,91} - \hat{y}_{01,91+5} = \left(\hat{y}_{01,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{01,91+5}\right) \qquad (27)$$

$$\rightarrow \hat{y}_{01,91} - \hat{y}_{01,96} = \left(\hat{y}_{01,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{01,96}\right)$$

$$\hat{y}_{06,91} - \hat{y}_{06,91+5} = \left(\hat{y}_{06,91} - \hat{y}_{01,91}\right) + \left(\hat{y}_{01,91} - \hat{y}_{06,91+5}\right) \qquad (28)$$

$$\rightarrow \hat{y}_{06,91} - \hat{y}_{06,96} = \left(\hat{y}_{06,91} - \hat{y}_{01,91}\right) + \left(\hat{y}_{01,91} - \hat{y}_{06,96}\right)$$

$$\hat{y}_{06,91} - \hat{y}_{06,91+10} = \left(\hat{y}_{06,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{06,91+10}\right) \qquad (29)$$

$$\rightarrow \hat{y}_{06,91} - \hat{y}_{06,01} = \left(\hat{y}_{06,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{06,01}\right)$$

1996
Cohort
$$\hat{y}_{06,96} - \hat{y}_{06,96+5} = \left(\hat{y}_{06,96} - \hat{y}_{01,96}\right) + \left(\hat{y}_{01,96} - \hat{y}_{06,96+5}\right) \qquad (30)$$

$$\rightarrow \hat{y}_{06,96} - \hat{y}_{06,01} = \left(\hat{y}_{06,96} - \hat{y}_{01,96}\right) + \left(\hat{y}_{01,96} - \hat{y}_{06,01}\right)$$

Equations (17)-(30) decompose the cross-section growth into two parts. The first term in each equation gives the earnings growth experienced by cohort k over j years of duration and is regarded as the "within-cohort" growth in Borjas (1985). The second term in each equation estimates the difference in

earnings that occurred over *j* years of duration for individuals with a given number of years since immigration. Thus, it compares different cohorts at the same point of their life cycle in Hong Kong and is regarded as the "across-cohort" growth in Borjas (1985). If the second term is positive, it implies that the earnings of immigrants who have been staying in Hong Kong for n years is declining across censuses, in other words, the quality of cohorts is also declining over time, then it biases upwardly the cross-section measure of earnings growth. By contrast, if the second term is negative, it implies that the earnings of immigrants who have been staying in Hong Kong for n years is rising across censuses, in other words, the quality of cohorts is also improving over time, then it biases downwardly the cross-section measure of earnings growth. As mentioned in Borjas (1985), the within-cohort growth can also be biased by the effect of secular changes in aggregate labour market conditions. For instance, Hong Kong economic conditions worsened between 1996 and 2001, the within-cohort growth in equations (19), (22) and (27) will be biased downwards and the decomposition in these equations will exaggerate the extent of quality differences across cohorts. Taking difference between Chinese immigrants and Hong Kong natives earnings can be one possible solution to this problem, as suggested by Borjas (1985), we can analyze the behavior of Chinese immigrant earnings relative to a base of Hong Kong native workers. Suppose the wage structures for Hong Kong natives workers are given by

$$\ln w_{81,n} = \mathbf{X}\gamma_{81} + \alpha_n + \varepsilon_{81} \qquad (31)$$

$$\ln w_{91,n} = \mathbf{X}\gamma_{91} + \beta_n + \varepsilon_{91} \qquad (32)$$

$$\ln w_{96,n} = \mathbf{X}\gamma_{96} + \delta_n + \delta_{81} \qquad (33)$$

$$\ln w_{01,n} = \mathbf{X}\gamma_{01} + \theta_n + \varepsilon_{01} \qquad (34)$$

$$\ln w_{06,n} = \mathbf{X}\gamma_{06} + \tau_n + \varepsilon_{06} \qquad (35)$$

where n represents Hong Kong natives. Define the earnings a Hong Kong natives worker statistically similar to the average immigrant from cohort k would earn by

$$\hat{y}_{81,n} = \overline{\mathbf{X}}_k \times \hat{\gamma}_{81} + \hat{\alpha}_n \qquad (36)$$

$$\hat{y}_{91,n} = \overline{\mathbf{X}}_k \times \hat{\gamma}_{91} + \hat{\beta}_n \qquad (37)$$

$$\hat{y}_{96,n} = \overline{\mathbf{X}}_k \times \hat{\gamma}_{96} + \hat{\delta}_n \qquad (38)$$

$$\hat{y}_{01,n} = \overline{\mathbf{X}}_k \times \hat{\gamma}_{01} + \hat{\theta}_n \qquad (39)$$

$$\hat{y}_{06,n} = \overline{\mathbf{X}}_k \times \hat{\gamma}_{06} + \hat{\tau}_n \qquad (40)$$

Note that the cross-section growth in the relative earnings of Chinese immigrant cohort k is given by

$$\left(\hat{y}_{81,k} - \hat{y}_{81,n}\right) - \left(\hat{y}_{81,k+j} - \hat{y}_{81,n}\right) = \hat{\alpha}_k - \hat{\alpha}_{k+j} \qquad (41)$$

$$\left(\hat{y}_{91,k} - \hat{y}_{91,n}\right) - \left(\hat{y}_{91,k+j} - \hat{y}_{91,n}\right) = \hat{\beta}_k - \hat{\beta}_{k+j} \qquad (42)$$

$$\left(\hat{y}_{96,k} - \hat{y}_{96,n}\right) - \left(\hat{y}_{96,k+j} - \hat{y}_{96,n}\right) = \hat{\delta}_k - \hat{\delta}_{k+j} \qquad (43)$$

$$\left(\hat{y}_{01,k} - \hat{y}_{01,n}\right) - \left(\hat{y}_{01,k+j} - \hat{y}_{01,n}\right) = \hat{\theta}_k - \hat{\theta}_{k+j} \qquad (44)$$

$$\left(\hat{y}_{06,k} - \hat{y}_{06,n}\right) - \left(\hat{y}_{06,k+j} - \hat{y}_{06,n}\right) = \hat{\tau}_k - \hat{\tau}_{k+j} \qquad (45)$$

Thus the estimate of cross-section growth is unaffected by the introduction of Hong Kong native workers into the analysis. The cross-section growth given by (43) can be rewritten as (46), (47), (50), and the cross-section growth given by (44) can be rewritten as (48), (49), (51), (53), (56). Also the cross-section growth given by (45) can be rewritten as (52), (54), (55), (57), (58), (59).

1976 Cohort

$$(\hat{y}_{96,76} - \hat{y}_{96,n}) - (\hat{y}_{96,76+15} - \hat{y}_{96,n}) = [(\hat{y}_{96,76} - \hat{y}_{96,n}) - (\hat{y}_{81,76} - \hat{y}_{81,n})] + [(\hat{y}_{81,76} - \hat{y}_{81,n}) - (\hat{y}_{96,76+15} - \hat{y}_{96,n})] \tag{46}$$

$$\rightarrow (\hat{y}_{96,76} - \hat{y}_{96,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n}) = [(\hat{y}_{96,76} - \hat{y}_{96,n}) - (\hat{y}_{81,76} - \hat{y}_{81,n})] + [(\hat{y}_{81,76} - \hat{y}_{81,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})]$$

1981 Cohort

$$(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{96,81+5} - \hat{y}_{96,n}) = [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{96,81+5} - \hat{y}_{96,n})] \tag{47}$$

$$\rightarrow (\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n}) = [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})]$$

$$(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,81+5} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{96,81} - \hat{y}_{96,n})] + [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{01,81+5} - \hat{y}_{01,n})] \tag{48}$$

$$\rightarrow (\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{96,81} - \hat{y}_{96,n})] + [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n})]$$

$$(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,81+10} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{01,81+10} - \hat{y}_{01,n})] \tag{49}$$

$$\rightarrow (\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})]$$

1986
Cohort

$$(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{96,86+5} - \hat{y}_{96,n}) = [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{96,86+5} - \hat{y}_{96,n})] \tag{50}$$

$$\rightarrow (\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n}) = [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})]$$

$$(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,86+5} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{01,86+5} - \hat{y}_{01,n})] \tag{51}$$

$$\rightarrow (\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})]$$

$$(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n})] + [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{06,86+5} - \hat{y}_{06,n})] \tag{52}$$

$$\rightarrow (\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n})] + [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{06,91} - \hat{y}_{06,n})]$$

$$(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,86+10} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{01,86+10} - \hat{y}_{01,n})] \tag{53}$$

$$\rightarrow (\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})]$$

$$(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+15} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{06,86+15} - \hat{y}_{06,n})] \quad (54)$$

$$\rightarrow (\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n})]$$

$$(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+10} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{06,86+10} - \hat{y}_{06,n})] \quad (55)$$

$$\rightarrow (\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n})]$$

1991 Cohort

$$(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{01,91+5} - \hat{y}_{01,n}) = [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{01,91+5} - \hat{y}_{01,n})] \quad (56)$$

$$\rightarrow (\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n}) = [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})]$$

$$(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,91+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})] + [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{06,91+5} - \hat{y}_{06,n})] \quad (57)$$

$$\rightarrow (\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})] + [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n})]$$

$$(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,91+10} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{06,91+10} - \hat{y}_{06,n})] \quad (58)$$

$$\rightarrow (\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n})]$$

1996 Cohort
$$(\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{06,96+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})] + [(\hat{y}_{01,96} - \hat{y}_{01,n}) - (\hat{y}_{06,96+5} - \hat{y}_{06,n})] \tag{59}$$

$$\rightarrow (\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n}) = [(\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})] + [(\hat{y}_{01,96} - \hat{y}_{01,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n})]$$

The first bracketed term on the right hand side in (46)-(59) gives the difference in the relative earnings of cohort k between two census years. For example, $[(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})]$ refers to the difference in Chinese immigrants' and Hong Kong natives' earnings of 1991 cohort between 2001 and 1996 census. Borjas (1985) refers this within-cohort effect measures the rate at which the earnings profiles of Chinese immigrants and Hong Kong natives are converging or diverging. The second bracketed term on the right hand side in (46)-(59) gives the across-cohort effect which estimates the difference in the relative earnings of Chinese immigrants who are at the same position in their Hong Kong life cycle between two census years. For instance, $[(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})]$ refers to the comparison across two cohorts (1991 and 1996) immigrants' relative earnings using two censuses (1996 and 2001), the time difference between two censuses is 5 years which is the same as the time difference between two cohorts, this $\hat{y}$ differential implies the difference in relative earnings that occurred over 5 years for Chinese immigrants with a given number of years since migration, so it compares different cohorts at the same position in their

Hong Kong life cycle between two census years. Positive across-cohort growth difference indicates that the quality of Chinese immigrants is falling relative to the Hong Kong native base over time, which biasing upwardly the cross-section growth in immigrant earnings.

The data used in the analysis have been described in chapter 1 and 3. Unlike Borjas (1985) sampling approach, the analysis is not restricted to male persons only, but includes female persons, both male and female with different marital status, occupation and industry are all analyzed in this research, and several dummy variables are employed to capture the gender effect, occupational effect as well as industrial effect on assimilation patterns. In the dataset, self-employed individuals or working without pay persons are all excluded as the inclusion of them may create bias in the sample, the argument is discussed in section 3.5.7. Chapter 5 mainly employs 1981, 1991, 1996, 2001 and 2006 Hong Kong censuses, since 1986 census did not provide years of residence information, thus, the years since migration variables cannot be constructed. The empirical analysis reported in chapter 5 is based on the estimates of equations (1)-(5) and (31)-(35): the five Chinese immigrant cross sections and the five Hong Kong native cross sections, all ten equations are estimated jointly to allow the testing of coefficients across these equations.

The vector of socioeconomic characteristics, *X*, in the cross-section regressions includes the following variables:

(1) Years of completed schooling (S)

(2) Year of work experience = age minus years of schooling minus six. (EXP)

(3) Year of work experience squared (EXP2)

(4) Gender dummy (SEX)

(5) Marital status dummy (MS)

(6) Industry dummy (ID)

    a.   (MANU) Manufacturing;

    b.   (CONS) Construction;

    c.   (WRIX) Wholesale, Retail and Import / Export Trades, Restaurants;

    d.   (TSCM) Transport, Storage and Communication;

    e.   (FIRB) Financing, Insurance, Real Estate and Business Services;

    f.   (CSPS)   Community, Social and Personal Services

(7) Occupation dummy (OD)

    a.   (M&AD) Managers and Administrators;

    b.   (PROF) Professionals;

    c.   (ASSP) Associate Professionals;

    d.   (CLRK) Clerks;

    e.   (SWSS) Service Workers and   Shop Sales Workers;

    f.   (CARW) Craft and Related Workers;

    g.   (PMOA) Plant and Machine Operators and Assemblers;

    h.   (ELEM) Elementary Occupations

In total, six empirical models are estimated using different combinations of socioeconomic characteristics variables, the analysis would be decomposed by industrial sectors and occupations, Hong Kong census datasets allow six different industries and eight different occupations, which would be estimated in model IV, V and VI. The gender effect would be tested in all models except

model I while marital effect would be examined in all models except model I and II. The details of these combinations are as follow:

Empirical Model	Vector of socioeconomic characteristics, X
I	S; EXP; EXP2
II	S; EXP; EXP2; SEX
III	S; EXP; EXP2; SEX; MS
IV	S; EXP; EXP2; SEX; MS; ID
V	S; EXP; EXP2; SEX; MS; OD
VI	S; EXP; EXP2; SEX; MS; ID; OD

There are several statistical assumptions in this empirical model. Firstly, the error term has a zero conditional mean, given all values of that entity, which implies that there is no omitted variable bias. Second, the variable for one entity or state is distributed independently of, but identically to, the variables for another entity or state. In other words, it assumes that the variables are i.i.d. across entities. This assumption is valid if entities or states are selected by random sampling from the population. Third, the author assumes that it is impossible for any one of the independent variables is a perfect linear function of the other independent variables, that is, there is no existence of perfect multicollinearity. Fourth, the errors (ε) in the fixed effects regression model are uncorrelated over time and conditional on the independent variables. The errors (ε) consist of time-varying factors that are determinants of the dependent variable but not included as independent variables. If the errors (ε)

consist of random factors that are uncorrelated from one year to the next and are conditional on the independent variables and the entity or state fixed effects, then the error (ε) is uncorrelated from year to year and conditional on the independent variables, and this assumption holds. If the errors are correlated over time for a given entity or state, this error is said to be auto-correlated or serially correlated.

Regarding the estimation, given that the data structure and nature has validated the aforementioned assumptions, ordinary least square (OLS) estimation can be used. However, this model has its own limitations, some researchers (Beenstock, Chiswick and Paltiel 2005) argue that survivor bias was not addressed in Borjas (1985). Survivor bias in Borjas (1985) methodology refers to the fact that healthier workers survive longer in the labor market due to selective emigration, labor force withdrawal or mortality. In this case, the average fitness of the 1981 synthetic immigrant cohort will grow over time and will be larger in 2001 than in 1996. Therefore the earnings of immigrants, who arrive in 1981, might have changed between 1996 and 2001, not because of assimilation but simply because of survivor bias.

5.6 Empirical Results

5.6.1 Descriptive Statistics and Notes on Estimates

Table 5.3 and 5.4 provide the descriptive statistics of Hong Kong natives and Chinese immigrants throughout the five censuses. Throughout these five censuses, in general, the years of schooling of natives are relatively longer

than that of immigrants, which is consistent to the findings in chapter 3, but immigrants' work experience years is relatively longer than natives, which is not shown in chapter 3, longer work experience years can attribute to the older relative age profile of Chinese immigrants. The estimation results of equations (1) to (5) are shown in Table 5.5 to 5.14 show the estimation results of equations (31) to (35). Comparing the coefficients of Table 5.5 to Table 5.9 and Table 5.10 to Table 5.14 allow the author to examine the schooling return and work experience return differentials, they show both schooling and work experience returns are higher for Hong Kong natives than Chinese immigrants in all models, since there are different qualities of schooling between China and Hong Kong (Lui and Suen 1998) as well as non-transferrable skills and work experience, the earning power of individuals with schooling and work experience obtained in China is typically lower than native. The qualitative data presented in Chapter 4 (Respondents A, C, G, H, I, J, L, M) also revealed this qualification unrecognition problem. In short, the assimilation effect is valid, regardless of gender, whereas male immigrants assimilate similarly to female immigrants. But the return differentials are narrower in model VI than in model I, it implies the human capital return rates should not be as high as expected if industry and occupation are controlled. Besides, men's earning is always higher than women's earning regardless of place of birth, the earning power of men is always higher than women, but it does not imply that male immigrants assimilate better than female immigrants. In general, self-selected immigrants are always regarded as a more productive group of worker compare to non-self-selected immigrants, section 1.4 describes Hong Kong immigration history that most Chinese immigrants are men before 1980 for

economic reason and most immigrants are women after 1980 who come to Hong Kong for family reunion purpose, thus people expect the earning power of immigrant men is higher than immigrant women, however, conclusive results cannot be drawn without controlling the quality of immigrants, the industry they are working for and the occupation they are working as, besides, the author also consider the relative earning between male immigrants and male natives, also relative earning between female immigrants and female natives, and then compare the relative earning differentials by gender, that is how male immigrants' earnings overtake the male natives' earnings, or how female immigrants' earnings overtake the female natives' earnings, as male immigrants share some common characteristics with male natives and female immigrants also share some other common characteristics with female natives, thus Table 5.5 to 5.14 show that higher earning power of men than women regardless of place of birth does not automatically imply that male immigrants assimilate better than female immigrants.

On the other hand, the author expects assimilation rate should vary amongst marital status, Table 5.5 to 5.14 show that the earnings of married immigrants and natives are generally higher than that of singled immigrants and natives, it does not imply married immigrants assimilate better than singled immigrants, the logic is similar to the gender effect analysis. Since the author consider the relative earning between married immigrants and married natives, also relative earning between singled immigrants and singled natives, and then compare the relative earning differentials by marital status that is how married immigrants' earnings overtake the married natives' earnings, or how singled immigrants'

earnings overtake the singled natives' earnings. Thus Table 5.5 to 5.14 show that higher earning power of married group than singled group regardless of place of birth does not automatically imply that married immigrants assimilate better than singled immigrants.

Last but not least, socioeconomic characteristics variables consist of industrial sectors and occupations, the coefficient of those industry dummies and occupation dummies are all significant at 1 percent level, which represent the inclusion of these two types of dummies avoid committing omitted variables bias. Overall speaking, Table 5.5 to 5.14 indicate that gender, marital status, industrial differential as well as occupational difference are essential in understanding the assimilation pattern. As model VI is the most complete and comprehensive model to understanding assimilation pattern amongst these six models, the author will adopt model VI and equations (6)-(16) as well as equations (36)-(45) in order to estimate the cross-section growth, within-cohort growth and across-cohort growth stated in equations (17)-(30) and equations (46)-(59), the estimation results of equations (17)-(30) are presented in Table 5.15 to Table 5.17 while results of equations (46)-(59) are presented in Table 5.18 to Table 5.20.

Table 5.3 Descriptive Statistics for Chinese Immigrants

	Census Year				
	1981	1991	1996	2001	2006
Years of Schooling	10.4576	11.7981	12.3298	12.5823	12.9153
Experience	11.8963	17.5143	18.7662	18.6318	18.9714
Experience-Squared	263.4689	467.7003	499.3008	508.2265	522.2091
Gender	0.6706	0.4547	0.6041	0.4152	0.4076
Marital Status	0.4180	0.7114	0.7409	0.7080	0.6656
Dummy for Manufacturing	0.5531	0.4777	0.2429	0.1453	0.0917
Dummy for Construction	0.2036	0.0533	0.1377	0.0974	0.0938
Dummy for Wholesale	0.1458	0.2830	0.3354	0.4201	0.4237
Dummy for Transport	0.0220	0.0350	0.0736	0.0635	0.0706
Dummy for Financing	0.0082	0.0437	0.0792	0.0978	0.1066
Dummy for Community Services	0.0471	0.0962	0.1234	0.1680	0.2085
Dummy for Manager	0.0050	0.0771	0.1047	0.0695	0.0671
Dummy for Professional	0.0176	0.0143	0.0223	0.0269	0.0266
Dummy for Ass Professional	0.0000	0.0548	0.0621	0.0875	0.0836
Dummy for Clerk	0.0327	0.0970	0.1326	0.1355	0.1373
Dummy for Service Workers	0.1672	0.1208	0.1783	0.2365	0.2835
Dummy for Craft Worker	0.7712	0.1526	0.1979	0.1211	0.1083
Dummy for Plant Operator	0.0000	0.2496	0.0928	0.0574	0.0396
Dummy for Elementary Occupations	0.0050	0.2289	0.2040	0.2634	0.2511
Sample Size	1569	1195	4222	13993	16384

Table 5.4 Descriptive Statistics for Hong Kong Natives

	Census Year				
	1981	1991	1996	2001	2006
Years of Schooling	15.6311	14.2830	14.3426	14.7991	15.0066
Experience	11.3981	16.0000	12.7827	13.7398	16.8965
EXP2	224.4854	414.0755	161.0178	88.1761	211.8967
Gender	0.6796	0.6792	0.5739	0.5345	0.5254
Marital Status	0.5243	0.6226	0.2815	0.1561	0.2917
Dummy for Manufacturing	0.3786	0.2642	0.1671	0.0772	0.0658
Dummy for Construction	0.0777	0.0943	0.0626	0.0770	0.0403
Dummy for Wholesale	0.1845	0.2075	0.3009	0.3721	0.3563
Dummy for Transport	0.0680	0.0943	0.1005	0.0961	0.1098
Dummy for Financing	0.1456	0.2075	0.1555	0.1601	0.1941
Dummy for Community Services	0.1456	0.1132	0.2019	0.2125	0.2298
Dummy for Manager	0.1165	0.0755	0.1013	0.0494	0.0956
Dummy for Professional	0.2330	0.1132	0.0503	0.0547	0.0735
Dummy for Ass Professional	0.0000	0.1321	0.1191	0.1359	0.1758
Dummy for Clerk	0.1553	0.1321	0.2274	0.2190	0.2322
Dummy for Service Workers	0.2330	0.0943	0.2312	0.2947	0.2584
Dummy for Craft Worker	0.2621	0.1509	0.1168	0.1056	0.0466
Dummy for Plant Operator	0.0000	0.0755	0.0418	0.0210	0.0267
Dummy for Elementary Occupations	0.0000	0.2264	0.1060	0.1165	0.0900
Sample Size	1895	1564	1290	4728	9174

Table 5.5 1981 Census Immigrant

Cohort Dummy	Model I Coef.	Model I t-value	Model II Coef.	Model II t-value	Model III Coef.	Model III t-value	Model IV Coef.	Model IV t-value	Model V Coef.	Model V t-value	Model VI Coef.	Model VI t-value
1976-1980	5.9755	85.7754	5.7338	82.1183	5.7155	79.4932	3.9508	36.9944	0.9650	8.2905	0.9131	8.0517
Years of Schooling	0.0766	15.0595	0.0711	14.5250	0.0727	14.2290	0.0568	12.1278	0.0188	4.9692	0.0211	5.6761
Experience	0.0377	7.7746	0.0333	7.1431	0.0368	6.4519	0.0220	4.3390	0.0084	2.1966	0.0050	1.3364
Experience-Squared	-0.0005	-4.6216	-0.0004	-3.7156	-0.0005	-3.8425	-0.0002	-1.9969	-0.0002	-2.3907	-0.0001	-1.4012
Gender	-	-	0.4754	11.8242	0.4700	11.5947	0.3674	9.4579	0.3663	13.5939	0.2723	9.5867
Marital status	-	-	-	-	-0.0553	-1.0645	-0.0001	-0.0017	0.0322	0.9388	0.0470	1.4129
Industry Dummy												
Manufacturing	-	-	-	-	-	-	2.0596	19.9493	-	-	0.4158	4.1373
Construction	-	-	-	-	-	-	2.3156	21.2740	-	-	0.7090	6.8762
Wholesale	-	-	-	-	-	-	2.1295	19.3328	-	-	0.5046	4.7449
Transport	-	-	-	-	-	-	2.2121	14.5018	-	-	0.5818	4.5025
Financing	-	-	-	-	-	-	2.1459	10.1868	-	-	0.4728	2.7692
Community Service	-	-	-	-	-	-	2.0151	15.5894	-	-	0.3856	3.4015
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	6.5143	29.5071	6.0977	26.2561
Professional	-	-	-	-	-	-	-	-	6.0694	36.5250	5.7552	31.9849
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-
Clerk	-	-	-	-	-	-	-	-	5.7254	39.4807	5.3469	32.4467
Service Workers	-	-	-	-	-	-	-	-	5.6196	43.9152	5.2453	34.5333
Craft Worker	-	-	-	-	-	-	-	-	5.5993	45.1311	5.2125	35.3213
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-
Elementary Occupations	-	-	-	-	-	-	-	-	5.4580	25.3647	5.5356	26.4818
F-Stat	32310.31		28170.35		23477.48		15188.55		27264.51		19300.84	
Sample Size	1569		1569		1569		1569		1569		1569	

Table 5.6 1991 Census Immigrant

Cohort Dummy	Model I Coef.	Model I t-value	Model II Coef.	Model II t-value	Model III Coef.	Model III t-value	Model IV Coef.	Model IV t-value	Model V Coef.	Model V t-value	Model VI Coef.	Model VI t-value
1981-1985	2.9869	21.2218	2.8966	20.3880	2.8960	20.3727	0.5342	6.3233	0.1762	2.5430	0.1761	2.5424
1986-1990	3.0146	21.7275	2.9406	21.0906	2.9408	21.0835	0.4045	4.7719	0.0772	1.1179	0.0752	1.0900
Years of Schooling	0.3347	38.7628	0.3241	35.8196	0.3246	35.1867	0.1018	16.0053	0.0528	8.8941	0.0539	8.9953
Experience	0.0897	8.8122	0.0937	9.2001	0.0957	7.5082	0.0147	2.1799	0.0103	1.9016	0.0103	1.9005
Experience-Squared	-0.0005	-2.0311	-0.0005	-2.3429	-0.0006	-2.2128	0.0000	0.2154	0.0000	-0.4118	0.0000	-0.3442
Gender	-	-	0.3600	3.7263	0.3579	3.6913	0.4109	7.9705	0.3316	7.7301	0.3172	7.2208
Marital status	-	-	-	-	-0.0346	-4.2557	0.0580	4.8259	0.0165	5.2965	0.0151	4.2703
Industry Dummy												
Manufacturing	-	-	-	-	-	-	6.1782	56.0805	-	-	0.1739	24.6937
Construction	-	-	-	-	-	-	6.1349	40.4734	-	-	0.2243	35.8556
Wholesale	-	-	-	-	-	-	6.2703	52.8777	-	-	0.2489	32.9900
Transport	-	-	-	-	-	-	6.2925	37.2847	-	-	0.4196	16.5681
Financing	-	-	-	-	-	-	5.9064	35.3128	-	-	0.0883	26.3355
Community Service	-	-	-	-	-	-	6.0380	44.1937	-	-	0.0987	35.3867
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	7.7340	55.4796	7.5109	26.0938
Professional	-	-	-	-	-	-	-	-	7.5022	38.1178	7.3329	22.9339
Ass Professional	-	-	-	-	-	-	-	-	7.3022	50.7197	7.1355	25.2078
Clerk	-	-	-	-	-	-	-	-	7.2391	59.1651	7.0009	25.1023
Service Workers	-	-	-	-	-	-	-	-	7.3292	66.8220	7.0912	25.9030
Craft Worker	-	-	-	-	-	-	-	-	7.1427	65.7563	6.9629	25.6243
Plant Operator	-	-	-	-	-	-	-	-	7.2139	72.9010	7.0231	25.9480
Elementary Occupations	-	-	-	-	-	-	-	-	7.1152	67.8881	6.9164	25.6747
F-Stat	6265.92		5280.50		4522.59		9364.64		12898.23		9254.90	
Sample Size	1195		1195		1195		1195		1195		1195	

Table 5.7 1996 Census Immigrants

Cohort Dummy	Model I Coef.	Model I t-value	Model II Coef.	Model II t-value	Model III Coef.	Model III t-value	Model IV Coef.	Model IV t-value	Model V Coef.	Model V t-value	Model VI Coef.	Model VI t-value
1976-1980	4.7882	64.8343	4.5922	62.5323	4.6031	62.6789	1.4050	21.2451	1.0068	16.5491	0.9643	15.9628
1981-1985	4.7246	61.8545	4.5758	60.7379	4.5911	60.8808	1.3492	19.9870	0.9774	15.8301	0.9321	15.1925
1986-1990	4.6656	57.2653	4.6056	57.7901	4.6137	57.9240	1.3932	20.0519	1.0353	16.3527	0.9911	15.7455
1991-1995	4.6482	57.4626	4.5949	58.0882	4.5963	58.1663	1.3482	19.4321	0.9648	15.2553	0.9240	14.7033
Years of Schooling	0.2538	60.6619	0.2434	58.6688	0.2416	57.7348	0.1127	32.8414	0.0677	19.1331	0.0662	18.5834
Experience	0.0832	18.5511	0.0772	17.5432	0.0667	12.0717	0.0216	5.7340	0.0218	6.3973	0.0208	6.1271
Experience-Squared	-0.0009	-8.1064	-0.0007	-7.2238	-0.0006	-5.0165	-0.0002	-2.3970	-0.0003	-4.1271	-0.0003	-3.7441
Gender	-	-	0.5359	14.2647	0.5373	14.3181	0.4025	15.2991	0.3991	16.4947	0.3817	15.5032
Marital status	-	-	-	-	0.1725	3.1667	0.1018	2.7948	0.0664	2.0412	0.0667	2.0731
Industry Dummy												
Manufacturing	-	-	-	-	-	-	5.5867	69.3257	-	-	1.4663	9.4117
Construction	-	-	-	-	-	-	5.6241	67.3367	-	-	1.5615	9.9313
Wholesale	-	-	-	-	-	-	5.6661	71.2142	-	-	1.4966	9.5704
Transport	-	-	-	-	-	-	5.6082	63.1909	-	-	1.5353	9.5780
Financing	-	-	-	-	-	-	5.6291	61.8612	-	-	1.5161	9.5270
Community Service	-	-	-	-	-	-	5.5885	65.3981	-	-	1.4937	9.4587
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	7.0462	78.6745	5.6448	33.0593
Professional	-	-	-	-	-	-	-	-	7.2190	64.2707	5.8169	31.8853
Ass Professional	-	-	-	-	-	-	-	-	6.7973	73.6880	5.3856	31.3090
Clerk	-	-	-	-	-	-	-	-	6.7247	81.7200	5.3072	31.6842
Service Workers	-	-	-	-	-	-	-	-	6.6243	85.4608	5.2029	31.1679
Craft Worker	-	-	-	-	-	-	-	-	6.5107	82.9579	5.0851	30.6763
Plant Operator	-	-	-	-	-	-	-	-	6.5403	79.4797	5.1276	30.4021
Elementary Occupations	-	-	-	-	-	-	-	-	6.3956	82.4355	4.9630	29.8417
F-Stat	33665.84		30898.49		27525.29		37377.83		41556.29		31418.04	
Sample Size	4222		4222		4222		4222		4222		4222	

Table 5.8 2001 Census Immigrant

Cohort Dummy	Model I Coef.	Model I t-value	Model II Coef.	Model II t-value	Model III Coef.	Model III t-value	Model IV Coef.	Model IV t-value	Model V Coef.	Model V t-value	Model VI Coef.	Model VI t-value
1981-1985	4.0016	87.3940	3.8418	84.6459	3.8717	85.1580	1.1227	32.0466	0.5088	18.6962	0.4872	17.9969
1986-1990	4.0989	94.0308	3.9716	92.2178	3.9943	92.7102	1.1532	33.7974	0.5140	19.2972	0.4924	18.5958
1991-1995	4.0503	93.2896	3.9555	92.5270	3.9671	92.9283	1.1064	32.5527	0.4847	18.3404	0.4614	17.5624
1996-2000	4.0471	94.4430	4.0028	95.1886	4.0069	95.4735	1.0861	32.1009	0.4154	15.6959	0.3971	15.1136
Years of Schooling	0.2799	115.0516	0.2685	110.3799	0.2663	108.8616	0.1143	58.0559	0.0431	25.1236	0.0413	23.9455
Experience	0.1066	41.6704	0.1075	42.8755	0.0937	30.3157	0.0333	16.3955	0.0195	12.5465	0.0197	12.7717
Experience-Squared	-0.0011	-18.1416	-0.0011	-18.1280	-0.0009	-13.3714	-0.0004	-8.8389	-0.0003	-9.8856	-0.0003	-10.1459
Gender	-	-	0.5305	23.8204	0.5273	23.7196	0.4116	27.0626	0.3030	25.8898	0.2942	24.5692
Marital status	-	-	-	-	0.2325	7.6079	0.1075	5.4855	0.0738	5.0136	0.0723	4.9437
Industry Dummy												
Manufacturing	-	-	-	-	-	-	5.7342	127.8992	-	-	0.7744	12.4753
Construction	-	-	-	-	-	-	5.7985	127.0416	-	-	0.8861	14.0833
Wholesale	-	-	-	-	-	-	5.8188	140.6117	-	-	0.8126	13.2863
Transport	-	-	-	-	-	-	5.7845	116.4585	-	-	0.8862	13.8671
Financing	-	-	-	-	-	-	5.8273	120.0719	-	-	0.8777	13.9715
Community Service	-	-	-	-	-	-	5.7983	130.9432	-	-	0.8490	13.7756
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	8.3091	186.2468	7.5406	103.6934
Professional	-	-	-	-	-	-	-	-	8.4201	164.8665	7.6398	100.2526
Ass Professional	-	-	-	-	-	-	-	-	7.8928	188.3392	7.1085	100.1784
Clerk	-	-	-	-	-	-	-	-	7.5886	197.8444	6.8099	98.3312
Service Workers	-	-	-	-	-	-	-	-	7.5540	212.8443	6.7806	99.1162
Craft Worker	-	-	-	-	-	-	-	-	7.5064	199.2418	6.7202	97.0322
Plant Operator	-	-	-	-	-	-	-	-	7.4994	182.3443	6.7321	94.3316
Elementary Occupations	-	-	-	-	-	-	-	-	7.3592	205.7217	6.5731	97.4041
F-Stat	98248.58		89520.24		79903.65		118470.47		186303.98		140009.27	
Sample Size	13993		13993		13993		13993		13993		13993	

Table 5.9 2006 Census Immigrants

Cohort Dummy	Model I Coef.	Model I t-value	Model II Coef.	Model II t-value	Model III Coef.	Model III t-value	Model IV Coef.	Model IV t-value	Model V Coef.	Model V t-value	Model VI Coef.	Model VI t-value
1986-1990	7.7769	270.9244	7.6817	272.6679	7.6884	272.7055	7.3981	100.3191	7.7225	89.8538	7.6993	86.5931
1991-1995	7.7099	276.9882	7.6310	279.8381	7.6359	279.9716	7.3475	99.9385	7.6815	89.3809	7.6599	86.1541
1996-2000	7.6903	283.5652	7.6145	286.6335	7.6196	286.7509	7.3360	100.1798	7.6606	89.4183	7.6406	86.1844
2001-2005	7.6157	279.7776	7.5749	285.0545	7.5730	285.1277	7.2874	99.8546	7.6506	89.4697	7.6279	86.2320
Years of Schooling	0.0746	48.3513	0.0697	46.1024	0.0692	45.6713	0.0657	42.7437	0.0287	19.8477	0.0275	18.9801
Experience	0.0237	19.2538	0.0248	20.7114	0.0214	15.2180	0.0220	15.6559	0.0244	19.7822	0.0245	19.8561
Experience-Squared	-0.0003	-11.8622	-0.0004	-12.6090	-0.0003	-10.0094	-0.0003	-10.4878	-0.0004	-13.9033	-0.0004	-13.9484
Gender	-	-	0.2952	29.2572	0.2947	29.2270	0.2974	27.5795	0.2213	23.3517	0.2042	20.8955
Marital status	-	-	-	-	0.0604	4.5866	0.0642	4.9011	0.0449	3.9531	0.0480	4.2351
Industry Dummy												
Manufacturing	-	-	-	-	-	-	0.3682	5.2394	-	-	0.1205	1.7684
Construction	-	-	-	-	-	-	0.2493	3.5473	-	-	0.1584	2.3147
Wholesale	-	-	-	-	-	-	0.3213	4.6668	-	-	0.0758	1.1297
Transport	-	-	-	-	-	-	0.3413	4.8227	-	-	0.2068	3.0159
Financing	-	-	-	-	-	-	0.4990	7.1238	-	-	0.2214	3.2633
Community Service	-	-	-	-	-	-	0.2631	3.7986	-	-	0.0997	1.4843
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	1.4031	16.6922	1.3326	14.1555
Professional	-	-	-	-	-	-	-	-	1.4143	16.3039	1.3182	13.6599
Ass Professional	-	-	-	-	-	-	-	-	0.9249	11.0403	0.8338	8.8937
Clerk	-	-	-	-	-	-	-	-	0.5168	6.2096	0.4363	4.6773
Service Workers	-	-	-	-	-	-	-	-	0.4194	5.0708	0.3734	4.0143
Craft Worker	-	-	-	-	-	-	-	-	0.4542	5.4515	0.3634	3.8803
Plant Operator	-	-	-	-	-	-	-	-	0.4688	5.5195	0.3578	3.7615
Elementary Occupations	-	-	-	-	-	-	-	-	0.1169	1.4135	0.0293	0.3161
F-Stat	462252.50		425695.15		378861.04		230305.38		271211.08		201932.46	
Sample Size	16384		16384		16384		16384		16384		16384	

Table 5.10 1981 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.4062	38.9488	0.3990	26.7086	0.3988	25.5512	0.0825	4.5090	0.0563	3.2972	0.0575	3.1379
Experience	0.1481	5.3340	0.1431	4.9691	0.1424	4.2773	0.0072	6.4472	0.0177	6.1433	0.0217	5.3744
Experience-Squared	-0.0009	-1.2246	-0.0008	-1.0753	-0.0008	-1.0150	-0.0002	-0.6216	-0.0004	-1.2368	-0.0005	-1.5189
Gender	-	-	0.2045	7.6795	0.2042	8.6749	0.1366	5.0188	0.1681	5.3883	0.1412	6.1169
Marital status	-	-	-	-	0.0152	5.0468	0.2493	4.7936	0.1658	6.2822	0.1988	5.4666
Industry Dummy												
Manufacturing	-	-	-	-	-	-	6.0700	18.3383	-	-	-	-
Construction	-	-	-	-	-	-	6.2642	16.5537	-	-	0.0760	12.3427
Wholesale	-	-	-	-	-	-	6.3517	20.7743	-	-	0.2443	22.2399
Transport	-	-	-	-	-	-	6.5917	15.8850	-	-	0.4139	35.8030
Financing	-	-	-	-	-	-	6.1765	16.6141	-	-	0.0882	24.4078
Community Service	-	-	-	-	-	-	6.4332	17.9237	-	-	0.1818	12.9558
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	7.0889	20.1820	6.9255	18.1730
Professional	-	-	-	-	-	-	-	-	6.8789	20.4001	6.7063	17.6219
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-
Clerk	-	-	-	-	-	-	-	-	6.6355	19.8737	6.5101	17.3194
Service Workers	-	-	-	-	-	-	-	-	6.5271	22.0219	6.2990	17.1256
Craft Worker	-	-	-	-	-	-	-	-	6.2297	21.3948	6.1443	19.6704
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-
F-Stat	1168.04		871.13		689.43		1815.12		2301.55		1520.91	
Sample Size	1895		1895		1895		1895		1895		1895	

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Table 5.11 1991 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.4796	23.9335	0.4663	19.2040	0.4678	18.7905	0.3050	7.0699	0.0333	0.7835	0.0103	0.2288
Experience	0.0912	2.8240	0.0868	2.6588	0.0957	2.2621	0.0420	5.1008	0.0173	6.8599	0.0433	2.0256
Experience-Squared	0.0002	0.3298	0.0003	0.3796	0.0001	0.1372	0.0003	0.3857	-0.0003	-0.6219	-0.0008	-1.7655
Gender	-	-	0.3717	5.9685	0.3770	4.9724	0.1747	6.5138	-0.0177	-7.0944	-0.1481	-0.7533
Marital status	-	-	-	-	-0.1604	-4.3381	-0.0094	-5.0232	-0.2215	-6.0566	-0.3319	-5.4760
Industry Dummy												
Manufacturing	-	-	-	-	-	-	3.7285	5.4081	-	-	-0.8978	-5.4299
Construction	-	-	-	-	-	-	2.9971	3.6364	-	-	-1.2676	-3.9006
Wholesale	-	-	-	-	-	-	3.2430	4.1495	-	-	-1.2358	-4.8251
Transport	-	-	-	-	-	-	3.6108	4.4053	-	-	-0.7163	-4.0894
Financing	-	-	-	-	-	-	3.3424	4.0500	-	-	-0.3783	-4.6172
Community Service	-	-	-	-	-	-	2.7746	2.9867	-	-	-1.0847	-2.5177
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	8.9197	10.8008	10.3643	9.7321
Professional	-	-	-	-	-	-	-	-	8.7545	10.7221	9.6464	10.1960
Ass Professional	-	-	-	-	-	-	-	-	8.7199	10.5135	9.8454	9.7019
Clerk	-	-	-	-	-	-	-	-	8.0182	11.7795	9.1776	10.0065
Service Workers	-	-	-	-	-	-	-	-	8.1924	11.1165	9.6847	9.6171
Craft Worker	-	-	-	-	-	-	-	-	8.0504	13.6317	9.2905	10.8227
Plant Operator	-	-	-	-	-	-	-	-	7.9277	13.1042	8.8012	10.2427
Elementary Occupations	-	-	-	-	-	-	-	-	7.3670	11.9060	8.5792	9.9739
F-Stat	749.07		561.33		440.80		332.80		980.59		756.20	
Sample Size	1564		1564		1564		1564		1564		1564	

Table 5.12 1996 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.5749	161.5918	0.5464	122.9100	0.5476	122.3718	0.2137	25.9349	0.1461	16.4077	0.1309	14.7008
Experience	0.0653	5.7840	0.0621	5.7108	0.0776	5.8619	0.0671	8.1225	0.0540	7.3722	0.0535	7.4831
Experience-Squared	0.0006	1.6691	0.0005	1.4479	0.0002	0.5919	-0.0008	-3.7010	-0.0008	-4.3647	-0.0008	-4.4876
Gender	-	-	0.8161	10.0702	0.8120	10.0286	0.2854	5.3843	0.2138	4.5464	0.1870	4.0136
Marital status	-	-	-	-	-0.2665	-2.0464	0.0247	0.3036	0.0138	0.1977	0.0356	0.5204
Industry Dummy												
Manufacturing	-	-	-	-	-	-	5.4080	39.3093	-	-	1.5596	7.4043
Construction	-	-	-	-	-	-	5.4662	34.1587	-	-	1.6364	7.3585
Wholesale	-	-	-	-	-	-	5.5220	43.6050	-	-	1.6193	7.7188
Transport	-	-	-	-	-	-	5.6016	39.1685	-	-	1.7976	8.3949
Financing	-	-	-	-	-	-	5.5607	36.3957	-	-	1.7460	8.1198
Community Service	-	-	-	-	-	-	5.4573	40.0014	-	-	1.5863	7.5049
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	6.9924	38.9490	5.6160	22.6299
Professional	-	-	-	-	-	-	-	-	7.0143	34.4872	5.6778	21.7715
Ass Professional	-	-	-	-	-	-	-	-	6.6406	40.2869	5.2571	21.9637
Clerk	-	-	-	-	-	-	-	-	6.5544	46.8261	5.1339	22.8326
Service Workers	-	-	-	-	-	-	-	-	6.5423	49.9499	5.1449	22.9046
Craft Worker	-	-	-	-	-	-	-	-	6.4441	45.7022	5.1059	22.8175
Plant Operator	-	-	-	-	-	-	-	-	6.6597	41.3182	5.1891	21.3381
Elementary Occupations	-	-	-	-	-	-	-	-	6.4469	46.8784	5.0119	22.2306
F-Stat	14492.29		11743.22		9418.72		11245.44		12947.59		9346.15	
Sample Size	1290		1290		1290		1290		1290		1290	

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Table 5.13 2001 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.5682	353.4848	0.5427	265.2600	0.5430	264.8598	0.1559	41.0343	0.0835	20.2485	0.0766	18.9285
Experience	0.0403	5.2460	0.0377	5.0871	0.0502	5.4527	0.0829	17.1951	0.0636	14.7299	0.0639	15.3101
Experience-Squared	0.0012	5.2000	0.0011	5.0476	0.0009	3.8817	-0.0016	-12.2915	-0.0013	-11.2558	-0.0013	-11.9531
Gender	-	-	0.7719	19.0557	0.7691	18.9854	0.1754	7.8155	0.1330	6.3954	0.1015	5.0080
Marital status	-	-	-	-	-0.2061	-2.2875	0.0951	2.0215	0.0579	1.3992	0.0703	1.7589
Industry Dummy												
Manufacturing	-	-	-	-	-	-	6.3754	90.3698	-	-	2.0601	14.7269
Construction	-	-	-	-	-	-	6.3725	93.1468	-	-	2.1043	14.9499
Wholesale	-	-	-	-	-	-	6.3583	110.0982	-	-	2.0456	14.9055
Transport	-	-	-	-	-	-	6.4209	95.4078	-	-	2.1429	15.3987
Financing	-	-	-	-	-	-	6.4659	91.0209	-	-	2.1363	15.4747
Community Service	-	-	-	-	-	-	6.1139	97.3018	-	-	1.8370	13.4058
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	8.2812	90.5040	6.3731	41.2398
Professional	-	-	-	-	-	-	-	-	8.1731	90.2932	6.2958	41.0210
Ass Professional	-	-	-	-	-	-	-	-	7.5957	99.2917	5.7152	38.5902
Clerk	-	-	-	-	-	-	-	-	7.3900	113.1289	5.4655	37.9675
Service Workers	-	-	-	-	-	-	-	-	7.3342	120.6800	5.4390	37.8529
Craft Worker	-	-	-	-	-	-	-	-	7.3624	110.5256	5.4587	37.6700
Plant Operator	-	-	-	-	-	-	-	-	7.4887	85.2609	5.5199	35.3371
Elementary Occupations	-	-	-	-	-	-	-	-	7.3163	115.7978	5.3949	37.5906
F-Stat	55617.36		45001.32		36034.37		61610.85		67606.87		49634.99	
Sample Size	4728		4728		4728		4728		4728		4728	

Table 5.14 2006 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.5430	443.8659	0.5288	365.1356	0.5289	365.3494	0.1835	65.3146	0.1056	36.2467	0.1008	34.6665
Experience	0.0589	16.4701	0.0567	16.1095	0.0640	15.9852	0.0807	34.2383	0.0704	33.9010	0.0699	33.9864
Experience-Squared	0.0008	8.0323	0.0008	7.7808	0.0007	6.4530	-0.0012	-18.3401	-0.0012	-20.5729	-0.0012	-20.6846
Gender	-	-	0.4750	17.6447	0.4781	17.7635	0.1195	7.3684	0.0746	5.1452	0.0615	4.2647
Marital status	-	-	-	-	-0.1531	-3.8153	0.1499	6.3313	0.1339	6.5284	0.1412	6.9475
Industry Dummy												
Manufacturing	-	-	-	-	-	-	5.7350	104.5231	-	-	1.1601	10.3217
Construction	-	-	-	-	-	-	5.7234	97.7037	-	-	1.1832	10.3635
Wholesale	-	-	-	-	-	-	5.6961	130.5962	-	-	1.0922	9.9088
Transport	-	-	-	-	-	-	5.7599	116.0750	-	-	1.2673	11.3764
Financing	-	-	-	-	-	-	5.8318	115.0266	-	-	1.2495	11.3296
Community Service	-	-	-	-	-	-	5.6696	122.0150	-	-	1.0861	9.8468
Occupation Dummy												
Manager	-	-	-	-	-	-	-	-	7.6227	130.2513	6.5538	53.8802
Professional	-	-	-	-	-	-	-	-	7.5503	121.6854	6.4712	52.7078
Ass Professional	-	-	-	-	-	-	-	-	7.1680	137.8565	6.1015	51.5141
Clerk	-	-	-	-	-	-	-	-	6.8955	148.7669	5.8170	49.9257
Service Workers	-	-	-	-	-	-	-	-	6.8327	154.6067	5.8010	49.7393
Craft Worker	-	-	-	-	-	-	-	-	6.8991	127.9405	5.8339	49.1820
Plant Operator	-	-	-	-	-	-	-	-	6.8254	110.4392	5.6913	46.0211
Elementary Occupations	-	-	-	-	-	-	-	-	6.5449	137.3982	5.4567	46.5449
F-Stat	141107.34		109489.91		87724.35		117594.86		133364.45		93359.42	
Sample Size	9174		9174		9174		9174		9174		9174	

Table 5.15, 5.16 and 5.17 show the decomposition of cross-section growth in Chinese immigrant earnings in 5 years, 10 years and 15 years duration respectively. In Table 5.15, the positive values of within–cohort growth of 1981 cohort imply positive assimilation rate, using 1996 census, immigrant earnings increase by 62.5 percent over 5 years of duration, however, the estimated immigrant earnings increase by only 5.56 percent over the same years of   duration (1981 – 1986) using 2001 census, the estimated assimilation rate different in two different censuses   is due to the possible occurrence of survivor bias, this survivor bias was not addressed in Borjas (1985), but suggested by some researchers (Beenstock, Chiswick and   Paltiel 2005). Survivor bias in Borjas (1985) methodology refers to the fact that healthier workers survive longer in the labor market due to selective emigration, labor force withdrawal or mortality. In this case, the average fitness of the 1981 synthetic immigrant cohort will grow over time and will be larger in 2001 than in 1996. Therefore the earnings of immigrants, who arrive in 1981, might have changed between 1996 and 2001, not because of assimilation but simply because of survivor bias. The same survivor bias occurs in 1986 and 1991 five years duration cohorts and 1986 ten years duration cohort in Table 5.16. Considering the relative earning and taking simple average of these assimilation rate estimates could partly alleviate the survivor bias, the results are shown in Table 5.18, 5.19 and 5.20 for 5, 10 and 15 years of duration respectively. In Table 5.18 and 5.19, the differences between the assimilation rate estimates are smaller than that in Table 5.15 and 5.16, for example, the earning assimilation rate difference between 1996 and

2001 census for 5 years 1981 cohort is 56.92 percent, the relative earning assimilation rate difference between 1996 and 2001 census for 5 years 1981 cohort is just 4.64 percent.

Using the average values to approximate the assimilation pattern across cohorts, the 5 years 1981 cohort assimilation rate is around 20.57 percent, the quality of this cohort is improving by 23.78 percent over the 5 years of duration, while the similar pattern happens for 5 years 1986 cohort, but the assimilation rate of 5 years 1986 cohort (10.93 percent) is lower than 5 years 1981 cohort, the quality of this cohort is just improving by 6.35 percent over the 5 years of duration. The assimilation rate is even worse for 5 years 1991 and 1996 cohorts, the assimilation rate for 5 years 1991 cohort is -1.66 percent while it is -15.32 percent for 5 years 1996 cohort, the quality of 5 years 1991 and 1996 cohorts is declining. Similar pattern can be observed in 10 years and 15 years duration cohorts, both assimilation rate and quality of Chinese immigrants are declining over time, this result is echoing with relative divergence earning findings in Lam and Liu (2002a), the census data of Lam and Liu (2002a) was up to 1996 only, this study confirms the fact that the deterioration of assimilation rate and quality is persistent after 1996. Figure 5.2 indicates an obvious assimilation pattern that assimilation rate and quality of immigrants change across various cohorts.

Table 5.15
Decomposition of Cross-Section Growth in Immigrant Earnings (Duration = 5 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	18	1996	1986	-0.0590	0.6248	-0.6837
1981 Cohort	19	2001	1986	-0.0052	0.0556	-0.0607
Average				*-0.0321*	*0.3402*	*-0.3722*
1986 Cohort	21	1996	1991	0.0671	0.7847	-0.7176
1986 Cohort	22	2001	1991	0.0309	0.0018	0.0292
1986 Cohort	23	2006	1991	0.0394	-0.0416	0.0809
Average				*0.0458*	*0.2483*	*-0.2025*
1991 Cohort	27	2001	1996	0.0643	0.0379	0.0264
1991 Cohort	28	2006	1996	0.0193	-0.0500	0.0693
Average				*0.0418*	*-0.0060*	*0.0479*
1996 Cohort	30	2006	2001	0.0127	-0.0050	0.0177

Table 5.16
Decomposition of Cross-Section Growth in Immigrant Earnings (Duration = 10 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	20	2001	1991	0.0258	0.6803	-0.6546
1986 Cohort	24	2001	1996	0.0953	0.7865	-0.6912
1986 Cohort	26	2006	1996	0.0587	-0.0398	0.0985
Average				*0.0770*	*0.3733*	*-0.2964*
1991 Cohort	29	2006	2001	0.0320	-0.0121	0.0441

Table 5.17
Decomposition of Cross-Section Growth in Immigrant Earnings (Duration = 15 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1976 Cohort	17	1996	1991	0.0403	1.9087	-1.8684
1986 Cohort	25	2006	2001	0.0714	0.7449	-0.6735

Table 5.18
Decomposition of Cross-Section Growth in Immigrant/Native Relative Earnings
(Duration = 5 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	47	1996	1986	-0.0590	0.2289	-0.2879
1981 Cohort	48	2001	1986	-0.0052	0.1825	-0.1877
Average				*-0.0321*	*0.2057*	*-0.2378*
1986 Cohort	50	1996	1991	0.0671	0.3888	-0.3218
1986 Cohort	51	2001	1991	0.0309	0.1287	-0.0978
1986 Cohort	52	2006	1991	0.0394	-0.1897	0.2291
Average				*0.0458*	*0.1093*	*-0.0635*
1991 Cohort	56	2001	1996	0.0643	0.1649	-0.1006
1991 Cohort	57	2006	1996	0.0193	-0.1981	0.2175
Average				*0.0418*	*-0.0166*	*0.0585*
1996 Cohort	59	2006	2001	0.0127	-0.1532	0.1658

Table 5.19
Decomposition of Cross-Section Growth in Immigrant/Native Relative Earnings
(Duration = 10 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	49	2001	1991	0.0258	0.4115	-0.3857
1986 Cohort	53	2001	1996	0.0953	0.5176	-0.4223
1986 Cohort	55	2006	1996	0.0587	-0.0610	0.1197
Average				*0.0770*	*0.2283*	*-0.1513*
1991 Cohort	58	2006	2001	0.0320	-0.0333	0.0653

Table 5.20
Decomposition of Cross-Section Growth in Immigrant/Native Relative Earnings
(Duration = 15 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1976 Cohort	46	1996	1991	0.0403	0.7286	-0.6883
1986 Cohort	54	2006	2001	0.0714	0.3278	-0.2565

Figure 5.2 Assimilation Pattern across Cohorts

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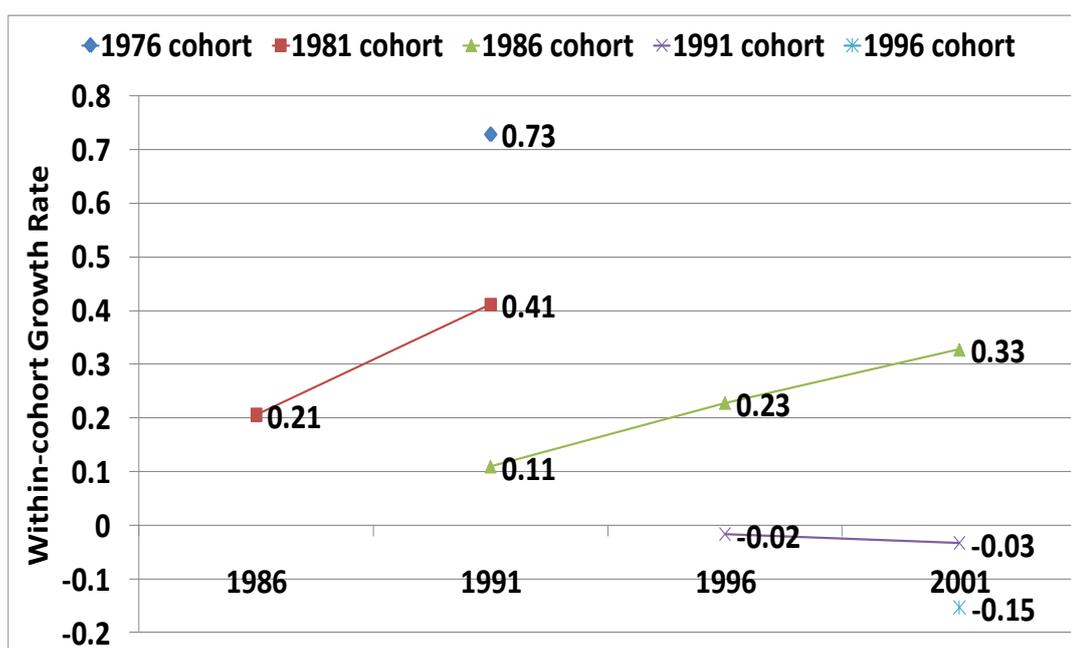
5.6.3   Industrial Differential in Assimilation Pattern

One research objective of the thesis is to investigate how Chinese immigrants assimilate differently amongst industries in Hong Kong labour market, Table 5.21, 5.22 and 5.23 show the decomposition of average cross-section growth in immigrant versus native relative earnings in 5 years, 10 years and 15 years of duration respectively.

5.6.3.1   5 years duration

An obvious pattern exists for the assimilation rate distribution for five years cohort (in Table 5.21), Chinese immigrants working in financing, insurance, real estate and business services industry always yield the highest (except for 1996 cohort) within cohort growth regardless of cohort, the second highest within cohort growth is the community, social and personal services sector for 1981 and 1991 cohort, manufacturing sector for 1986 cohort, financing, insurance, real estate and business services industry for 1996 cohort. The second lowest within cohort growth is the construction sector for 1981 and 1996 cohort, wholesale, retail and import or export trades and restaurants sector for 1986 cohort, and manufacturing sector for 1991 cohort. While the lowest within cohort growth is the wholesale, retail and import or export trades and restaurants sector for 1981 cohort, construction sector for both 1986 and 1991 cohort and community, social and personal services sector for 1996 cohort. Across 1981, 1986, 1991 and 1996 cohorts, the quality of immigrant, measured by across-cohort growth, also vary amongst industries. For instance, Chinese immigrants' quality has been improved in all industries for 1981

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cohort, while the quality Chinese immigrants has also been improved in all industries for 1986 cohort except construction and wholesale, retail and import or export trades and restaurants sectors. The quality of Chinese immigrants in all industries has been deteriorated in 1991and 1996 cohort.

5.6.3.2   10 years duration

Another obvious pattern exists for the assimilation rate distribution for ten years cohort (in Table 5.22), Chinese immigrants working in financing, insurance, real estate and business services industry always yield the highest within cohort growth regardless of cohort, the second highest within cohort growth is the community, social and personal services sector for both 1981 and 1986 cohort, and transport, storage and communication sector for 1991 cohort. The second lowest within cohort growth is the construction sector for 1981 cohort, wholesale, retail and import or export trades and restaurants sector for 1986 cohort, and manufacturing sector for 1991 cohort. While the lowest within cohort growth is the wholesale, retail and import or export trades and restaurants sector for 1981 cohort, construction sector for both 1986 and 1991 cohort. Across 1981, 1986 and 1991 cohorts, the quality of immigrant, measured by across-cohort growth, also vary amongst industries. For instance, transport, storage and communication sector and financing, insurance, real estate and business services sector Chinese immigrants' quality has always been improved, while the quality of construction sector and wholesale, retail and import or export trades, restaurants sector immigrants' quality has always been declined. Both community, social and personal services sector and manufacturing sector immigrants' quality has been

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improved in 1981 and 1986 cohort, but the quality has been deteriorated in 1991 cohort.

5.6.3.3   15 years duration

As shown in Table 5.23, Chinese immigrants working in community, social and personal services sector yield the highest within cohort growth for 1976 cohort, the second highest within cohort growth for the same cohort is occurring in manufacturing sector while the lowest within cohort growth is happening in construction sector. For 1986 cohort, the highest within cohort growth is the financing, insurance, real estate and business services sector, the second highest is the manufacturing sector while the lowest is again the construction sector. Regarding the quality of Chinese immigrant in 15 years duration, the 1976 cohort Chinese immigrants' quality has been improved whereas the 1986 cohort Chinese immigrants' quality has only been improved in manufacturing, transport, storage and communication, financing, insurance, real estate and business services and community, social and personal services sectors, the quality has been declined in construction and wholesale, retail and import or export trades, restaurants sectors.

To summarize the findings in Table 5.21, 5.22 and 5.23, the author finds that within cohort growth is varying amongst industries, industries such as financing, insurance, real Estate and business services and community, social and personal services sectors always yield a relatively higher within-cohort growth, by contrast, construction, wholesale, retail and import or export Trades, restaurants sectors always yield a lower within-cohort growth. The

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quality of Chinese immigrants is higher for the earlier cohorts, such as 1976, 1981 and 1986 cohorts, whereas the quality has been declined for the later cohorts, such as 1991 and 1996 cohorts.

Most immigrants are confident about using their mother language (such as Mandarin or Putonghua) in daily communication, and language is the key for developing efficient and effective interpersonal skills. However, the employees of most Hong Kong companies communicate in Cantonese and English, some Hong Kong companies require employees to communicate in Cantonese, English and Putonghua, various qualitative evidence are discussed in Section 4.2. Ordinary people think that industries such as wholesale, retail and import or export trades, restaurants or transport, storage and communication or financing, insurance, real estate and business services or community, social and personal services always require labourers to possess proficient communication skills should yield a lower assimilation rate, and industries such as manufacturing and construction, which mainly require physical involvement rather than interaction with others, it enables immigrants to assimilate better than other industries. However, it may not be the case if behavioral dynamics are being taken into account. The behavioral dynamics can be happening in the following way: When Chinese immigrants *believe* that manufacturing and construction, which mainly require physical involvement rather than interaction with others, which enables them to assimilate better than working in other industries, while wholesale, retail and import or export trades, restaurants or transport, storage and communication or financing, insurance, real estate and business services or community, social and personal

services always require labours to possess proficient communication skills should yield a lower assimilation rate, then most Chinese immigrants will tend to choose to work in manufacturing and construction sectors that create a positive force to the relative supply of labour in these two sectors, it turns out lower the assimilation rate, on the other hand, since there are not too many Chinese immigrants choose to working in wholesale, retail and import or export trades, restaurants or transport, storage and communication or financing, insurance, real estate and business services or community, social and personal services sectors, the relative supply of labour in these sector is expected to be lower, and the real wage will tend to be higher in these sector, thus the assimilation rate should be higher. To conclude, immigrants may not assimilate better in industries with lower work experience and interpersonal skills requirements, due to the possible relatively supply change, thus immigrants may not assimilate better in occupations in which the importance of work experience and interpersonal skills requirements are lower. In addition, chapter 6 results show that the assimilation effect should be more obvious after controlling the language effect.

Table 5.21
Decomposition of Average Cross-Section Growth in Immigrant/Native
Relative Earnings (Duration = 5 years) by Industry

Cohort	Industry	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981	Manufacturing	-0.0321	0.1626	-0.1947
	Construction	-0.0321	-0.0137	-0.0183
	Wholesale	-0.0321	-0.0175	-0.0145
	Transport	-0.0321	0.1450	-0.1771
	Financing	-0.0321	0.4787	-0.5108
	Community Services	-0.0321	0.2556	-0.2877
1986	Manufacturing	0.0458	0.1065	-0.0607
	Construction	0.0458	-0.0286	0.0744
	Wholesale	0.0458	-0.0234	0.0692
	Transport	0.0458	0.0781	-0.0323
	Financing	0.0458	0.3121	-0.2663
	Community Services	0.0458	0.0870	-0.0412
1991	Manufacturing	0.0418	-0.0421	0.0839
	Construction	0.0418	-0.0438	0.0856
	Wholesale	0.0418	-0.0158	0.0576
	Transport	0.0418	0.0320	0.0098
	Financing	0.0418	0.0320	0.0098
	Community Services	0.0418	-0.0158	0.0576
1996	Manufacturing	0.0127	-0.0752	0.0879
	Construction	0.0127	-0.1279	0.1406
	Wholesale	0.0127	-0.1048	0.1175
	Transport	0.0127	-0.1251	0.1378
	Financing	0.0127	-0.0907	0.1034
	Community Services	0.0127	-0.3197	0.3324

Table 5.22
Decomposition of Average Cross-Section Growth in Immigrant/Native
Relative Earnings (Duration = 10 years) by Industry

Cohort	Industry	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981	Manufacturing	0.0258	0.3252	-0.2994
	Construction	0.0258	-0.0275	0.0533
	Wholesale	0.0258	-0.0351	0.0608
	Transport	0.0258	0.2900	-0.2642
	Financing	0.0258	0.9574	-0.9317
	Community Services	0.0258	0.5112	-0.4854
1986	Manufacturing	0.0770	0.1597	-0.0828
	Construction	0.0770	-0.0184	0.0953
	Wholesale	0.0770	0.0059	0.0711
	Transport	0.0770	0.2162	-0.1392
	Financing	0.0770	0.5500	-0.4730
	Community Services	0.0770	0.2790	-0.2020
1991	Manufacturing	0.0320	-0.0841	0.1161
	Construction	0.0320	-0.0877	0.1197
	Wholesale	0.0320	-0.0316	0.0636
	Transport	0.0320	0.0640	-0.0320
	Financing	0.0320	0.0641	-0.0321
	Community Services	0.0320	-0.0316	0.0636

Table 5.23

Decomposition of Average Cross-Section Growth in Immigrant/Native Relative Earnings (Duration = 15 years) by Industry

Cohort	Industry	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1976	Manufacturing	0.0403	0.8406	-0.8003
	Construction	0.0403	0.4409	-0.4006
	Wholesale	0.0403	0.7659	-0.7256
	Transport	0.0403	0.7186	-0.6783
	Financing	0.0403	0.5343	-0.4941
	Community Services	0.0403	0.8525	-0.8122
1986	Manufacturing	0.0714	0.3195	-0.2482
	Construction	0.0714	-0.0859	0.1572
	Wholesale	0.0714	-0.0703	0.1417
	Transport	0.0714	0.2344	-0.1630
	Financing	0.0714	0.9363	-0.8649
	Community Services	0.0714	0.2611	-0.1897

5.6.4   Occupational Differential in Assimilation Pattern

Lam and Liu (1998b) defined economic assimilation as a process whereby an immigrant who stays longer in the receiving country earns more than an equivalent immigrant who stays for a shorter time period. When one discourses on economic assimilation, earnings are used as a major indicator for measuring the economic performance of immigrants compared to natives. However, previous studies estimated the assimilation rate of immigrants without considering the fundamental earning differentials amongst different occupations. For instance, it is generally believed that the income level of managers and administrators is higher than workers in elementary occupations.

Hence, if samples are simply combined without justifying the ignorance of possible occupational earnings variations, the estimation results may be biased toward the occupation, of which labour employment is relatively large and remunerations are comparatively high. One solution is to subsample the dataset by occupation; this approach enables researchers to examine the assimilation patterns amongst different occupations. Another research objective of the thesis is to investigate how Chinese immigrants assimilate differently amongst occupations in Hong Kong labour market, Table 5.24, 5.25 and 5.26 show the decomposition of average cross-section growth in immigrant versus native relative earnings in 5 years, 10 years and 15 years of duration respectively.

5.6.4.1   5 years duration

For five years duration assimilation pattern (in Table 5.24), the highest within-cohort growth always exists in manager, professional and associate professional occupations amongst 1981, 1986, 1991 and 1996 cohorts, the lowest within-cohort growth always exists in plant and machine operators and assemblers; elementary occupations and craft and related workers. The quality of Chinese immigrants who are working as manager or professionals has been improved in all cohorts, but the quality of other occupations has been deteriorated, in particular the occupations of plant and machine operators and assemblers and elementary occupations.

5.6.4.2   10 years duration

The assimilation pattern for ten years duration (in Table 5.25) is similar to that

of five years duration, manager, professional and associate professional occupations are always amongst the highest within-cohort growth rankings in 1981, 1986 and 1991 cohorts, the lowest within-cohort growth always exists in plant and machine operators and assemblers; elementary occupations and craft and related workers. However, the quality of Chinese immigrants working as managers and administrators; professionals; associate professionals; clerks; service workers and shop sales workers and craft and related workers have been improved for both 1981 and 1986 cohorts, however, the quality has been deteriorated for clerks and service workers and shop sales workers of 1991 cohort.

5.6.4.3   15 years duration

A quite different assimilation picture can be found in fifteen years duration estimation (in Table 5.26), for 1976 cohort, the highest within-cohort growth is clerk job, the second highest is associate professional job. Interestingly, the second lowest within cohort growth is craft and related workers job while the lowest within cohort growth is managers and administrators' jobs; Chinese immigrants' quality has been improved in all occupations for 1976 cohort. By contrast, for 1986 cohort, the within-cohort growth rates is higher in managers and administrators, professional jobs and lower in plant and machine operators and assemblers and elementary occupations. Immigrants' quality has been improved in all occupations except plant and machine operators and assemblers and elementary occupations for 1986 cohort.

To summarize, different occupation requirements may largely account for these assimilation results. Normally, an earning assimilation disadvantage for immigrants cannot be found in those occupations which fully recognise the immigrants' qualifications and work experience obtained in China or simply do not require any school training or relevant work experience. For instance, the job requirements of managers and administrators and professionals normally consist of professional qualifications, which are internationally recognized, in addition, country-specific skills are relatively more important than other occupations, which explains why the year of duration may account for immigrants' earning increments and the assimilation effects are greater than that of other occupations. Moreover, the relatively low assimilation rate of elementary occupations such as mining, construction manufacturing, agriculture and fishing is certainly due to the nature of these occupations, elementary occupations are typical jobs that do not require much hands-on experience or country-specific skills. Thus, even labours have been staying in Hong Kong for a number of years, they still find that their earnings in elementary occupations only increase at a remarkably low rate. To conclude, a conventional earning disadvantage cannot be found in all occupations, and assimilation rates also differ amongst occupations. The key issue is whether employers in such occupations recognise immigrants' qualifications and work experience obtained in the sending country. It is much depending on the human resources policies of different occupations, and no particular type of occupation in which immigrants work must suffer in this regard. In general, the relationship between the importance of work experience and the

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assimilation rate tends to be negative. The qualitative analysis of this result

has been discussed in Section 4.2.

Table 5.24
Decomposition of Average Cross-Section Growth in Immigrant/Native Relative
Earnings (Duration = 5 years) by Occupation

Cohort	Occupation	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981	Manager	-0.0321	0.4408	-0.4729
	Professional	-0.0321	0.2591	-0.2912
	Ass Professional	-0.0321	0.4820	-0.5140
	Clerk	-0.0321	0.1909	-0.2229
	Service Workers	-0.0321	0.3979	-0.4299
	Craft Worker	-0.0321	0.2249	-0.2569
	Plant Operator	-0.0321	-0.0745	0.0425
	Elementary Occupations	-0.0321	-0.1492	0.1172
1986	Manager	0.0458	0.3932	-0.3474
	Professional	0.0458	0.2359	-0.1901
	Ass Professional	0.0458	0.3299	-0.2841
	Clerk	0.0458	0.1144	-0.0686
	Service Workers	0.0458	0.2377	-0.1919
	Craft Worker	0.0458	0.1348	-0.0890
	Plant Operator	0.0458	-0.0027	0.0485
	Elementary Occupations	0.0458	-0.0725	0.1183
1991	Manager	0.0418	0.1172	-0.0754
	Professional	0.0418	0.0961	-0.0543
	Ass Professional	0.0418	0.0441	-0.0023
	Clerk	0.0418	-0.0349	0.0767
	Service Workers	0.0418	-0.0006	0.0424
	Craft Worker	0.0418	0.0174	0.0244
	Plant Operator	0.0418	0.1061	-0.0643
	Elementary Occupations	0.0418	0.0529	-0.0111
1996	Manager	0.0127	0.2284	-0.2157
	Professional	0.0127	0.1199	-0.1072
	Ass Professional	0.0127	-0.0439	0.0566
	Clerk	0.0127	-0.1081	0.1208
	Service Workers	0.0127	-0.1521	0.1648
	Craft Worker	0.0127	-0.1150	0.1276
	Plant Operator	0.0127	0.0713	-0.0586
	Elementary Occupations	0.0127	0.0115	0.0012

Table 5.25
Decomposition of Average Cross-Section Growth in Immigrant/Native
Relative Earnings (Duration = 10 years) by Occupation

Cohort	Occupation	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981	Manager	0.0258	0.8816	-0.8558
	Professional	0.0258	0.5182	-0.4925
	Ass Professional	0.0258	0.9639	-0.9382
	Clerk	0.0258	0.3817	-0.3559
	Service Workers	0.0258	0.7957	-0.7700
	Craft Worker	0.0258	0.4497	-0.4240
	Plant Operator	0.0258	-0.1490	0.1748
	Elementary Occupations	0.0258	-0.2985	0.3242
1986	Manager	0.0770	0.5972	-0.5202
	Professional	0.0770	0.3944	-0.3174
	Ass Professional	0.0770	0.5653	-0.4883
	Clerk	0.0770	0.1952	-0.1182
	Service Workers	0.0770	0.4364	-0.3595
	Craft Worker	0.0770	0.2814	-0.2045
	Plant Operator	0.0770	0.0708	0.0061
	Elementary Occupations	0.0770	-0.0571	0.1341
1991	Manager	0.0320	0.2344	-0.2023
	Professional	0.0320	0.1922	-0.1602
	Ass Professional	0.0320	0.0882	-0.0562
	Clerk	0.0320	-0.0698	0.1018
	Service Workers	0.0320	-0.0012	0.0333
	Craft Worker	0.0320	0.0347	-0.0027
	Plant Operator	0.0320	0.2123	-0.1803
	Elementary Occupations	0.0320	0.1059	-0.0738

Table 5.26
Decomposition of Average Cross-Section Growth in Immigrant/Native
Relative Earnings (Duration = 15 years) by Occupation

Cohort	Occupation	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1976	Manager	0.0403	0.3585	-0.3182
	Professional	0.0403	0.5921	-0.5518
	Ass Professional	0.0403	0.6152	-0.5749
	Clerk	0.0403	0.8384	-0.7982
	Service Workers	0.0403	0.6136	-0.5733
	Craft Worker	0.0403	0.4127	-0.3725
	Plant Operator	0.0403	0.4252	-0.3850
	Elementary Occupations	0.0403	0.4344	-0.3942
1986	Manager	0.0714	1.1795	-1.1081
	Professional	0.0714	0.7077	-0.6363
	Ass Professional	0.0714	0.9896	-0.9182
	Clerk	0.0714	0.3432	-0.2718
	Service Workers	0.0714	0.7132	-0.6418
	Craft Worker	0.0714	0.4043	-0.3330
	Plant Operator	0.0714	-0.0082	0.0796
	Elementary Occupations	0.0714	-0.2174	0.2888

5.6.5   Marital Status

Different marital status implies a variety of responsibilities and married persons are generally more willing to learn and work harder than single persons. Thus, if earnings reflect productivity, ordinary people may find it sensible that married immigrants assimilate better than single immigrants. In other words, regardless of gender, married immigrants assimilate better than single immigrants, whereas immigrants with the same marital status assimilate similarly, this argument can partly explain the statistical results in Table 4.3.

However, as mentioned earlier, since the author consider the relative earning between married immigrants and married natives, also relative earning between singled immigrants and singled natives, and then compare the relative earning differentials by marital status that is how married immigrants' earnings overtake the married natives' earnings, or how singled immigrants' earnings overtake the singled natives' earnings. Thus even Table 5.5 to 5.14 show that higher earning power of married group than singled group regardless of place of birth, it does not automatically imply that married immigrants assimilate better than singled immigrants. Table 5.27 show the estimation results for the five, ten and fifteen years duration cases, it shows that single immigrants' within cohort growth is always higher than that of married immigrants, regardless of cohorts, but the within cohort growth rate change from positive to negative which implies earnings divergence happen for both singled and married group, the divergence is less serious in singled group. Besides, the quality of Chinese immigrants, measured by across-cohort growth, has also been deteriorated, indicated by the change of across-cohort growth from negative to positive. A similar pattern happens in the ten years and fifteen years of duration estimation results. It seems that this empirical result is not supporting the hypothesis the author stated previously, however, as the current empirical exercise is performed using relative sense, both married immigrants and married natives share similar characteristics, in particular in terms of willingness to earn money and level of responsibility, in relative sense, it is possible that the within cohort growth of singled group is higher than that of married group.

Table 5.27 Decomposition of Average Cross-Section Growth in Immigrant/Native Relative Earnings by Marital Status

Duration	Cohort	Marital Status	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
5 Years	1981	Single	-0.0321	0.2943	-0.3264
		Married	-0.0321	0.1218	-0.1539
	1986	Single	0.0458	0.1848	-0.1390
		Married	0.0458	0.0381	0.0077
	1991	Single	0.0418	0.0077	0.0341
		Married	0.0418	-0.0545	0.0963
	1996	Single	0.0127	-0.1037	0.1164
		Married	0.0127	-0.1989	0.2115
10 Years	1981	Single	0.0258	0.5886	-0.5629
		Married	0.0258	0.2436	-0.2179
	1986	Single	0.0770	0.3412	-0.2642
		Married	0.0770	0.1065	-0.0296
	1991	Single	0.0320	0.0154	0.0166
		Married	0.0320	-0.1090	0.1410
15 Years	1976	Single	0.0403	0.6046	-0.5643
		Married	0.0403	0.7875	-0.7472
	1986	Single	0.0714	0.5544	-0.4831
		Married	0.0714	0.1143	-0.0429

5.6.6   Gender

Similar to marital status analysis, since the author consider the relative earning between male immigrants and male natives, also relative earning between female immigrants and female natives, and then compare the relative earning differentials by gender that is how male immigrants' earnings overtake the male natives' earnings, or how female immigrants' earnings overtake the female natives' earnings. Thus even Table 5.5 to Table 5.14 show that higher earning power of male group than female group regardless of place of birth, it does not automatically imply that male immigrants assimilate better than female immigrants. Table 5.28 show the estimation results for the five, ten and fifteen years duration cases, it shows that female immigrants' within cohort growth is always higher than that of male immigrants, regardless of cohorts, but the within cohort growth rate change from positive to negative which implies earnings divergence happen for both female and male group, the divergence is less serious in female group. Besides, the quality of Chinese immigrants, measured by across-cohort growth, has also been deteriorated, indicated by the change of across-cohort growth from negative to positive. A similar pattern happens in the ten years and fifteen years of duration estimation results. It seems that this empirical result is not supporting the hypothesis the author stated in Table 4.18, however, as the current empirical exercise is performed using relative sense, both male immigrants and male natives share similar characteristics, in particular in terms of willingness to earn money and self-selectivity, in relative sense, it is possible that the within cohort growth of female group is higher than that of male group.

Table 5.28 Decomposition of Average Cross-Section Growth in Immigrant/Native Relative Earnings by Gender

Duration	Cohort	Gender	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
5 Years	1981	Male	-0.0321	0.1579	-0.1900
		Female	-0.0321	0.2942	-0.3262
	1986	Male	0.0458	0.0664	-0.0206
		Female	0.0458	0.1739	-0.1281
	1991	Male	0.0418	-0.0065	0.0483
		Female	0.0418	0.0196	0.0223
	1996	Male	0.0127	-0.1862	0.1989
		Female	0.0127	-0.1361	0.1488
10 Years	1981	Male	0.0258	0.3158	-0.2901
		Female	0.0258	0.5883	-0.5626
	1986	Male	0.0770	0.1906	-0.1137
		Female	0.0770	0.3529	-0.2760
	1991	Male	0.0320	-0.0129	0.0449
		Female	0.0320	0.0391	-0.0071
15 Years	1976	Male	0.0403	0.7556	-0.7153
		Female	0.0403	0.6919	-0.6517
	1986	Male	0.0714	0.1992	-0.1278
		Female	0.0714	0.5217	-0.4504

5.7 Conclusion

This chapter aims to investigate how the years since migration affect the earnings of Chinese immigrants in Hong Kong. This study does not presume that the assimilation hypothesis is valid. Rather, it proposes that the validity of this hypothesis depends on different economic circumstances. The major contribution of this chapter is to find out in what particular situation the assimilation hypothesis is true, and in what situation it is not. Borjas' approach (1985) is used to construct a quasi-panel dataset and test the assimilation effect using five Hong Kong census datasets. The decomposition is based on different dimensions: gender, marital status, occupation and industry. The validity of the assimilation is expected to be different between males and females, amongst different marital statuses, occupations and industries. For gender, the results show that male immigrants may not assimilate better than female immigrants, which does not support the general consensus that the self-selected male group is more productive, the author argue that male native and male immigrants share similar self-selected characteristics, thus male immigrants may not assimilate better than female immigrants in relative sense. Regarding the assimilation hypothesis, the empirical evidence shows that immigrants' assimilation exists, but the income gaps are still widening due to the deterioration of immigrants' quality, it implies that immigrants' earning is increasing with their years of residence, but the increasing rate is less than that of natives under even stronger immigrants' quality deterioration, thus, income gaps between natives and immigrants are widening. In addition, married immigrants may not assimilate better than single immigrants, regardless of

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gender; since married immigrants share similar self-selected characteristics with married natives, thus married immigrants may not assimilate better than single immigrants in relative sense. Moreover, employees of professional assimilate much better than those working in elementary occupations. Last but not least, the result cannot confirm the ordinary thought of an inverse relationship between assimilation rate and interpersonal skills requirements due to the presence of behavioral dynamics. The above findings are essential, as they suggest various directions to Hong Kong immigration policymakers regarding the methods of facilitating immigrants to adapt the life in Hong Kong. For instance, the Quality Migrant Admission Scheme mostly attracts professional immigrants to participate in the Hong Kong labour market, empirical results showed their assimilation rate is high that imply their earnings are substantially affected by their year of duration in Hong Kong. In addition, family reunion is always used to justify the priority of granting a one-way permit to Chinese immigrants, empirical results show that married immigrants may not assimilate better than single immigrants, regardless of gender; so the preferential status for family reunion purpose in one-way permit should better be reconsidered. Consequently, policymakers need to take these results into account in order to refine a correct entry arrangement of dependants in the future. The details of policy implications would be presented in Chapter 7.

CHAPTER 6

THE EARNING OF CHINESE IMMIGRANTS IN HONG KONG: THE EFFECT OF LANGUAGE ABILITY ON EARNING

6.1 Introduction

Economics assimilation of migrant workers has attracted a huge amount of theoretical and empirical research which generally concludes the earnings of immigrants assimilate over their years of residence, this conclusion attributes to the accumulation of the host country specific human capital, including labour market information and language skills. Language skills in immigrants' mother tongue are developed when young, however, immigrants are also eager to learn language capital which relevant to the host country, such learning process can be very costly and does not appear to be an effortless process when this language differs sharply from the mother tongue. Chiswick and Miller (1995) called this process as "Linguistic adjustment". Hong Kong is a society of immigrants (Lam and Liu 1998) where receives Chinese immigrants with same ethnicity but different languages, Table 3.11 show that most Chinese immigrants are using Chinese dialects and Putonghua in daily life, also shown in Table 4.6, most Chinese immigrants (more than 85 percent) are proficient in Putonghua while Hong Kong natives are capable to use English as well as Cantonese but not Putonghua in daily communication. Before 1997, English is an official language in the legislative council and the

court, so under the governance of British colonial government, some Hong Kong people (including Hong Kong natives and Chinese immigrants) do not actively present their own viewpoints regarding economic and political issues due to linguistic barriers. After the handover of Hong Kong sovereignty to China in 1997 and along with upswing China economic growth, in terms of language importance, the gap between English and Putonghua seems to be narrowing, even English language is still an international language and being used in most legal and official documents, at the same time, foreign investors cannot avoid using Putonghua when they are trading with Chinese businesses, this language importance dynamic creates an interesting issue to human capital theorists. Fascinatingly, Hong Kong is a small and open economy where external forces are always an issue to its economic fluctuation, Hong Kong had its own historical reason to justify the usage of English language and currently undergo a change in language usage, from English-dominant to "English and Putonghua"-dominant social and business environment, it is not hard to verify this point by tracing the change of job requirements in language skills for any clerical jobs in which proficiency in English and Putonghua is one of the basic job requirements. Previous literature confirmed an acquisition of host country-specific human capital (McManus *et al.*, 1983; McManus, 1990; Stolzenberg, 1990; Chiswick, 1991), especially language, is one of the important forces in the assimilation process, but in Hong Kong, natives are desire to be proficient in Putonghua while immigrants are eager to learn English and Cantonese, thus, investigating languages skills (Putonghua, English and Cantonese) returns should yield a remarkable contribution to the existing assimilation literature. In short, if assimilation process refers to the

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convergence of earnings between natives and immigrants throughout the year of residence for acquiring host country-specific human capital process, it seems that convergence of earnings does not depend only on those conventional determinants, such as the year of duration and human capital, but also depend upon the reliance of the host country economy towards sending country economy, such as how Hong Kong rely on China support in economic recovery after Asian Financial Crisis in 1998 and the *Severe Acute Respiratory Syndrome* (SARS) outbreak in 2003. It might be strange to conclude in a way that Chinese immigrants come to Hong Kong is only due to economic reasons, Hong Kong people know that this argument is far from convincing as most people (not only immigrants) sought for better investing opportunities and living standard. In fact, after the Asian Financial Crisis, Hong Kong economy rely much more on China economic growth than otherwise, even Chinese economy has been soaring does not directly imply that Chinese immigrants are enjoying higher living standard since income inequalities and externalities are always neglected in traditional economic growth computation, economic incentives do direct Chinese immigrants who believe their "inherent" human capital, such as the Chinese management style know-how, which is expected to be somewhat different from western management style, and Putonghua language, they are potentially and currently greatly demanded by Hong Kong employers, thus Chinese immigrants believe they can be rewarded in a better and more competitive terms in Hong Kong, thus they would eventually migrate to Hong Kong. This chapter employs language skills as a predictor for understanding a new assimilation process in Hong Kong. Previous research studies in this area are twofold, one is about the determinants of investing in

host country-specific language skills, the other is related to the effect of possessing host country-specific language skills on immigrants' earnings, both theoretical and empirical studies have been conducted extensively for the United States labour market, however, this empirical study for China-Hong Kong migration is very rare and inadequate, this chapter aims to supplement the existing literature in this regard. The policy importance of this question is not trivial either. Firstly, if different Chinese immigrant cohorts possess different level of language proficiency, these language proficiency differentials may affect the earnings and occupational distributions in Hong Kong labour market. Secondly, recent Chinese immigrants respond to growing English earnings premiums may somewhat relieve political fears that immigration yields a deterioration of linguistic identity in Hong Kong. Thirdly, if the recent Chinese immigrants possess better language skills than previous migration cohorts, the cost and design of remedial schooling programmes for Chinese immigrants with limited-language proficient may tail off over time. Finally, evidence of Chinese immigrants' rationality to react to increasing skill incentives should be a useful remarks in the ongoing debate over the quality of recent immigrants.

This chapter is structured as follow: section 6.2 reviews literature while section 6.3 depicts and criticizes one Hong Kong language earning power study, section 6.4 describes the dataset in this empirical study, and empirical model and results will be discussed in section 6.5 and 6.6 respectively. Section 6.7 summarizes the major empirical findings and section 6.8 concludes.

6.2 Literature Review

In the economic literature, two research questions related to language of immigrants have attracted the attention of researchers, the first question is about the determinants of language proficiency of migrants and the second question is related to the relationship between fluency in the host country's dominant language and labour market performance. The first issue has been discussed in various dimensions in the literature. For example, Dustmann (1999) developed a theoretical model that investigates human capital investment of immigrants, including language, whose year of duration in the destination country is limited, either by contractual arrangement or their own choice. The result indicates language capital investments are sensitive to the duration in the host country's labour market, in other words, immigrants' acquisition of language capital depends upon their intended duration in the host country. He also verified that such disparate assimilation pattern can attribute to different in the time immigrants intend to stay in the host countries. Dustmann (1999) focuses on how the intended year of stay provides an incentive to invest in country-specific human capital while Lazear (1999) developed another theoretical model which focuses on how immigrants proportion affect the incentive to learn a foreign language, Lazear (1999) hypothesizes that individuals from minority groups are more likely to assimilate the culture and language of the majority when the minority group accounts for a small proportion of the total population, that immigrants have more incentive to learn host country language when only a few persons in the country speak his or her native language. Lazear (1999) conducted an empirical studies using 1900 and 1990 U.S. censuses and demonstrates

convincingly that immigrants are most likely to be fluent in English when they live in communities that have small proportions of individuals from their own native country, in other words, immigrants who are from poorly represented groups learn English quickly. Bauer *et al*. (2005) criticized the narrow focus of previous migration literature that only study the importance of ethnicity on the location decision of migrants and they counter-argued the literature overlooked the effect of the immigrants' language proficiency on the location decision, Bauer *et al*. (2005) investigate the relationship between the location choice of migrants from Mexico and their English language proficiency using data from the Mexican Migration Project, by employing a conditional logit model on the location choice of Mexican migrants and the results suggest that Mexican migrants to the United States with good English proficiency choose a location with a small network, while this migration with poor English proficiency choose a location with a large network. In some cases, socioeconomic and economic elements may also affect the incentives for individuals with limited English fluency to acquire English skills. (Dávila and Mora, 2000b)

From immigrants' perspective, host country is a heterogeneous environment to live and work, ordinary people expect immigrants' earning is lower than native counterparts, the evidence for this results have been proved by using Hong Kong census data, the detailed analysis is presented in Section 5.6, this earning disadvantage can be due to that fact that immigrants are not able to communicate in the host country's dominant language. This chapter concerns the relationship between fluency in the host country's dominant language and

labour market performance, the author would empirically examine the basic direction of this relationship, also disaggregate this relationship based on different gender, marital status, occupation as well as industry which previous studies ignore. Previous studies showed uncontroversial and convincing results regarding the effect of English proficiency on earnings. McManus *et al*. (1983) was probably the first study to explain earnings differentials between natives and immigrants using language skills, they use 1976 U.S. survey of income and education data to looking for the sources of income differentials among Hispanic men, on top of those traditional predictors of income differentials, such as years of schooling and potential work experience, they explore the role of English language proficiency in the assimilation of Hispanic men into the U.S. labor market and show that differences associated with English language skills explain nearly all of the Hispanic wage differences which usually attributed to ethnicity, national origin and time in the United States.

McManus (1990) refined his previous joint research study in McManus *et al*. (1983) through considering if the earnings loss due to English language deficiency would be less for Hispanics in enclaves, McManus (1990) use 1980 Census of Population data to examine the impact of enclaves on earnings of Hispanic men by means of considering how enclave scale affects earnings and the corresponding returns to English skills, it found that English proficiency generally raises the earning returns to schooling and work experience of Hispanic men and the associated earnings loss with a deficiency in English should be mitigated by large scale language enclaves. Undoubtedly, personal

earnings are a reflection of employees' achievement, occupational achievement or privilege can also be used in place of earnings to represent individual success. Stolzenberg (1990) studied the language proficiency effect on occupational achievement using the survey of income data collected by the U.S. Census Bureau. The results indicate a pattern of "conditional occupational assimilation", this conditional assimilation implies that if Hispanic men speak English fairly and have completed at least twelve years of school, then their occupational achievement is close to that of white non-Hispanic men with similar English fluency and schooling, in other words, occupational achievement depends upon the English language skills that Hispanic possess given comparable level of educational attainment and other human capital. Chiswick (1991) used special survey data on a sample of over 800 aliens to examine the effects of English language fluency on earnings, he found that English speaking and reading fluency are positively related to immigrants' years of duration in the United States, and increase with years of duration is larger for those who are more educated and who are not Hispanic. He explained such extra effect for highly-educated immigrant group is due to the complementarity of schooling and language acquisition and utilization.

The literature on ethnic wage differences assumes employees could realize economic benefits once they became proficient in the host country dominant language. Dávila *et al*. (1993) challenge this assumption by considering if "accent penalties" exist in the U.S. labor market. They argued that even Mexican could become proficient in English, Mexican Americans speaking English with an accent tend to earn lower wages than their nonaccented peers.

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However, Chiswick and Miller (1995) challenge this argument by conducting an international language proficiency study, they argue that Davila *et al*. (1993) theory can only be applied to Mexican and Hispanic group only, they uses the standard human capital earnings function model augmented for immigrant adjustment and shows that English-language fluency is associated with a statistically significant 5.3 percent and 8.3 percent higher earnings for Australian in 1981 and 1986 respectively and these figures increase to 6.4 percent and 9.3 percent for those from non-English-speaking countries in 1981 and 1986 respectively, it suggests an increase in the returns of English-language skills over time in Australia, besides, this result indicates that the effects of fluency in the host country language are even larger in the United States, Canada and Israel, the corresponding figures are 16.9 percent, 12.2 percent and 11 percent. Stolzenberg and Tienda (1997) develop a mathematical model to show the hypothesis of "conditional economic assimilation", though the analyses of 1980 U.S. Census Pubic Use Microdata Samples, empirical results support the model prediction of English language fluency and schooling produces higher return rates for Asians and white Hispanic than for white non-Hispanics. Dávila and Mora (2000a) employ the U.S-Mexico border as a minority-language region and examine if English skills affect differently to the earnings and occupational achievement of Mexican Americans, the results indicate comparable English deficiency earnings penalties to Mexican immigrants. English language proficiency is not only affecting employees, but also self-employed persons, Dávila and Mora (2004) employ U.S. Census data to analyze how English language fluency affected the earnings of self-employed immigrant men in the 1980s, the results

suggest that English proficiency became a more important determinant of earnings for foreign-born entrepreneurs in 1990 compared with 1980 after controlling for other human capital determinants. Chiswick and Miller (2002) used 1990 US Census data on adult male immigrants from non-English speaking countries and showed that linguistic enclaves reduce an immigrant's own English language skills, also immigrants' earnings are lower than counterpart can attribute to the immigrants' English proficiency problem, besides, they show a strong evidence for the complementarity between language skills and other forms of human capital. The above theoretical and empirical studies do suggest a positive impact on earning if immigrants acquire certain level of the host country human capital, especially language. Section 6.3 presents other relevant literature regarding language proficiency returns in Hong Kong.

6.3 Language Proficiency Returns in Hong Kong

There was at least one language ability returns study in Hong Kong (Lui 2007) which employed the 1991 and 2001 Hong Kong population censuses and ran the standard Mincer's (1974) human capital earnings equation to estimate the returns to language skills for the working population, Lui (2007) concluded that Putonghua speaking skill is relatively unimportant in the labour market, in other words, Lui (2007) found that Putonghua only has a very small impact on native and immigrant workers' earnings which contrast to the general expectation. However, Lui's (2007) estimation overlooks the fact that language skills effect on earnings is subject to different economic circumstances. Firstly, immigrants are likely to perform differently in different

industries and occupations, for example, service workers and shop sales workers are normally required better language skills, or required higher usage of a particular language, thus the implications of language proficiency on earnings in these occupations are expected to be different from those occupations which requires lower usage of certain languages. Secondly, different combinations of language usage, like Cantonese and Putonghua versus English and Cantonese, have different implications on immigrants' earning, industries such as finance and insurance have much higher demand on interpersonal contacts with clients, as Cantonese is the most common language in Hong Kong, employees are proficient in Putonghua other than English should be rewarded differently from whom are only proficient in English. Thirdly, even Chinese immigrants and Hong Kong natives share the same ethnical origin, cultural barrier may not exist but a language barrier does (Lui 2007), along with increasing economic integration between Hong Kong and China after the sovereignty handover in 1997, Putonghua usage rate have been increasing and Putonghua was believed to gain greater importance in business communication, it is sensible to test if the effect of language on earning has also undergone a fundamental change since 1997. Fourth, Lui (2007) omitted an essential variable in the estimation which may cause omitted variable bias, this variable is the year of duration that is commonly used to control the immigrant quality bias across different cohorts (cohort effect), however, Lui (2007) did not consider the possibility of immigrants' quality change but simply comparing 1991 and 2001 censuses results, two possible problems arise based on this comparison. First, there may be some interviewees who were re-interviewed in the 2001 sample, their language skills may be changed

during their residence in Hong Kong. Second, there are new Chinese immigrants come to Hong Kong during the inter-census period, that is from 1992 to 2000, they came to Hong Kong in different periods and the migration intention may change over the inter-census period, Lui (2007) possibly ignore these implicit migration intention change if he ran two regression models separately and eventually compare them, the coefficients in these two regression models may not be comparable as the basic measurement units may not be identical. Last but not least, language ability sometimes depends on years of residence, ordinary people believe the country-specific skills would be accumulate throughout the year of residence in the host country, the author plan to incorporate this interaction effect in the empirical model in order to obtain a more accurate and comprehensive results.

This chapter aims to investigate the hypothesis that the marginal effect of language on earnings are different amongst industries and occupations, if we are studying an industry where Putonghua is the major communication medium, the marginal effect of Putonghua on earning is expected to be larger than that of industry which Cantonese or English dominates communication medium. In order to incorporate this idea in the empirical study, the quasi-panel data constructed in chapter 5 would be subsampled by eight different occupations and six different industries, and the human capital earning function would be modified so that a set of standard human capital determinants, demographic variables such as marital status and language ability, the interaction components of different languages combinations as well as several dummy variables for testing the change of language ability on

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earning would also be considered, the details of the empirical model will be discussed in section 6.5.

6.4 Data Description – Language Variables

As mentioned in chapter 3, Hong Kong census data is the major data sources in the thesis, there are four (1991, 1996, 2001 and 2006) Hong Kong census datasets recorded the usual language or dialect the enumerated residents used in daily communication, there are three other variables recorded other languages (i.e. second language; third language) which the enumerated residents can speak in addition to their mother tongue. Usual languages in the survey consist of Cantonese, English, Putonghua, Chiu Chau, Hakka, Fukien, Sze Yap, Shanghainese, other Chinese dialects, Filipino, Japanese and other languages, they were self-reported and recorded in a nominal measurement scale, the deficiency of using self-reported language skills has been discoursed and emphasized repeatedly in the literature, the best way to measure language proficiency is using test-based measure like Rivera-Batiz (1990) studies the impact of English language proficiency on the wages of immigrants and second-generation persons in the United States using a data set providing test-based measures of English reading proficiency, however, this kind of test-based measures of language skills are rarely available in microdata form, most language studies are exclusively based on self-reported measures. This chapter extracts three languages for empirical study, namely, Cantonese, English and Putonghua, the reason for selecting these three languages because Cantonese is the most commonly used language in Hong Kong, also English is an international language and Putonghua is a common language in China.

6.5 Empirical Model

Borjas (1985) suggests a possible unobserved estimation bias in modeling the assimilation effect. In the essence of econometrics, the omitted variable bias is the bias in the ordinary least square (OLS) estimator that arises when one or more included predictors are correlated with an omitted variable. This bias arises when the omitted variables are one of the determinants of the dependent variable, and at least one of the included predictors is correlated to the omitted variables.

Following Borjas's (1985) approach, there are four specific cross-section regressions

$$\ln w_{91} = \mathbf{X}\gamma_{91} + \beta_{81}D_{81} + \beta_{86}D_{86} + \varepsilon_{91} \tag{1}$$

$$\ln w_{96} = \mathbf{X}\gamma_{96} + \delta_{76}D_{76} + \delta_{81}D_{81} + \delta_{86}D_{86} + \delta_{91}D_{91} + \varepsilon_{96} \tag{2}$$

$$\ln w_{01} = \mathbf{X}\gamma_{01} + \theta_{81}D_{81} + \theta_{86}D_{86} + \theta_{91}D_{91} + \theta_{96}D_{96} + \varepsilon_{01} \tag{3}$$

$$\ln w_{06} = \mathbf{X}\gamma_{06} + \tau_{86}D_{86} + \tau_{91}D_{91} + \tau_{96}D_{96} + \tau_{01}D_{01} + \varepsilon_{06} \tag{4}$$

where

D_{76} =1 if immigrated in 1976-1980

D_{81} =1 if immigrated in 1981-1985

D_{86} =1 if immigrated in 1986-1990

D_{91} =1 if immigrated in 1991-1995

D_{96} =1 if immigrated in 1996-2000

D_{01} =1 if immigrated in 2001-2005

By definition, the vector X in (1) to (5) does not contain a constant term. The cohort time interval is set to equal 5 years. Consider cohort k, where $D_k = 1$ (k=76, 81, 86, 91, 96, 01)

Table 6.1 Cohort groups in different censuses

Cohort	Census Year				
	1981	1991	1996	2001	2006
1976-1980	✓		✓		
1981-1985		✓	✓	✓	
1986-1990		✓	✓	✓	✓
1991-1995			✓	✓	✓
1996-2000				✓	✓
2001-2006					✓

Let $\bar{X}_k$ give the mean value of the socioeconomic characteristics for the cohort periods.

$$\hat{y}_{91,k} = \bar{X}_k \times \hat{\gamma}_{91} + \hat{\beta}_k \quad (5)$$

$$\hat{y}_{96,k} = \bar{X}_k \times \hat{\gamma}_{96} + \hat{\delta}_k \quad (6)$$

$$\hat{y}_{01,k} = \bar{X}_k \times \hat{\gamma}_{01} + \hat{\theta}_k \quad (7)$$

$$\hat{y}_{06,k} = \bar{X}_k \times \hat{\gamma}_{06} + \hat{\tau}_k \quad (8)$$

Equations (5) to (8) give the predicted (ln) earnings of the average member of cohort k in 1991, 1996, 2001 and 2006, respectively.

$$\hat{y}_{96,k+j} = \bar{X}_k \times \hat{\gamma}_{96} + \hat{\delta}_{k+j} \quad (9)$$

Equation 9 gives the predicted (ln) earnings in 1996 for the cohort who arrived j years after cohort k. Using the definitions in (5)-(8) and Table 6.1 information, the four regression equations predict that over j years, the cross-section growth for cohort k (net of aging) is given by

$$\hat{y}_{91,k} - \hat{y}_{91,k+j} = \hat{\beta}_k - \hat{\beta}_{k+j} \quad (10)$$

$$\hat{y}_{96,k} - \hat{y}_{96,k+j} = \hat{\delta}_k - \hat{\delta}_{k+j} \quad (11)$$

$$\hat{y}_{01,k} - \hat{y}_{01,k+j} = \hat{\theta}_k - \hat{\theta}_{k+j} \quad (12)$$

$$\hat{y}_{06,k} - \hat{y}_{06,k+j} = \hat{\tau}_k - \hat{\tau}_{k+j} \quad (13)$$

The cross-section growth implies the change of immigrants' earning (logarithm) given j years of duration in Hong Kong. For instance, $\hat{y}_{96,k} - \hat{y}_{96,k+j}$ refers to1996 census estimation of the change of cohort k immigrants' earning given j years of duration, while $\hat{y}_{06,k} - \hat{y}_{06,k+j}$ refers to 2006 census estimation of the change of cohort k immigrants' earning given j years of duration, different census datasets provide different cohort sources for estimation, Table 6.1 describes the cohort groups (k) available in different censuses. In general, higher the value of $\hat{y}$ differential implies higher assimilation rate. However, the assimilation rate can be further decomposed into "within-cohort growth" and "across-cohort" growth. For example, $\hat{y}_{06,91} - \hat{y}_{06,91+5} = \hat{y}_{06,91} - \hat{y}_{06,96}$ refers to the change of 1991 cohort immigrants' earning given 5 years of duration, this earning change can be decomposed into "within-cohort growth" $(\hat{y}_{06,91} - \hat{y}_{01,91})$ and "across-cohort" growth $(\hat{y}_{01,91} - \hat{y}_{06,96})$, in this example, "within-cohort

growth" $\left(\hat{y}_{06,91} - \hat{y}_{01,91}\right)$ implies the change of 1991 cohort immigrants' earning given 5 years of duration, the earning change in 5 years of duration is computed using two censuses, they are 2006 2001, positive "within-cohort growth" implies increase in 1991 cohort immigrants' earning from 2001 to 2006. "Across-cohort" growth $\left(\hat{y}_{01,91} - \hat{y}_{06,96}\right)$ refers to the comparison across two cohorts (1991 and 1996) immigrants' earnings using two censuses 2001 and 2006), the time difference between two censuses is 5 years which is the same as the time difference between two cohorts, this $\hat{y}$ differential implies the difference in earnings that occurred over 5 years for Chinese immigrants with a given number of years since migration, so it compares different cohorts at the same point of Chinese immigrants' Hong Kong life cycle. Positive "across-cohort" growth implies the estimated earnings of 1991 cohort immigrants in 2001 census is higher than the estimated earnings of 1996 cohort immigrants in 2006, so the quality (earning power) of later immigrant cohort is declining over time, so positive "across-cohort" growth biases upwardly the cross-section measure of earnings growth. The decomposition exercise allows an inference of the extent to which the underlying quality (earning power) of immigrant cohorts is changing. The cross-section growth given by (11) can be rewritten as (14); (17) and the cross-section growth given by (12) can be rewritten as (15); (16); (18); (20); (23), also the cross-section growth given by (13) can be rewritten as (19); (21); (22); (24); (25); (26).

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1981

$$\hat{y}_{96,81} - \hat{y}_{96,81+5} = \left(\hat{y}_{96,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{96,81+5}\right) \qquad (14)$$

Cohort

$$\rightarrow \hat{y}_{96,81} - \hat{y}_{96,86} = \left(\hat{y}_{96,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{96,86}\right)$$

$$\hat{y}_{01,81} - \hat{y}_{01,81+5} = \left(\hat{y}_{01,81} - \hat{y}_{96,81}\right) + \left(\hat{y}_{96,81} - \hat{y}_{01,81+5}\right) \qquad (15)$$

$$\rightarrow \hat{y}_{01,81} - \hat{y}_{01,86} = \left(\hat{y}_{01,81} - \hat{y}_{96,81}\right) + \left(\hat{y}_{96,81} - \hat{y}_{01,86}\right)$$

$$\hat{y}_{01,81} - \hat{y}_{01,81+10} = \left(\hat{y}_{01,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{01,81+10}\right) \qquad (16)$$

$$\rightarrow \hat{y}_{01,81} - \hat{y}_{01,91} = \left(\hat{y}_{01,81} - \hat{y}_{91,81}\right) + \left(\hat{y}_{91,81} - \hat{y}_{01,91}\right)$$

1986

$$\hat{y}_{96,86} - \hat{y}_{96,86+5} = \left(\hat{y}_{96,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{96,86+5}\right) \qquad (17)$$

Cohort

$$\rightarrow \hat{y}_{96,86} - \hat{y}_{96,91} = \left(\hat{y}_{96,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{96,91}\right)$$

$$\hat{y}_{01,86} - \hat{y}_{01,86+5} = \left(\hat{y}_{01,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{01,86+5}\right) \qquad (18)$$

$$\rightarrow \hat{y}_{01,86} - \hat{y}_{01,91} = \left(\hat{y}_{01,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{01,91}\right)$$

$$\hat{y}_{06,86} - \hat{y}_{06,86+5} = \left(\hat{y}_{06,86} - \hat{y}_{01,86}\right) + \left(\hat{y}_{01,86} - \hat{y}_{06,86+5}\right) \qquad (19)$$

$$\rightarrow \hat{y}_{06,86} - \hat{y}_{06,91} = \left(\hat{y}_{06,86} - \hat{y}_{01,86}\right) + \left(\hat{y}_{01,86} - \hat{y}_{06,91}\right)$$

$$\hat{y}_{01,86} - \hat{y}_{01,86+10} = \left(\hat{y}_{01,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{01,86+10}\right) \qquad (20)$$

$$\rightarrow \hat{y}_{01,86} - \hat{y}_{01,96} = \left(\hat{y}_{01,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{01,96}\right)$$

$$\hat{y}_{06,86} - \hat{y}_{06,86+15} = \left(\hat{y}_{06,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{06,86+15}\right) \qquad (21)$$

$$\rightarrow \hat{y}_{06,86} - \hat{y}_{06,01} = \left(\hat{y}_{06,86} - \hat{y}_{91,86}\right) + \left(\hat{y}_{91,86} - \hat{y}_{06,01}\right)$$

$$\hat{y}_{06,86} - \hat{y}_{06,86+10} = \left(\hat{y}_{06,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{06,86+10}\right) \tag{22}$$

$$\rightarrow \hat{y}_{06,86} - \hat{y}_{06,96} = \left(\hat{y}_{06,86} - \hat{y}_{96,86}\right) + \left(\hat{y}_{96,86} - \hat{y}_{06,96}\right)$$

1991 Cohort

$$\hat{y}_{01,91} - \hat{y}_{01,91+5} = \left(\hat{y}_{01,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{01,91+5}\right) \tag{23}$$

$$\rightarrow \hat{y}_{01,91} - \hat{y}_{01,96} = \left(\hat{y}_{01,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{01,96}\right)$$

$$\hat{y}_{06,91} - \hat{y}_{06,91+5} = \left(\hat{y}_{06,91} - \hat{y}_{01,91}\right) + \left(\hat{y}_{01,91} - \hat{y}_{06,91+5}\right) \tag{24}$$

$$\rightarrow \hat{y}_{06,91} - \hat{y}_{06,96} = \left(\hat{y}_{06,91} - \hat{y}_{01,91}\right) + \left(\hat{y}_{01,91} - \hat{y}_{06,96}\right)$$

$$\hat{y}_{06,91} - \hat{y}_{06,91+10} = \left(\hat{y}_{06,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{06,91+10}\right) \tag{25}$$

$$\rightarrow \hat{y}_{06,91} - \hat{y}_{06,01} = \left(\hat{y}_{06,91} - \hat{y}_{96,91}\right) + \left(\hat{y}_{96,91} - \hat{y}_{06,01}\right)$$

1996 Cohort

$$\hat{y}_{06,96} - \hat{y}_{06,96+5} = \left(\hat{y}_{06,96} - \hat{y}_{01,96}\right) + \left(\hat{y}_{01,96} - \hat{y}_{06,96+5}\right) \tag{26}$$

$$\rightarrow \hat{y}_{06,96} - \hat{y}_{06,01} = \left(\hat{y}_{06,96} - \hat{y}_{01,96}\right) + \left(\hat{y}_{01,96} - \hat{y}_{06,01}\right)$$

Equations (14)-(26) decompose the cross-section growth into two parts. The first term in each equation gives the earnings growth experienced by cohort k over decade and is regarded as the "within-cohort" growth in Borjas (1985). The second term in each equation estimates the difference in earnings that occurred over the decade for individuals with a given number of years since immigration. Thus, it compares different cohorts at the same point of their Hong Kong life cycle and is regarded as the "across-cohort" growth in Borjas (1985). If the second term is positive, it implies that the earnings of

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immigrants who have been staying in Hong Kong for n years is declining across censuses, in other words, the quality of cohorts is also declining over time, then it biases upwardly the cross-section measure of earnings growth. By contrast, if the second term is negative, it implies that the earnings of immigrants who have been staying in Hong Kong for n years is rising across censuses, in other words, the quality of cohorts is also improving over time, then it biases downwardly the cross-section measure of earnings growth. As mentioned in Borjas (1985), the within-cohort growth can also be biased by the effect of secular changes in aggregate labour market conditions. For instance, Hong Kong economic conditions worsened between 1996 and 2001, the within-cohort growth in equations (15), (18) and (23) will be biased downwards and the decomposition in these equations will exaggerate the extent of quality differences across cohorts. Taking difference between Chinese immigrants and Hong Kong natives earnings can be one possible solution to this problem, as suggested by Borjas (1985), we can analyze the behavior of Chinese immigrant earnings relative to a base of Hong Kong native workers. Suppose the wage structures for Hong Kong natives workers are given by

$$\ln w_{91,n} = \mathbf{X}\gamma_{91} + \beta_n + \varepsilon_{91} \quad (27)$$

$$\ln w_{96,n} = \mathbf{X}\gamma_{96} + \delta_n + \delta_{81} \quad (28)$$

$$\ln w_{01,n} = \mathbf{X}\gamma_{01} + \theta_n + \varepsilon_{01} \quad (29)$$

$$\ln w_{06,n} = \mathbf{X}\gamma_{06} + \tau_n + \varepsilon_{06} \quad (30)$$

where n represents Hong Kong natives. Define the earnings a Hong Kong

natives worker statistically similar to the average immigrant from cohort k would earn by

$$\hat{y}_{91,n} = \overline{X}_k \times \hat{\gamma}_{91} + \hat{\beta}_n \qquad (31)$$

$$\hat{y}_{96,n} = \overline{X}_k \times \hat{\gamma}_{96} + \hat{\delta}_n \qquad (32)$$

$$\hat{y}_{01,n} = \overline{X}_k \times \hat{\gamma}_{01} + \hat{\theta}_n \qquad (33)$$

$$\hat{y}_{06,n} = \overline{X}_k \times \hat{\gamma}_{06} + \hat{\tau}_n \qquad (34)$$

Note that the cross-section growth in the relative earnings of Chinese immigrant cohort k is given by

$$\left(\hat{y}_{91,k} - \hat{y}_{91,n}\right) - \left(\hat{y}_{91,k+j} - \hat{y}_{91,n}\right) = \hat{\beta}_k - \hat{\beta}_{k+j} \qquad (35)$$

$$\left(\hat{y}_{96,k} - \hat{y}_{96,n}\right) - \left(\hat{y}_{96,k+j} - \hat{y}_{96,n}\right) = \hat{\delta}_k - \hat{\delta}_{k+j} \qquad (36)$$

$$\left(\hat{y}_{01,k} - \hat{y}_{01,n}\right) - \left(\hat{y}_{01,k+j} - \hat{y}_{01,n}\right) = \hat{\theta}_k - \hat{\theta}_{k+j} \qquad (37)$$

$$\left(\hat{y}_{06,k} - \hat{y}_{06,n}\right) - \left(\hat{y}_{06,k+j} - \hat{y}_{06,n}\right) = \hat{\tau}_k - \hat{\tau}_{k+j} \qquad (38)$$

Thus the estimate of cross-section growth is unaffected by the introduction of Hong Kong native workers into the analysis. The cross-section growth given by (36) can be rewritten as (39), (42) while the cross-section growth given by (37) can be rewritten as (40), (41), (43), (45), (48), and the cross-section growth given by (38) can be rewritten as (44), (46), (47), (49), (50), (51).

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1981 Cohort

$$(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{96,81+5} - \hat{y}_{96,n}) = [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{96,81+5} - \hat{y}_{96,n})] \tag{39}$$

$$\rightarrow (\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n}) = [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})]$$

$$(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,81+5} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{96,81} - \hat{y}_{96,n})] + [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{01,81+5} - \hat{y}_{01,n})] \tag{40}$$

$$\rightarrow (\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{96,81} - \hat{y}_{96,n})] + [(\hat{y}_{96,81} - \hat{y}_{96,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n})]$$

$$(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,81+10} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{01,81+10} - \hat{y}_{01,n})] \tag{41}$$

$$\rightarrow (\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n}) = [(\hat{y}_{01,81} - \hat{y}_{01,n}) - (\hat{y}_{91,81} - \hat{y}_{91,n})] + [(\hat{y}_{91,81} - \hat{y}_{91,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})]$$

1986 Cohort

$$(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{96,86+5} - \hat{y}_{96,n}) = [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{96,86+5} - \hat{y}_{96,n})] \tag{42}$$

$$\rightarrow (\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n}) = [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})]$$

$$(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,86+5} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{01,86+5} - \hat{y}_{01,n})] \tag{43}$$

$$\rightarrow (\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})]$$

$$(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n})] + [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{06,86+5} - \hat{y}_{06,n})] \tag{44}$$

$$\rightarrow (\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{01,86} - \hat{y}_{01,n})] + [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{06,91} - \hat{y}_{06,n})]$$

$$(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,86+10} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{01,86+10} - \hat{y}_{01,n})] \tag{45}$$

$$\rightarrow (\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n}) = [(\hat{y}_{01,86} - \hat{y}_{01,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})]$$

$$(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+15} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{06,86+15} - \hat{y}_{06,n})] \tag{46}$$

$$\rightarrow (\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{91,86} - \hat{y}_{91,n})] + [(\hat{y}_{91,86} - \hat{y}_{91,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n})]$$

$$(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,86+10} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{06,86+10} - \hat{y}_{06,n})] \tag{47}$$

$$\rightarrow (\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n}) = [(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{96,86} - \hat{y}_{96,n})] + [(\hat{y}_{96,86} - \hat{y}_{96,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n})]$$

1991
Cohort

$$(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{01,91+5} - \hat{y}_{01,n}) = [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{01,91+5} - \hat{y}_{01,n})] \quad (48)$$

$$\rightarrow (\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n}) = [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})]$$

$$(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,91+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})] + [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{06,91+5} - \hat{y}_{06,n})] \quad (49)$$

$$\rightarrow (\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})] + [(\hat{y}_{01,91} - \hat{y}_{01,n}) - (\hat{y}_{06,96} - \hat{y}_{06,n})]$$

$$(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,91+10} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{06,91+10} - \hat{y}_{06,n})] \quad (50)$$

$$\rightarrow (\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n}) = [(\hat{y}_{06,91} - \hat{y}_{06,n}) - (\hat{y}_{96,91} - \hat{y}_{96,n})] + [(\hat{y}_{96,91} - \hat{y}_{96,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n})]$$

1996
Cohort

$$(\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{06,96+5} - \hat{y}_{06,n}) = [(\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})] + [(\hat{y}_{01,96} - \hat{y}_{01,n}) - (\hat{y}_{06,96+5} - \hat{y}_{06,n})] \quad (51)$$

$$\rightarrow (\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n}) = [(\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})] + [(\hat{y}_{01,96} - \hat{y}_{01,n}) - (\hat{y}_{06,01} - \hat{y}_{06,n})]$$

The first bracketed term in (39)-(51) gives the difference in the relative earnings of cohort k between two census years. For example, $[(\hat{y}_{06,96} - \hat{y}_{06,n}) - (\hat{y}_{01,96} - \hat{y}_{01,n})]$ refers to the difference in Chinese immigrants' and Hong Kong natives' earnings of 1996 cohort between 2001

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and 2006 census. Borjas (1985) refers this within-cohort effect measures the rate at which the earnings profiles of Chinese immigrants and Hong Kong natives are converging or diverging. The second bracketed term on the right hand side in (39)-(51) gives the across-cohort effect which estimates the difference in the relative earnings of Chinese immigrants who are at the same position in their Hong Kong life cycle between two census years. For instance, $[(\hat{y}_{06,86} - \hat{y}_{06,n}) - (\hat{y}_{01,91} - \hat{y}_{01,n})]$ refers to the comparison across two cohorts (1986 and 1991) immigrants' relative earnings using two censuses (2006 and 2001), the time difference between two censuses is 5 years which is the same as the time difference between two cohorts, this $\hat{y}$ differential implies the difference in relative earnings that occurred over 5 years for Chinese immigrants with a given number of years since migration, so it compares different cohorts at the same position in their Hong Kong life cycle between two census years. Positive across-cohort growth difference indicates that the quality of Chinese immigrants is falling relative to the Hong Kong native base over time, which biasing upwardly the cross-section growth in immigrant earnings.

The data used in the analysis have been described in chapter 1 and 3. Unlike Borjas (1985) sampling approach, the analysis is not restricted to male persons only, but includes female persons, both male and female with different marital status, occupation and industry are all analyzed in this research, and several dummy variables are employed to capture the gender effect, occupational effect as well as industrial effect on assimilation patterns. In the dataset, self-employed individuals or working without pay persons are all excluded as

the inclusion of them may create bias in the sample, the argument is discussed in section 3.5.7. Chapter 6 mainly employs 1991, 1996, 2001 and 2006 Hong Kong censuses, since 1986 census did not provide years of residence information and both 1981 and 1986 census did not provide language usage information, thus, both years since migration and language variables cannot be constructed. The empirical analysis reported in chapter 6 is based on the estimates of equations (1)-(4) and (27)-(30): the five Chinese immigrant cross sections and the four Hong Kong native cross sections, all eight equations are estimated jointly to allow the testing of coefficients across these equations. The vector of socioeconomic characteristics, *X*, in the cross-section regressions includes the following variables:

1. Years of completed schooling (S)

2. Year of work experience = age minus years of schooling minus six. (EXP)

3. Year of work experience squared (EXP2)

4. Putonghua language dummy (PD)

5. English language dummy (ED)

6. Cantonese language dummy (CD)

7. Gender dummy (SEX)

8. Industry dummy (ID)

   a. (MANU) Manufacturing;

   b. (CONS) Construction;

   c. (WRIX) Wholesale, Retail and Import / Export Trades, Restaurants;

   d. (TSCM) Transport, Storage and Communication;

   e. (FIRB) Financing, Insurance, Real Estate and Business Services;

f. (CSPS)   Community, Social and Personal Services

9. Occupation dummy (OD)

   a. (M&AD) Managers and Administrators;

   b. (PROF) Professionals;

   c. (ASSP) Associate Professionals;

   d. (CLRK) Clerks;

   e. (SWSS) Service Workers and   Shop Sales Workers;

   f. (CARW) Craft and Related Workers;

   g. (PMOA) Plant and Machine Operators and Assemblers;

   h. (ELEM) Elementary Occupations

In total, nine empirical models are estimated using different combinations of socioeconomic characteristics variables, the analysis would be decomposed by industrial sectors and occupations, Hong Kong census datasets allow six different industries and eight different occupations, which would be estimated in model VII, VIII and IX. The gender effect would be tested in all models except model I while English, Putonghua and Cantonese effects are tested in all models except model I and II. The details of these combinations are as follow:

Empirical Model	Vector of socioeconomic characteristics, X,
I	S; EXP; EXP2
II	S; EXP; EXP2; SEX
III	S; EXP; EXP2; ED; SEX;
IV	S; EXP; EXP2; PD; SEX;

V	S; EXP; EXP2; CD; SEX;
VI	S; EXP; EXP2; ED; PD; CD; SEX;
VII	S; EXP; EXP2; ED; PD; CD; SEX; ID;
VIII	S; EXP; EXP2; ED; PD; CD; SEX; OD;
XI	S; EXP; EXP2; ED; PD; CD; SEX; ID; OD;

6.6 Empirical Results

Language proficiency is always regarded as an essential human capital as it promotes effective daily and business communication. Languages include both local language as well as other foreign languages. Indeed, the demand for language skills is somewhat different between natives and immigrants, natives are expected to be proficiency in local language and required to learn foreign languages while immigrants are expected to be proficiency in foreign language and required to learn the local language, the following subsections show the empirical results of earning estimation under different decomposition.

6.6.1   Descriptive Statistics

Table 6.2 and 6.3 provide the descriptive statistics of Hong Kong natives and Chinese immigrants throughout the four censuses. Throughout these four censuses, in general, the years of schooling of natives are relatively longer than that of immigrants, which is consistent to the findings in chapter 3, but immigrants' work experience years is relatively longer than natives, which is not shown in chapter 3, longer work experience years can attribute to the older relative age profile of Chinese immigrants. The estimation results of

equations (1) to (4) are shown in Table 6.4 to 6.11 show the estimation results of equations (27) to (30). Comparing the coefficients of Table 6.4 to 6.11 allow the author to examine the schooling return and work experience return differentials, they show both schooling and work experience returns are higher for Hong Kong natives than Chinese immigrants in all models, but the return differentials are narrower in model XI than in model I, it implies the human capital return rates should not be as high as expected if industry and occupation are controlled. Besides, men's earning is always higher than women's earning regardless of place of birth, the earning power of men is always higher than women, but it does not imply that male immigrants assimilate better than female immigrants. In general, self-selected immigrants are always regarded as a more productive group of worker compare to non-self-selected immigrants, section 1.4 describes Hong Kong immigration history that most Chinese immigrants are men before 1980 for economic reason and most immigrants are women after 1980 who come to Hong Kong for family reunion purpose, thus people expect the earning power of immigrant men is higher than immigrant women, however, conclusive results cannot be drawn without controlling the quality of immigrants, the industry they are working for and the occupation they are working as, besides, the author also consider the relative earning between male immigrants and male natives, also relative earning between female immigrants and female natives, and then compare the relative earning differentials by gender, that is how male immigrants' earnings overtake the male natives' earnings, or how female immigrants' earnings overtake the female natives' earnings, as male immigrants share some common characteristics with male natives and female

immigrants also share some other common characteristics with female natives, thus Table 6.4 to 6.11 show that higher earning power of men than women regardless of place of birth does not automatically imply that male immigrants assimilate better than female immigrants.

On the other hand, the author expects assimilation rate should vary amongst immigrants who possess English, Putonghua and Cantonese language skills, Table 6.4 to 6.11 show that the earning power of possessing Cantonese language skills is relatively higher than English and Putonghua language skills, English language skills always rank the second, and Putonghua language skills rank the third, the author investigates how immigrants who possess different kinds of language skills assimilate in various industry sectors (in Table 6.21 to 6.28) and occupations (in Table 6.29 to 6.36).

Last but not least, socioeconomic characteristics variables consist of industrial sectors and occupations, the coefficient of those industry dummies and occupation dummies are all significant at 1 percent level, which represent the inclusion of these two types of dummies avoid committing omitted variables bias. Overall speaking, Table 6.4 to 6.11 indicate that gender, language skills, industrial differential as well as occupational difference are essential in understanding the assimilation pattern. As model XI is the most complete and comprehensive model to understanding assimilation pattern amongst these nine models, the author will adopt model XI and equations (5)-(13) as well as equations (31)-(38) in order to estimate the cross-section growth, within-cohort growth and across-cohort growth in equations (14)-(26) and

equations (39)-(51), the estimation results of equations (14)-(26) are presented

in Table 6.12 to Table 6.14 while results of equations (39)-(51) are presented

in Table 6.15 to Table 6.17.

Table 6.2 Descriptive Statistics for Chinese Immigrants (Mean)

	Census Year			
	1991	1996	2001	2006
Years of Schooling	11.7981	12.3298	12.5823	12.9153
Experience	17.5143	18.7662	18.6318	18.9714
Experience-Squared	467.7003	499.3008	508.2265	522.2091
Gender	0.4547	0.6041	0.4152	0.4076
Dummy For English	0.0533	0.0635	0.0868	0.1603
Dummy For Putonghua	0.3887	0.4523	0.3708	0.3688
Dummy For Cantonese	0.7862	0.2453	0.9149	0.9511
Dummy for Manufacturing	0.4777	0.2429	0.1453	0.0917
Dummy for Construction	0.0533	0.1377	0.0974	0.0938
Dummy for Wholesale	0.2830	0.3354	0.4201	0.4237
Dummy for Transport	0.0350	0.0736	0.0635	0.0706
Dummy for Financing	0.0437	0.0792	0.0978	0.1066
Dummy for Community	0.0962	0.1234	0.1680	0.2085
Dummy for Manager	0.0771	0.1047	0.0695	0.0671
Dummy for Professional	0.0143	0.0223	0.0269	0.0266
Dummy for Ass Professional	0.0548	0.0621	0.0875	0.0836
Dummy for Clerk	0.0970	0.1326	0.1355	0.1373
Dummy for Service Workers	0.1208	0.1783	0.2365	0.2835
Dummy for Craft Worker	0.1526	0.1979	0.1211	0.1083
Dummy for Plant Operator	0.2496	0.0928	0.0574	0.0396
Dummy for Elementary Occupations	0.2289	0.2040	0.2634	0.2511
Sample Size	1258	4269	14105	16477

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Table 6.3 Descriptive Statistics for Hong Kong Natives (Mean)

	Census Year			
	1991	1996	2001	2006
Years of Schooling	14.2830	14.3426	14.7991	15.0066
Experience	16.0000	12.7827	13.7398	16.8965
Experience-Squared	414.0755	161.0178	88.1761	211.8967
Gender	0.6792	0.5739	0.5345	0.5254
Dummy For English	0.3396	0.3426	0.5520	0.5652
Dummy For Putonghua	0.3585	0.1616	0.1075	0.2021
Dummy For Cantonese	0.8868	0.0186	0.9666	0.9696
Dummy for Manufacturing	0.2642	0.1671	0.0772	0.0658
Dummy for Construction	0.0943	0.0626	0.0770	0.0403
Dummy for Wholesale	0.2075	0.3009	0.3721	0.3563
Dummy for Transport	0.0943	0.1005	0.0961	0.1098
Dummy for Financing	0.2075	0.1555	0.1601	0.1941
Dummy for Community	0.1132	0.2019	0.2125	0.2298
Dummy for Manager	0.0755	0.1013	0.0494	0.0956
Dummy for Professional	0.1132	0.0503	0.0547	0.0735
Dummy for Ass Professional	0.1321	0.1191	0.1359	0.1758
Dummy for Clerk	0.1321	0.2274	0.2190	0.2322
Dummy for Service Workers	0.0943	0.2312	0.2947	0.2584
Dummy for Craft Worker	0.1509	0.1168	0.1056	0.0466
Dummy for Plant Operator	0.0755	0.0418	0.0210	0.0267
Dummy for Elementary Occupations	0.2264	0.1060	0.1165	0.0900
Sample Size	1892	1293	4754	9208

Table 6.4 1991 Census Immigrants

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Cohort Dummy																		
1981-1985	2.9869	21.2218	2.8966	20.3880	2.8841	20.1140	2.9862	20.7322	2.1851	14.1457	2.2194	14.6817	0.4807	5.4476	0.1688	2.3411	0.1690	2.3451
1986-1990	3.0146	21.7275	2.9406	21.0906	2.9315	20.9165	3.0063	21.4353	2.3271	15.7465	2.3248	16.0840	0.3603	4.1608	0.0714	1.0113	0.0691	0.9784
Years of Schooling	0.3347	38.7628	0.3241	35.8196	0.3258	34.6396	0.3093	30.7786	0.3082	34.8297	0.2644	24.9755	0.0897	13.3079	0.0477	7.8492	0.0491	8.0353
Experience	0.0897	8.8122	0.0937	9.2001	0.0932	9.1184	0.0919	9.0479	0.0903	9.2154	0.0873	9.0706	0.0191	3.5583	0.0120	2.7383	0.0118	2.7010
Experience-Squared	-0.0005	-2.0311	-0.0005	-2.3429	-0.0005	-2.2836	-0.0005	-2.3222	-0.0005	-2.2263	-0.0005	-2.3450	0.0000	-0.3527	-0.0001	-0.7299	-0.0001	-0.6258
Gender	-	-	0.3600	3.7263	0.3637	3.7578	0.3643	3.7867	0.4074	4.3796	0.4166	4.5719	0.4194	8.2584	0.3321	7.8030	0.3215	7.3737
Language																		
English	-	-	-	-	0.5395	4.6524	-	-	-	-	0.7420	7.3104	0.3755	3.2934	0.2593	2.7357	0.2338	2.4446
Putonghua	-	-	-	-	-	-	0.3350	3.3160	-	-	0.5366	2.5771	0.2515	4.4929	0.1229	2.7171	0.1246	2.7512
Cantonese	-	-	-	-	-	-	-	-	1.0592	9.8736	1.3750	12.0496	0.3356	5.1237	0.1427	2.6903	0.1420	2.6553
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	5.9936	52.4191	-	-	0.1984	4.7944
Construction	-	-	-	-	-	-	-	-	-	-	-	-	5.9285	38.3968	-	-	0.2393	5.9169
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	6.0617	49.2889	-	-	0.2667	6.0658
Transport	-	-	-	-	-	-	-	-	-	-	-	-	6.0014	34.5860	-	-	0.3900	5.4615
Financing	-	-	-	-	-	-	-	-	-	-	-	-	5.6620	33.0594	-	-	0.0886	5.3387
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	5.8212	41.4949	-	-	0.1096	5.4316
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5809	52.5479	7.3393	25.2931
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3268	36.3697	7.1447	22.1787
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.1786	48.7571	6.9939	24.5580
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.1027	55.4487	6.8497	24.3123
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2190	63.2182	6.9599	25.2365
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0371	62.1446	6.8319	24.9100
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.1113	68.5342	6.8941	25.2315
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0092	63.9571	6.7902	24.9974
F-Stat	6265.919		5280.50		4524.01		4565.80		4907.68		3996.38		8357.7871		11505.0477		8534.21876	
Sample Size	1195		1195		1195		1195		1195		1195		1195		1195		1195	

Table 6.5 1996 Census Immigrants

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Cohort Dummy																		
1976-1980	4.7882	64.8343	4.5922	62.5323	4.5746	62.2357	4.5927	62.2998	4.5923	62.5176	4.5928	62.2815	1.3978	21.1298	1.0018	16.4745	0.9592	15.8855
1981-1985	4.7246	61.8545	4.5758	60.7379	4.5547	60.4288	4.5763	60.4627	4.5758	60.6654	4.5764	60.3799	1.3432	19.8988	0.9745	15.7947	0.9285	15.1459
1986-1990	4.6656	57.2653	4.6056	57.7901	4.6152	57.4254	4.6061	57.5937	4.6057	57.4963	4.6063	57.2834	1.3977	20.0696	1.0408	16.4135	0.9955	15.7920
1991-1995	4.6482	57.4626	4.5949	58.0882	4.5825	58.2355	4.5954	57.9165	4.5951	57.7205	4.5956	57.5316	1.3578	19.5056	0.9740	15.3587	0.9320	14.7933
Years of Schooling	0.2538	60.6619	0.2434	58.6688	0.2525	58.6688	0.2435	57.5743	0.2434	58.4925	0.2435	57.3721	0.1148	33.1934	0.0693	19.4272	0.0678	18.8888
Experience	0.0832	18.5511	0.0772	17.5432	0.0725	17.5432	0.0772	17.5245	0.0772	17.5411	0.0772	17.5224	0.0278	9.0780	0.0257	9.1786	0.0247	8.8214
Experience-Squared	-0.0009	-8.1064	-0.0007	-7.2238	-0.0008	-7.2238	-0.0007	-7.2144	-0.0007	-7.2166	-0.0007	-7.2078	-0.0003	-3.9782	-0.0003	-5.4762	-0.0003	-5.0388
Gender	-	-	0.5359	14.2647	0.4259	7.4258	0.5358	14.2554	0.5359	14.2587	0.5358	14.2498	0.4019	15.2700	0.3976	16.4397	0.3808	15.4712
Language																		
English	-	-	-	-	0.4579	6.2351	-	-	-	-	0.3269	5.2635	0.3269	5.2635	0.4259	6.5238	0.4326	5.4854
Putonghua	-	-	-	-	-	-	0.2854	4.4775	-	-	0.1288	4.3782	0.1286	4.1588	0.1245	4.1152	0.1232	4.0631
Cantonese	-	-	-	-	-	-	-	-	0.7146	5.4168	0.4258	5.4125	0.5643	5.2525	0.5592	4.3375	0.5556	5.2058
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	5.6063	69.4541	-	-	1.4709	9.4405
Construction	-	-	-	-	-	-	-	-	-	-	-	-	5.6349	67.4740	-	-	1.5599	9.9220
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	5.6764	71.3005	-	-	1.4951	9.5612
Transport	-	-	-	-	-	-	-	-	-	-	-	-	5.6186	63.2976	-	-	1.5314	9.5542
Financing	-	-	-	-	-	-	-	-	-	-	-	-	5.6374	61.9189	-	-	1.5135	9.5109
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	5.5913	65.4161	-	-	1.4864	9.4121
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0606	78.9461	5.6577	33.1523
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2191	64.2678	5.8198	31.8990
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8039	73.7699	5.3925	31.3535
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7335	81.8778	5.3154	31.7412
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6335	85.6020	5.2130	31.2336
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5231	83.1718	5.0958	30.7467
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5599	79.6776	5.1442	30.5031
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4072	82.6159	4.9752	29.9186
F-Stat	33665.844		30898.490		41254.590		27458.845		27458.807		24707.095		35019.696		39260.099		30112.460	
Sample Size	4222		4222		4222		4222		4222		4222		4222		4222		4222	

Table 6.6 2001 Census Immigrants

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Cohort Dummy																		
1981-1985	4.002	87.394	3.842	84.646	3.839	84.720	3.841	84.166	2.850	61.731	2.808	61.526	.968	27.824	.460	16.902	.440	16.245
1986-1990	4.099	94.031	3.972	92.218	3.976	92.444	3.971	91.900	2.987	67.576	2.944	67.417	1.014	29.939	.473	17.786	.453	17.121
1991-1995	4.050	93.290	3.955	92.527	3.964	92.830	3.955	92.334	3.023	69.510	2.985	69.508	.994	29.552	.456	17.293	.434	16.532
1996-2000	4.047	94.443	4.003	95.189	4.009	95.463	4.002	94.980	3.118	73.359	3.080	73.376	.995	29.807	.397	15.041	.379	14.474
Years of Schooling	.280	115.052	.269	110.380	.264	103.838	.269	105.828	.244	106.459	.220	85.581	.105	51.186	.041	23.225	.039	22.332
Experience	.107	41.670	.108	42.875	.111	43.346	.108	42.659	.086	36.857	.089	37.740	.041	24.372	.025	19.026	.025	19.128
Experience-Squared	-.001	-18.142	-.001	-18.128	-.001	-19.042	-.001	-18.090	-.001	-13.309	-.001	-14.545	.000	-12.262	.000	-13.250	.000	-13.392
Gender	-	-	.531	23.820	.536	24.077	.531	23.819	.557	27.191	.573	28.310	.435	29.198	.314	26.888	.305	25.498
Language																		
English	-	-	-	-	.467	6.591	-	-	-	-	.635	16.587	.439	16.533	.206	9.992	.195	9.543
Putonghua	-	-	-	-	-	-	.360	4.261	-	-	.305	14.014	.133	8.809	.050	4.362	.047	4.069
Cantonese	-	-	-	-	-	-	-	-	1.587	50.330	1.747	54.125	.540	22.257	.201	10.567	.195	10.306
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	5.387	114.879	-	-	.773	12.520
Construction	-	-	-	-	-	-	-	-	-	-	-	-	5.435	113.648	-	-	.877	14.014
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	5.446	123.592	-	-	.804	13.209
Transport	-	-	-	-	-	-	-	-	-	-	-	-	5.412	105.073	-	-	.873	13.731
Financing	-	-	-	-	-	-	-	-	-	-	-	-	5.446	108.269	-	-	.862	13.795
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	5.415	116.141	-	-	.833	13.584
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.122	172.370	7.367	99.784
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.223	154.498	7.460	96.613
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.700	171.378	6.931	95.908
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.410	178.138	6.645	94.151
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.377	188.815	6.617	94.826
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.339	179.972	6.564	93.123
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.336	167.115	6.579	90.703
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.185	183.408	6.413	93.199
F-Stat	98248.5782		89520.244		79819.903		79568.256		94263.770		79253.770		109242.869		168531.803		130125.288	
Sample Size	13993		13993		13993		13993		13993		13993		13993		13993		13993	

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Table 6.7 2006 Census Immigrants

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Cohort Dummy																		
1986-1990	7.7769	270.9244	7.6817	272.6679	7.7094	275.4169	7.6815	272.6154	7.9224	209.3467	7.8991	208.8810	7.6002	98.5304	7.8194	88.7520	7.7911	85.6719
1991-1995	7.7099	276.9882	7.6310	279.8381	7.6617	282.6190	7.6307	279.7668	7.8697	212.4798	7.8497	212.0426	7.5526	98.2623	7.7808	88.3564	7.7542	85.3039
1996-2000	7.6903	283.5652	7.6145	286.6335	7.6415	289.4703	7.6143	286.5501	7.8534	214.9631	7.8292	214.2696	7.5369	98.4020	7.7574	88.3432	7.7324	85.2905
2001-2005	7.6157	279.7776	7.5749	285.0545	7.5973	287.8792	7.5743	284.6397	7.7974	220.4128	7.7671	218.8210	7.4748	98.4992	7.7418	88.6227	7.7151	85.5459
Years of Schooling	0.0746	48.3513	0.0697	46.1024	0.0635	41.0709	0.0697	45.5846	0.0677	44.3738	0.0601	37.8186	0.0573	35.7397	0.0244	16.4030	0.0234	15.7440
Experience	0.0237	19.2538	0.0248	20.7114	0.0270	22.5633	0.0248	20.6685	0.0253	21.1085	0.0272	22.8035	0.0277	23.1845	0.0285	26.8000	0.0286	26.9025
Experience-Squared	-0.0003	-11.8622	-0.0004	-12.6090	-0.0004	-14.2006	-0.0004	-12.5765	-0.0004	-13.2646	-0.0004	-14.6171	-0.0004	-14.9379	-0.0004	-17.7504	-0.0004	-17.7854
Gender	-	-	0.2952	29.2572	0.2901	28.9770	0.2953	29.2591	0.2922	29.0232	0.2886	28.8887	0.2888	27.0293	0.2173	23.0382	0.2001	20.5755
Language																		
English	-	-	-	-	0.2294	16.5157	-	-	-	-	0.2498	16.7620	0.2449	16.5074	0.1630	12.5889	0.1599	12.3749
Putonghua	-	-	-	-	-	-	0.0846	5.4450	-	-	0.0567	5.1572	0.0530	4.8407	0.0458	1.6556	0.0742	5.4921
Cantonese	-	-	-	-	-	-	-	-	0.4167	9.4949	0.3710	7.4027	0.3653	7.1946	0.2795	3.9534	0.2777	3.8762
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	0.3752	5.3920	-	-	0.1315	5.9390
Construction	-	-	-	-	-	-	-	-	-	-	-	-	0.2601	3.7376	-	-	0.1680	3.4675
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	0.3215	4.7169	-	-	0.0823	4.2322
Transport	-	-	-	-	-	-	-	-	-	-	-	-	0.3387	4.8333	-	-	0.2082	5.0521
Financing	-	-	-	-	-	-	-	-	-	-	-	-	0.4821	6.9517	-	-	0.2191	6.2454
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	0.2562	3.7367	-	-	0.1011	4.5119
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3792	16.4915	1.3059	13.9393
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3841	16.0326	1.2891	13.4215
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9102	10.9217	0.8182	8.7714
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5114	6.1774	0.4279	4.6112
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4152	5.0475	0.3657	3.9514
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4545	5.4846	0.3576	3.8383
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4681	5.5406	0.3537	3.7379
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1142	1.3880	0.0250	0.2710
F-Stat	462252.4954		425695.155		384706.071		378377.184		380465.893		316639.794		207371.593		245292.513		187697.818	
Sample Size	16384		16384		16384		16384		16384		16384		16384		16384		16384	

Table 6.8 1991 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.4796	23.9335	0.4663	19.2040	0.3910	10.3371	0.4698	20.3013	0.4293	14.2120	0.3658	8.1771	0.2665	5.4744	0.0118	5.2667	0.0033	5.0736
Experience	0.0912	2.8240	0.0868	2.6588	0.1553	3.7623	0.1334	3.6672	0.0554	5.5626	0.1378	3.2989	0.0971	2.4581	0.0106	5.4560	0.0228	5.9673
Experience-Squared	0.0002	0.3298	0.0003	0.3796	-0.0009	-1.0231	-0.0005	-0.6801	0.0006	0.7516	-0.0009	-1.0563	-0.0006	-0.8198	-0.0002	-0.4369	-0.0004	-0.9816
Gender	-	-	0.3717	4.9685	0.3842	5.0546	0.2962	6.8084	0.1829	5.4750	0.1364	5.3828	0.1102	4.3335	0.1048	5.5617	-0.0134	-5.0688
Language																		
English	-	-	-	-	0.4370	2.5110	-	-	-	-	0.3202	4.9805	0.5724	2.8610	0.2710	4.9061	0.3520	4.1556
Putonghua	-	-	-	-	-	-	0.2520	3.4591	-	-	0.6125	4.3581	0.2493	6.6095	0.1795	3.3546	0.1799	5.3567
Cantonese	-	-	-	-	-	-	-	-	0.8871	5.9628	0.8434	2.2477	0.6809	4.5069	0.8913	4.9292	0.6950	2.8302
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	3.2263	4.5438	-	-	-0.8477	-5.4171
Construction	-	-	-	-	-	-	-	-	-	-	-	-	2.6422	3.2805	-	-	-1.2871	-4.0276
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	2.9293	3.8912	-	-	-1.0387	-5.6644
Transport	-	-	-	-	-	-	-	-	-	-	-	-	3.2100	4.1386	-	-	-0.6958	-5.1427
Financing	-	-	-	-	-	-	-	-	-	-	-	-	2.9467	3.6979	-	-	-0.4246	-6.7407
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	2.2958	2.5819	-	-	-1.1166	-6.7249
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0126	10.7359	11.1384	9.5783
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9717	10.5012	10.6774	9.8940
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9793	10.1475	10.8849	9.4321
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.1660	11.0617	10.1225	9.5502
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.2693	11.1354	10.4233	9.6743
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.0624	12.7533	10.1526	10.5738
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8901	11.7922	9.6302	9.8350
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3228	11.1215	9.3891	9.5852
F-Stat	749.07		561.33		499.96		497.49		476.52		401.07		308.87999		971.642495		769.614895	
Sample Size	1870		1870		1870		1870		1870		1870		1870		1870		1870	

Table 6.9 1996 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.5749	161.5918	0.5464	122.9100	0.5245	76.2436	0.5461	117.8685	0.5464	122.7664	0.5461	117.8158	0.2143	26.1114	0.1471	16.5076	0.1320	14.8268
Experience	0.0653	5.7840	0.0621	5.7108	0.0633	5.7255	0.0621	5.7113	0.0621	5.7061	0.0622	5.7076	0.0686	10.0887	0.0548	8.9046	0.0555	9.2317
Experience-Squared	0.0006	1.6691	0.0005	1.4479	0.0005	1.4479	0.0005	1.4395	0.0005	1.4457	0.0005	1.4364	-0.0008	-4.0706	-0.0008	-4.6926	-0.0009	-4.9411
Gender	-	-	0.8161	10.0702	0.7952	7.0702	0.8167	10.0700	0.8162	10.0667	0.8168	10.0668	0.2845	5.3612	0.2123	4.5123	0.1857	3.9839
Language																		
English	-	-	-	-	0.4126	4.5215	-	-	-	-	0.4226	5.5215	0.5236	4.2654	0.2843	4.1543	0.3633	4.5244
Putonghua	-	-	-	-	-	-	0.1298	5.2645	-	-	0.1311	3.2742	0.2524	6.2416	0.1796	4.3546	0.1965	5.4876
Cantonese	-	-	-	-	-	-	-	-	0.5280	7.0911	0.5361	5.1166	0.6426	4.5069	0.8746	4.4858	0.6845	4.8302
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	5.4054	39.3736	-	-	1.5509	7.3607
Construction	-	-	-	-	-	-	-	-	-	-	-	-	5.4702	34.1269	-	-	1.6404	7.3754
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	5.5213	43.7269	-	-	1.6127	7.6872
Transport	-	-	-	-	-	-	-	-	-	-	-	-	5.5981	39.2385	-	-	1.7876	8.3484
Financing	-	-	-	-	-	-	-	-	-	-	-	-	5.5607	36.4714	-	-	1.7419	8.1030
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	5.4566	40.0472	-	-	1.5822	7.4852
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9915	38.9606	5.6193	22.6368
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0104	34.4526	5.6791	21.7787
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6335	40.2566	5.2527	21.9387
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5566	46.8713	5.1398	22.8452
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5417	50.0039	5.1484	22.9159
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4428	45.7767	5.1054	22.8191
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6617	41.3406	5.1981	21.3664
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4442	46.9082	5.0133	22.2366
F-Stat	14492.290		11743.216		12354.243		9387.788		9387.324		7817.149		10302.864		12026.925		8879.605	
Sample Size	1290		1290		1290		1290		1290		1290		1290		1290		1290	

Table 6.10 2001 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.5682	353.4848	0.5427	265.2600	0.5540	194.4297	0.5428	260.9735	0.3143	72.3796	0.3081	60.9173	0.1427	35.0297	0.0785	18.4023	0.0729	17.4709
Experience	0.0403	5.2460	0.0377	5.0871	0.0377	5.0979	0.0378	5.0937	0.1234	20.8165	0.1247	21.0234	0.1033	26.3702	0.0765	21.0165	0.0765	21.7065
Experience-Squared	0.0012	5.2000	0.0011	5.0476	0.0011	4.8137	0.0011	5.0520	-0.0019	-10.5599	-0.0019	-10.5945	-0.0020	-17.0332	-0.0016	-14.3715	-0.0016	-15.0047
Gender	-	-	0.7719	19.0557	0.7415	18.2053	0.7719	19.0538	0.4184	13.1073	0.4263	13.2941	0.1547	7.0234	0.1214	5.8801	0.0899	4.4619
Language																		
English	-	-	-	-	0.2594	5.6677	-	-	-	-	0.2985	5.5101	0.2780	3.0075	0.2641	4.7398	0.2554	5.4453
Putonghua	-	-	-	-	-	-	0.1186	4.2713	-	-	0.1839	4.4546	0.1982	4.5835	0.1702	4.0650	0.1735	5.2322
Cantonese	-	-	-	-	-	-	-	-	0.7583	6.4526	0.6232	6.0534	0.6057	15.4184	0.5094	9.5186	0.4661	8.9025
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	5.6388	66.9524	-	-	1.9353	13.8827
Construction	-	-	-	-	-	-	-	-	-	-	-	-	5.7333	72.6183	-	-	2.0201	14.4502
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	5.6320	76.5753	-	-	1.9245	14.0840
Transport	-	-	-	-	-	-	-	-	-	-	-	-	5.6900	70.3481	-	-	2.0158	14.5449
Financing	-	-	-	-	-	-	-	-	-	-	-	-	5.7408	68.7712	-	-	2.0107	14.6273
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	5.3868	69.6308	-	-	1.7106	12.5316
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8009	75.3267	6.0464	38.3963
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7051	75.7231	5.9799	38.3227
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.1277	79.2173	5.4002	35.7879
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9227	85.3427	5.1519	35.0549
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8831	89.7471	5.1401	35.1130
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9407	86.6572	5.1698	35.0382
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.0217	70.3335	5.2063	32.7823
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.8880	89.2783	5.1147	35.0813
F-Stat	55617.358		45001.320		36244.711		35994.009		60922.943		43622.940		54865.594		59820.614		45731.804	
Sample Size	4728		4728		4728		4728		4728		4728		4728		4728		4728	

Table 6.11 2006 Census Native

	Model I		Model II		Model III		Model IV		Model V		Model VI		Model VII		Model VIII		Model XI	
	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value	Coef.	t-value
Years of Schooling	0.5430	443.8659	0.5288	365.1356	0.5351	283.7048	0.5253	352.7888	0.3331	111.8959	0.3213	94.3204	0.1764	58.9048	0.1065	35.1879	0.1022	33.8318
Experience	0.0589	16.4701	0.0567	16.1095	0.0566	16.0970	0.0562	16.0417	0.0910	31.7763	0.0909	31.8370	0.0916	44.1029	0.0779	41.7198	0.0776	41.9236
Experience-Squared	0.0008	8.0323	0.0008	7.7808	0.0008	7.6405	0.0008	7.7194	-0.0009	-9.9520	-0.0008	-9.9049	-0.0014	-22.6138	-0.0013	-23.3819	-0.0013	-23.5202
Gender	-	-	0.4750	17.6447	0.4696	17.4539	0.4727	17.6423	0.2863	13.1665	0.2913	13.4320	0.1169	7.2855	0.0744	5.1270	0.0613	4.2448
Language																		
English	-	-	-	-	0.1527	5.1999	-	-	-	-	0.2061	7.0977	0.2432	4.0428	0.2158	5.8519	0.2172	4.9366
Putonghua	-	-	-	-	-	-	0.3124	9.3173	-	-	0.2321	7.0037	0.3221	5.0853	0.2459	5.1681	0.2439	5.0919
Cantonese	-	-	-	-	-	-	-	-	0.5759	7.3548	0.2888	7.0903	0.5516	5.5009	0.4311	5.7466	0.3127	5.3047
Industry Dummy																		
Manufacturing	-	-	-	-	-	-	-	-	-	-	-	-	5.1391	77.8941	-	-	1.1169	9.9142
Construction	-	-	-	-	-	-	-	-	-	-	-	-	5.2183	78.6801	-	-	1.1750	10.2814
Wholesale	-	-	-	-	-	-	-	-	-	-	-	-	5.1004	89.5286	-	-	1.0482	9.4914
Transport	-	-	-	-	-	-	-	-	-	-	-	-	5.1533	83.3230	-	-	1.2161	10.8926
Financing	-	-	-	-	-	-	-	-	-	-	-	-	5.2430	84.5555	-	-	1.2047	10.9034
Community Service	-	-	-	-	-	-	-	-	-	-	-	-	5.0764	85.9501	-	-	1.0439	9.4452
Occupation Dummy																		
Manager	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4138	107.3937	6.4018	50.9424
Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3287	101.4360	6.3044	49.6564
Ass Professional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9451	108.6704	5.9346	48.3439
Clerk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6672	112.0098	5.6458	46.6899
Service Workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6120	114.7002	5.6373	46.6152
Craft Worker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6893	104.1041	5.6665	46.1820
Plant Operator	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6094	91.8630	5.5363	43.3922
Elementary Occupations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.3367	107.0925	5.3038	43.8113
F-Stat	141107.341		109489.908		87846.090		88429.063		137240.168		98691.232		101673.941		115515.467		84318.485	
Sample Size	9174		9174		9174		9174		9174		9174		9174		9174		9174	

6.6.2   Assimilation Pattern

Table 6.12, 6.13 and 6.14 show the decomposition of cross-section growth in Chinese immigrant earnings in 5 years, 10 years and 15 years duration respectively. In Table 6.12, the positive values of within–cohort growth of 1981 cohort imply positive assimilation rate, using 1996 census, immigrant earnings increase by 86.7 percent over 5 years of duration, however, the estimated immigrant earnings decrease by only 20.07   percent over the same years of   duration (1981 – 1986) using 2001 census, the estimated assimilation rate different in two different censuses   is due to the possible occurrence of survivor bias, this survivor bias was not addressed in Borjas (1985), but suggested by some researchers (Beenstock, Chiswick and   Paltiel 2005). Survivor bias in Borjas (1985) methodology refers to the fact that healthier workers survive longer in the labor market due to selective emigration, labor force withdrawal or mortality. In this case, the average fitness of the 1981 synthetic immigrant cohort will grow over time and will be larger in 2001 than in 1996. Therefore the earnings of immigrants, who arrive in 1981, might have changed between 1996 and 2001, not because of assimilation but simply because of survivor bias. This finding is similar to that in section 5.6.2.   The same survivor bias occurs in 1986 and 1991 five years duration cohorts and 1986 ten years duration cohort in Table 6.13. Considering the relative earning and taking simple average of these assimilation rate estimates could partly alleviate the survivor bias, the results are shown in Table 6.14, 6.15 and 6.16 for 5, 10 and 15 years of duration respectively.

Using the average values to approximate the assimilation pattern across

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cohorts, the 5 years 1981 cohort assimilation rate is around 100 percent, the quality of this cohort is improving by 105 percent over the 5 years of duration, while the similar pattern happens for 5 years 1986 cohort, but the assimilation rate of 5 years 1986 cohort (71.72 percent) is lower than 5 years 1981 cohort, the quality of this cohort is just improving by 67.72 percent over the 5 years of duration. The assimilation rate is even worse for 5 years 1991 and 1996 cohorts, the assimilation rate for 5 years 1991 cohort is -1.53 percent while it is 4.39 percent for 5 years 1996 cohort, the quality of 5 years 1991 and 1996 cohorts is declining. Similar pattern can be observed in 10 years and 15 years duration cohorts, both assimilation rate and quality of Chinese immigrants are declining over time, this result is echoing with relative divergence earning findings in Lam and Liu (2002a), the census data of Lam and Liu (2002a) was up to 1996 only, this study confirms the fact that the deterioration of assimilation rate and quality is persistent after 1996.

Table 6.12 Decomposition of Cross-Section Growth in Immigrant Earnings (Duration = 5 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	14	1996	1986	-0.0670	0.8670	-0.9340
1981 Cohort	15	2001	1986	-0.0130	-0.2007	0.1877
Average				*-0.0400*	*0.3332*	*-0.3732*
1986 Cohort	17	1996	1991	0.0634	1.0340	-0.9705
1986 Cohort	18	2001	1991	0.0194	-0.2546	0.2741
1986 Cohort	19	2006	1991	0.0369	0.3262	-0.2892
Average				*0.0399*	*0.3685*	*-0.3285*
1991 Cohort	23	2001	1996	0.0547	-0.2107	0.2653
1991 Cohort	24	2006	1996	0.0217	0.3087	-0.2870
Average				*0.0382*	*0.0490*	*-0.0109*
1996 Cohort	26	2006	2001	0.0173	0.3416	-0.3243

Table 6.13 Decomposition of Cross-Section Growth in Immigrant Earnings (Duration = 10 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	16	2001	1991	0.0064	0.6663	-0.6599
1986 Cohort	20	2001	1996	0.0741	0.7793	-0.7052
1986 Cohort	22	2006	1996	0.0586	0.0715	-0.0129
Average				*0.0664*	*0.4254*	*-0.3591*
1991 Cohort	25	2006	2001	0.0391	0.0980	-0.0590

Table 6.14 Decomposition of Cross-Section Growth in Immigrant Earnings (Duration = 15 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1986 Cohort	21	2006	2001	0.0760	1.1055	-1.0295

Table 6.15 Decomposition of Cross-Section Growth in Immigrant/Native Relative Earnings (Duration = 5 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	39	1996	1986	-0.0670	2.0417	-2.1087
1981 Cohort	40	2001	1986	-0.0130	-0.0317	0.0186
Average				*-0.0400*	*1.005*	*-1.0451*
1986 Cohort	42	1996	1991	0.0634	2.2087	-2.1453
1986 Cohort	43	2001	1991	0.0194	-0.0856	0.1051
1986 Cohort	44	2006	1991	0.0369	0.0284	0.0085
Average				*0.0399*	*0.7172*	*-0.6772*
1991 Cohort	48	2001	1996	0.0547	-0.0416	0.0963
1991 Cohort	49	2006	1996	0.0217	0.0110	0.0108
Average				*0.0382*	*-0.0153*	*0.0536*
1996 Cohort	51	2006	2001	0.0173	0.0439	-0.0265

Table 6.16 Decomposition of Cross-Section Growth in Immigrant/Native Relative Earnings (Duration = 10 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981 Cohort	41	2001	1991	0.0064	2.0101	-2.0036
1986 Cohort	45	2001	1996	0.0741	2.1231	-2.0490
1986 Cohort	47	2006	1996	0.0586	-0.0572	0.1158
Average				*0.0664*	*1.0330*	*-0.9666*
1991 Cohort	50	2006	2001	0.0391	-0.0307	0.0697

Table 6.17 Decomposition of Cross-Section Growth in Immigrant/Native Relative Earnings (Duration = 15 years)

Cohort (k)	Equation	Census Year (c)	k+j	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1986 Cohort	46	2006	2001	0.0760	2.1515	-2.0755

6.6.3   Language Effects on Assimilation Rate

Table 6.18, 6.19 and 6.20 show the decomposition of average cross-section growth in immigrant relative to native earnings by languages in five years, ten years and fifteen years of duration respectively. Averaging is performed for estimating the same cohort with more than one census dataset. For example, 1996 and 2001 census dataset are available for estimating 1981 cohorts English language effect on assimilation rate, then the author take simple average of these two estimates so as to alleviate the survivor bias mentioned in previous section.

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6.6.3.1   Cantonese

Cantonese is a core language used in Hong Kong society and in more than 90 percent of workplace, either in daily communication or in working, Cantonese is the most important language amongst these three languages in Hong Kong, thus the author expects the effect of Cantonese on assimilation rate is also the most significant amongst three languages employed in this study. Table 6.18, 6.19 and 6.20 show that immigrants who possess Cantonese language skills, the assimilation rate, measured by within-cohort growth, is the highest regardless of cohort and years of duration. For instance, 1981 cohort immigrants' assimilation rate is higher than 100 percent for 5 year duration while it is still higher than 70 percent for 1986 cohort, around 14 percent for 1991 cohort and only 4 percent for 1996 cohort. A similar pattern happens in 10 year duration cases (in Table 6.19), 1981 cohort immigrants' assimilation rate is higher than 200 percent while it is still higher than 120 percent for 1986 cohort, around 27 percent for 1991 cohort. The assimilation rate for 1986 cohort is almost 220 percent for 15 years of duration (in Table 6.20). Regarding the quality of Chinese immigrants possessing Cantonese language, it is measured by the across-cohort growth, negative value of across-cohort growth represents improvement of immigrants' quality, the results show that the quality of Chinese immigrants who possess Cantonese language skills also have the greatest improvement in quality amongst these three languages, this result is valid regardless of cohort and years of duration.

6.6.3.2   English

English is an international language used in many countries, it is commonly

used either in daily communication or in working, English is the second most important language amongst these three languages in Hong Kong, thus the author expects the effect of English on assimilation rate should be less significant than Cantonese but more significant than Putonghua. Table 6.18, 6.19 and 6.20 show that immigrants who possess English language skills, the assimilation rate, measured by within-cohort growth, is always the second highest regardless of cohort and years of duration. For instance, 1981 cohort immigrants' assimilation rate is almost 90 percent for 5 year duration while it is still around 58 percent for 1986 cohort, around 2 percent for 1991 cohort and only negative 19 percent for 1996 cohort. A similar pattern happens in 10 year duration cases (in Table 6.19), 1981 cohort immigrants' assimilation rate is higher than 180 percent while it is still higher than 90 percent for 1986 cohort, around 5 percent for 1991 cohort. The assimilation rate for 1986 cohort is higher than 170 percent for 15 years of duration (in Table 6.20). Regarding the quality of Chinese immigrants possessing English language, it is measured by the across-cohort growth, positive value of across-cohort growth represents deterioration of immigrants' quality, unlike the quality of immigrants who possess Cantonese language skills, the results of English language skills show that the quality of Chinese immigrants has been improved in 1981 and 1986 five years duration cohort only, but the quality has been deteriorated in 1991 and 1996   five years duration cohort, but the improvement or deterioration of immigrants' quality is still ranked the second amongst these three language skills in five years duration cases. While the quality of immigrant possessing English language skills has been improved for 1981, 1986 and 1991 cohort in 10 years of duration cases, but the quality improvement rate is declining over

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these three cohorts.

6.6.3.3   Putonghua

Putonghua is a core language used in China (excluding Hong Kong), either in daily communication or in working, Putonghua is the most important language amongst these three languages in China, most Chinese immigrants are familiar with using Putonghua language in daily life, as shown in Table 4.18, after summarizing the qualitative data, the author criticizes Lui's (2007) results and hypothesizes that Putonghua language is useful for Chinese immigrants in economic assimilation. thus the author expects the effect of Putonghua on assimilation rate should be significant, but the significance is less than that of English and Cantonese. Table 6.18, 6.19 and 6.20 show that immigrants who possess Putonghua language skills, the assimilation rate, measured by within-cohort growth, is always the lowest (except the 1991 cohort in five-year duration case) regardless of cohort and years of duration. For instance, 1981 cohort immigrants' assimilation rate is almost 85 percent for 5 year duration while it is still around 52 percent for 1986 cohort, around 4 percent for 1991 cohort and only negative 23 percent for 1996 cohort. A similar pattern happens in 10 year duration cases (in Table 6.19), 1981 cohort immigrants' assimilation rate is higher than 170 percent while it is still higher than 90 percent for 1986 cohort, around 8 percent for 1991 cohort. The assimilation rate for 1986 cohort is higher than 150 percent for 15 years of duration (in Table 6.20). The result show that the significance of Putonghua has been getting higher over cohorts, and even higher than that of English in 1991 cohort in terms of within-cohort growth. Regarding the quality of

Chinese immigrants possessing Putonghua language, it is measured by the across-cohort growth, positive value of across-cohort growth represents deterioration of immigrants' quality, unlike the quality of immigrants who possess Cantonese and English language skills, the results of Putonghua language skills show that the quality of Chinese immigrants has been improved in 1981, 1986 and 1991 five years duration cohort only, but the quality has been deteriorated in 1996 five years duration cohort, but the improvement or deterioration of immigrants' quality is ranked the lowest amongst these three language skills in five years duration cases. While the quality of immigrant possessing Putonghua language skills has been improved for 1981, 1986 and 1991 cohort in 10 years of duration cases, but the quality improvement rate is declining over these three cohorts.

Table 6.18 Decomposition of Average Cross-Section Growth in Immigrant/Native Relative Earnings by Language (Duration = 5 years)

Cohort	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981	English	-0.0400	0.9191	-0.9591
	Putonghua	-0.0400	0.8542	-0.8942
	Cantonese	-0.0400	1.0308	-1.0708
1986	English	0.0399	0.5809	-0.5409
	Putonghua	0.0399	0.5224	-0.4825
	Cantonese	0.0399	0.7333	-0.6933
1991	English	0.0382	0.0257	0.0125
	Putonghua	0.0382	0.0408	-0.0026
	Cantonese	0.0382	0.1360	-0.0978
1996	English	0.0173	-0.1932	0.2106
	Putonghua	0.0173	-0.2387	0.2561
	Cantonese	0.0173	0.0406	-0.0233

Table 6.19 Decomposition of Average Cross-Section Growth in Immigrant/Native Relative Earnings by Language (Duration = 10 years)

Cohort	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1981	English	0.0064	1.8383	-1.8318
	Putonghua	0.0064	1.7085	-1.7021
	Cantonese	0.0064	2.0616	-2.0552
1986	English	0.0664	0.9880	-0.9217
	Putonghua	0.0664	0.9383	-0.8719
	Cantonese	0.0664	1.2100	-1.1436
1991	English	0.0391	0.0513	-0.0122
	Putonghua	0.0391	0.0816	-0.0425
	Cantonese	0.0391	0.2719	-0.2328

Table 6.20 Decomposition of Average Cross-Section Growth in Immigrant/Native Relative Earnings by Language (Duration = 15 years)

Cohort	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
1986	English	0.0760	1.7426	-1.6666
	Putonghua	0.0760	1.5673	-1.4913
	Cantonese	0.0760	2.1998	-2.1238

6.6.4   Industrial Differential in Assimilation Pattern

One research objective of the thesis is to investigate how Chinese immigrants possessing different languages skills assimilate differently amongst industries in Hong Kong labour market, Table 6.21 to Table 6.28 show the decomposition of average cross-section growth in immigrant versus native relative earnings in 5 years, 10 years and 15 years of duration in various cohorts.

6.6.4.1   5 years duration

An obvious pattern exists for the assimilation rate distribution for five years cohort (in Table 6.21, 6.22, 6.23 and 6.24), Table 5.23 shows that Chinese immigrants working in financing, insurance, real estate and business services industry always yield the highest (except for 1996 cohort) within cohort growth regardless of cohort, similar pattern can be found in Table 6.21 and 6.22, financing, insurance, real estate and business services industry always allow Chinese immigrants to yield the highest assimilation rate regardless of language skills, the second highest assimilation rate for 1981 cohort is in

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community, social and personal services sector for all three languages skills whereas manufacturing sector allows Chinese immigrants possessing English and Cantonese language to yield second highest assimilation rate for 1986 cohort. However, the pattern has a bit changed in 1991 and 1996 cohort (in Table 6.23 and 6.24), for instance, for 1991 cohort, the highest assimilation rate happens in transport, storage and communication sector for immigrants possessing English and Cantonese skills and in community, social and personal services sector for immigrants possessing Putonghua skills, but the assimilation rates in these two sectors are very close to that in financing, insurance, real estate and business services industry, for instance, the assimilation rate in transport, storage and communication sector for immigrants possessing Cantonese skill is 18.63 percent, which is just 0.27 percent higher than that in financing, insurance, real estate and business services industry for immigrants possessing Cantonese skill. On the other hand, for 1996 cohort, the highest assimilation rate happens in manufacturing sector regardless of language skills, financing, insurance, real estate and business services industry ranked the second for this cohort, noted that some assimilation rates for this cohort in various industries are negative, which represents earning divergence rather in earnings convergence in some sectors, such as community, social and personal services sector. The second lowest or the lowest assimilation rate always occur in construction sector or wholesale, retail and import or export trades and restaurants sector across cohorts. Regarding the quality of immigrants, Table 6.21 and 6.22 show that the quality of immigrants has been improved across industrial sector for 1981 and 1986 cohort over 5 years of duration, the improvement in quality is greater for

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immigrants possessing Cantonese language skill. However, the immigrants' quality has been deteriorated for 1991 and 1996 cohort (in Table 6.23 and 6.24) over 5 years of duration, it mainly happens for immigrants possessing English and Putonghua language skills, the quality deterioration problem is more serious in 1996 cohort than 1991 cohort.

<u>6.6.4.2   10 years duration</u>

Another interesting pattern exists for the assimilation rate distribution for ten years cohort (in Table 6.25, 6.26 and 6.27), Table 5.24 shows that Chinese immigrants working in financing, insurance, real estate and business services industry always yield the highest (except for 1991 cohort) within cohort growth regardless of cohort, similar pattern can be found in Table 6.25 and 6.26, financing, insurance, real estate and business services industry always allow Chinese immigrants to yield the highest assimilation rate regardless of language skills, the second highest assimilation rate for both 1981 and 1986 cohort is in community, social and personal services sector for all three languages skills. However, the pattern has a bit changed in 1991 cohort (in Table 6.27), for instance, for 1991 cohort, the highest assimilation rate happens in transport, storage and communication sector for immigrants possessing English and Cantonese skills and in community, social and personal services sector for immigrants possessing Putonghua skills, but the assimilation rates in these two sectors are very close to that in financing, insurance, real estate and business services industry, for instance, the assimilation rate in transport, storage and communication sector for immigrants possessing Putonghua skill is 18.24 percent,   which is just 0.55

percent higher than that in financing, insurance, real estate and business services industry for immigrants possessing Putonghua skill. The second lowest or the lowest assimilation rate always occur in construction sector or wholesale, retail and import or export trades and restaurants sector across cohorts. Regarding the quality of immigrants, Table 6.25 and 6.26 show that the quality of immigrants has been improved across industrial sector for 1981 and 1986 cohort over 10 years of duration, the improvement in quality is greater for immigrants possessing Cantonese language skill. However, the immigrants' quality has been deteriorated for 1991 cohort (in Table 6.27) over 10 years of duration, it mainly happens for immigrants possessing English and Putonghua language skills in manufacturing and construction sector.

6.6.4.3   15 years duration

As shown in Table 6.28, for 1986 cohort, the highest within cohort growth is the financing, insurance, real estate and business services sector, the second highest is the manufacturing sector while the lowest is again the construction sector, which is similar to the findings in Table 5.25. Regarding the quality of Chinese immigrant in 15 years duration, the 1986 cohort Chinese immigrants' quality has been improved, the improvement is greater for immigrants possessing Cantonese language skills.

To summarize the findings from Table 6.21 to Table 6.28, the author find that within cohort growth is varying amongst industries, industries such as financing, insurance, real Estate and business services and community, social and personal services sectors always yield a relatively higher within-cohort

growth, by contrast, construction, wholesale, retail and import or export Trades, restaurants sectors always yield a lower within-cohort growth. The assimilation rate is relatively higher for immigrants possessing Cantonese language skill, besides, possessing Putonghua language skills can improve immigrants' earnings even the corresponding assimilation rate is relative lower than that of other two languages. The quality of Chinese immigrants is higher for the earlier cohorts, such as 1981 and 1986 cohorts, whereas the quality has been declined for the later cohorts, such as 1991 and 1996 cohorts.

Table 6.21 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1981 cohort and duration = 5 years)

Cohort: 1981   5-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	-0.0400	0.8835	-0.9235
	Putonghua	-0.0400	0.8187	-0.8586
	Cantonese	-0.0400	0.9952	-1.0352
Construction	English	-0.0400	0.6530	-0.6929
	Putonghua	-0.0400	0.5881	-0.6280
	Cantonese	-0.0400	0.7646	-0.8046
Wholesale	English	-0.0400	0.7747	-0.8146
	Putonghua	-0.0400	0.7098	-0.7497
	Cantonese	-0.0400	0.8863	-0.9263
Transport	English	-0.0400	0.8735	-0.9135
	Putonghua	-0.0400	0.8086	-0.8486
	Cantonese	-0.0400	0.9852	-1.0252
Financing	English	-0.0400	1.1569	-1.1969
	Putonghua	-0.0400	1.0920	-1.1320
	Cantonese	-0.0400	1.2686	-1.3085
Community Service	English	-0.0400	0.9359	-0.9759
	Putonghua	-0.0400	0.8710	-0.9110
	Cantonese	-0.0400	1.0476	-1.0875

Table 6.22 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1986 cohort and duration = 5 years)

Cohort: 1986   5-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	0.0399	0.5810	-0.5411
	Putonghua	0.0399	0.5226	-0.4826
	Cantonese	0.0399	0.7334	-0.6935
Construction	English	0.0399	0.4137	-0.3738
	Putonghua	0.0399	0.3552	-0.3153
	Cantonese	0.0399	0.5661	-0.5262
Wholesale	English	0.0399	0.5010	-0.4611
	Putonghua	0.0399	0.4197	-0.3797
	Cantonese	0.0399	0.6534	-0.6135
Transport	English	0.0399	0.5603	-0.5204
	Putonghua	0.0399	0.5019	-0.4619
	Cantonese	0.0399	0.7127	-0.6728
Financing	English	0.0399	0.7586	-0.7187
	Putonghua	0.0399	0.7001	-0.6602
	Cantonese	0.0399	0.9110	-0.8711
Community Service	English	0.0399	0.5352	-0.4952
	Putonghua	0.0399	0.5446	-0.5046
	Cantonese	0.0399	0.6876	-0.6476

Table 6.23 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1991 cohort and duration = 5 years)

Cohort: 1991   5-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	0.0382	-0.0008	0.0390
	Putonghua	0.0382	0.0144	0.0238
	Cantonese	0.0382	0.1095	-0.0713
Construction	English	0.0382	-0.0113	0.0495
	Putonghua	0.0382	0.0038	0.0344
	Cantonese	0.0382	0.0990	-0.0608
Wholesale	English	0.0382	0.0277	0.0105
	Putonghua	0.0382	0.0085	0.0297
	Cantonese	0.0382	0.1380	-0.0998
Transport	English	0.0382	0.0760	-0.0378
	Putonghua	0.0382	0.0912	-0.0530
	Cantonese	0.0382	0.1863	-0.1481
Financing	English	0.0382	0.0733	-0.0351
	Putonghua	0.0382	0.0885	-0.0503
	Cantonese	0.0382	0.1836	-0.1454
Community Service	English	0.0382	0.0284	0.0098
	Putonghua	0.0382	0.1453	-0.1071
	Cantonese	0.0382	0.1387	-0.1005

Table 6.24 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1996 cohort and duration = 5 years)

Cohort: 1996   5-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	0.0173	-0.1216	0.1390
	Putonghua	0.0173	-0.1671	0.1845
	Cantonese	0.0173	0.1122	-0.0949
Construction	English	0.0173	-0.1624	0.1798
	Putonghua	0.0173	-0.2079	0.2253
	Cantonese	0.0173	0.0714	-0.0541
Wholesale	English	0.0173	-0.1437	0.1611
	Putonghua	0.0173	-0.2580	0.2754
	Cantonese	0.0173	0.0901	-0.0728
Transport	English	0.0173	-0.1637	0.1810
	Putonghua	0.0173	-0.2092	0.2265
	Cantonese	0.0173	0.0702	-0.0528
Financing	English	0.0173	-0.1356	0.1529
	Putonghua	0.0173	-0.1811	0.1984
	Cantonese	0.0173	0.0983	-0.0809
Community Service	English	0.0173	-0.3638	0.3812
	Putonghua	0.0173	-0.2058	0.2231
	Cantonese	0.0173	-0.1299	0.1473

Table 6.25 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1981 cohort and duration = 10 years)

Cohort: 1981   10-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	0.0064	1.7671	-1.7606
	Putonghua	0.0064	1.6373	-1.6309
	Cantonese	0.0064	1.9904	-1.9840
Construction	English	0.0064	1.3059	-1.2995
	Putonghua	0.0064	1.1761	-1.1697
	Cantonese	0.0064	1.5293	-1.5228
Wholesale	English	0.0064	1.5493	-1.5429
	Putonghua	0.0064	1.4195	-1.4131
	Cantonese	0.0064	1.7727	-1.7662
Transport	English	0.0064	1.7470	-1.7406
	Putonghua	0.0064	1.6172	-1.6108
	Cantonese	0.0064	1.9703	-1.9639
Financing	English	0.0064	2.3138	-2.3073
	Putonghua	0.0064	2.1840	-2.1775
	Cantonese	0.0064	2.5371	-2.5307
Community Service	English	0.0064	1.8718	-1.8653
	Putonghua	0.0064	1.7420	-1.7355
	Cantonese	0.0064	2.0951	-2.0887

Table 6.26 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1986 cohort and duration = 10 years)

Cohort: 1986   10-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	0.0664	0.9260	-0.8596
	Putonghua	0.0664	0.8762	-0.8099
	Cantonese	0.0664	1.1480	-1.0816
Construction	English	0.0664	0.6849	-0.6185
	Putonghua	0.0664	0.6351	-0.5687
	Cantonese	0.0664	0.9068	-0.8405
Wholesale	English	0.0664	0.8456	-0.7792
	Putonghua	0.0664	0.7615	-0.6951
	Cantonese	0.0664	1.0676	-1.0012
Transport	English	0.0664	0.9928	-0.9264
	Putonghua	0.0664	0.9430	-0.8767
	Cantonese	0.0664	1.2148	-1.1484
Financing	English	0.0664	1.2734	-1.2071
	Putonghua	0.0664	1.2237	-1.1573
	Cantonese	0.0664	1.4954	-1.4290
Community Service	English	0.0664	1.0075	-0.9411
	Putonghua	0.0664	1.0595	-0.9931
	Cantonese	0.0664	1.2295	-1.1631

Table 6.27 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1991 cohort and duration = 10 years)

Cohort: 1991   10-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	0.0391	-0.0016	0.0407
	Putonghua	0.0391	0.0287	0.0104
	Cantonese	0.0391	0.2190	-0.1799
Construction	English	0.0391	-0.0227	0.0618
	Putonghua	0.0391	0.0076	0.0315
	Cantonese	0.0391	0.1979	-0.1588
Wholesale	English	0.0391	0.0554	-0.0164
	Putonghua	0.0391	0.0169	0.0221
	Cantonese	0.0391	0.2760	-0.2370
Transport	English	0.0391	0.1521	-0.1130
	Putonghua	0.0391	0.1824	-0.1433
	Cantonese	0.0391	0.3727	-0.3336
Financing	English	0.0391	0.1466	-0.1075
	Putonghua	0.0391	0.1769	-0.1378
	Cantonese	0.0391	0.3672	-0.3281
Community Service	English	0.0391	0.0567	-0.0177
	Putonghua	0.0391	0.2906	-0.2515
	Cantonese	0.0391	0.2773	-0.2383

Table 6.28 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Industry and Language

(1986 cohort and duration = 15 years)

Cohort: 1986   15-year cohort

Industry	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manufacturing	English	0.0760	1.7430	-1.6670
	Putonghua	0.0760	1.5677	-1.4917
	Cantonese	0.0760	2.2002	-2.1242
Construction	English	0.0760	1.2410	-1.1650
	Putonghua	0.0760	1.0657	-0.9897
	Cantonese	0.0760	1.6982	-1.6223
Wholesale	English	0.0760	1.5031	-1.4271
	Putonghua	0.0760	1.2590	-1.1830
	Cantonese	0.0760	1.9603	-1.8843
Transport	English	0.0760	1.6808	-1.6049
	Putonghua	0.0760	1.5056	-1.4296
	Cantonese	0.0760	2.1381	-2.0621
Financing	English	0.0760	2.2757	-2.1997
	Putonghua	0.0760	2.1004	-2.0244
	Cantonese	0.0760	2.7329	-2.6569
Community Service	English	0.0760	1.6055	-1.5295
	Putonghua	0.0760	1.6337	-1.5577
	Cantonese	0.0760	2.0627	-1.9867

6.6.5 Occupational Differential in Assimilation Pattern

Another research objective of the thesis is to investigate how Chinese immigrants assimilate differently amongst occupations in Hong Kong labour market, Table 6.29 to Table 6.36 show the decomposition of average cross-section growth in immigrant versus native relative earnings in 5 years, 10 years and 15 years of duration for various occupations.

6.6.5.1 5 years duration

Table 6.29, 6.30, 6.31 and 6.32 show the five years duration assimilation pattern, the highest within-cohort growth always exists in manager, professional and associate professional occupations amongst 1981, 1986, 1991 and 1996 cohorts, the lowest within-cohort growth always exists in clerks; elementary occupations and craft and related workers jobs. Possessing Cantonese language skill is always the most effective way of enhancing assimilation rate regardless of occupations and cohorts, English and Putonghua language skills are ranked the second and third respectively in most occupation across these four cohorts, however, Table 6.31 and Table 6.32 show that the importance of Putonghua is becoming more significant as the assimilation rate of possessing Putonghua is getting higher in all occupations, and even exceed the assimilation rate of possessing English in service workers and shop sales workers of 1996 cohort. The quality of Chinese immigrants who are working as manager or professionals has been improved in all cohorts, but the quality of other occupations has been deteriorated, in particular occupations of plant and machine operators and assemblers, clerks and elementary occupations.

<u>6.6.5.2   10 years duration</u>

The assimilation pattern for ten years duration (in Table 6.33, 6.34 and 6.35) is similar to that of five years duration, manager, professional and associate professional occupations are always amongst the highest within-cohort growth rankings in 1981 and 1986 cohorts, the lowest within-cohort growth always exists in plant and machine operators and assemblers; elementary occupations and craft and related workers, this result is similar to the findings in section 5.6.4.2. Similar to five years duration results that possessing Cantonese language skill is always the most effective way of enhancing assimilation rate regardless of occupations and cohorts, English and Putonghua language skills are ranked the second and third respectively in most occupation across three cohorts, however, Table 6.34 and 6.35 show that the importance of Putonghua is becoming more significant as the assimilation rate of possessing Putonghua is getting higher in all occupations, and even exceed the assimilation rate of possessing English in elementary occupations, clerks and service workers and shop sales workers of 1986 and 1991 cohorts. Moreover, the quality of Chinese immigrants working in all occupations have been improved for 1981, 1986 and 1991 cohorts, however, the quality of 1991 cohort has been deteriorated for clerks workers possessing English language skill.

<u>6.6.5.3   15 years duration</u>

A similar assimilation picture can be found in fifteen years duration estimation (in Table 6.36), for 1986 cohort, the highest within-cohort growth is happening in associate professional job, the second highest is belonging to manager job.

Interestingly, the second lowest within cohort growth is occurring in plant operator job while the lowest within cohort growth is happening in elementary occupations. Chinese immigrants' quality has been improved in all occupations for 1986 cohort, the overall assimilation pattern for 15 years duration 1986 cohort is comparable to the results in section 5.6.4.3.

In short, the author finds different level of earning power of English and Putonghua on immigrants' earning, it is not hard to understand why these language effects vary among occupations and industries, as illustrated in Section 4.3.1, this result reveals a different degree of usage and emphasis on Putonghua and English in different workplaces. In general, as long as employers place a higher value for a specific skill, they are more willing to pay for hiring employees who possess such specific skill (such as Putonghua and English), especially those skills are expected to be critical in company decision making and its profitability.

Table 6.29 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1981 cohort and duration = 5 years)

Cohort: 1981   5-year cohort

Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	-0.0400	1.1249	-1.1649
	Putonghua	-0.0400	1.0600	-1.1000
	Cantonese	-0.0400	1.2366	-1.2765
Professional	English	-0.0400	1.0715	-1.1114
	Putonghua	-0.0400	1.0066	-1.0465
	Cantonese	-0.0400	1.1831	-1.2231
Ass Professional	English	-0.0400	1.2759	-1.3159
	Putonghua	-0.0400	1.2110	-1.2510
	Cantonese	-0.0400	1.3876	-1.4276
Clerk	English	-0.0400	0.9477	-0.9877
	Putonghua	-0.0400	0.8828	-0.9228
	Cantonese	-0.0400	1.0594	-1.0994
Service Workers	English	-0.0400	1.0350	-1.0749
	Putonghua	-0.0400	0.9701	-1.0100
	Cantonese	-0.0400	1.1466	-1.1866
Craft Worker	English	-0.0400	0.9222	-0.9622
	Putonghua	-0.0400	0.8573	-0.8973
	Cantonese	-0.0400	1.0339	-1.0739
Plant Operator	English	-0.0400	0.6190	-0.6590
	Putonghua	-0.0400	0.5541	-0.5941
	Cantonese	-0.0400	0.7307	-0.7707
Elementary Occupations	English	-0.0400	0.5136	-0.5536
	Putonghua	-0.0400	0.5348	-0.5748
	Cantonese	-0.0400	0.6253	-0.6653

Table 6.30 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1986 cohort and duration = 5 years)

Cohort: 1986   5-year cohort

Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	0.0399	0.8307	-0.7908
	Putonghua	0.0399	0.7722	-0.7323
	Cantonese	0.0399	0.9831	-0.9432
Professional	English	0.0399	0.7688	-0.7288
	Putonghua	0.0399	0.7103	-0.6704
	Cantonese	0.0399	0.9212	-0.8812
Ass Professional	English	0.0399	0.8545	-0.8146
	Putonghua	0.0399	0.7731	-0.7332
	Cantonese	0.0399	1.0069	-0.9670
Clerk	English	0.0399	0.6146	-0.5747
	Putonghua	0.0399	0.5561	-0.5162
	Cantonese	0.0399	0.7670	-0.7271
Service Workers	English	0.0399	0.6602	-0.6203
	Putonghua	0.0399	0.6467	-0.6068
	Cantonese	0.0399	0.8126	-0.7727
Craft Worker	English	0.0399	0.6003	-0.5604
	Putonghua	0.0399	0.5418	-0.5019
	Cantonese	0.0399	0.7527	-0.7128
Plant Operator	English	0.0399	0.4475	-0.4075
	Putonghua	0.0399	0.3890	-0.3491
	Cantonese	0.0399	0.5999	-0.5600
Elementary Occupations	English	0.0399	0.3697	-0.3298
	Putonghua	0.0399	0.3686	-0.3287
	Cantonese	0.0399	0.5221	-0.4822

Table 6.31 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1991 cohort and duration = 5 years)

Cohort: 1991   5-year cohort

Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	0.0382	0.1441	-0.1059
	Putonghua	0.0382	0.1592	-0.1210
	Cantonese	0.0382	0.2544	-0.2162
Professional	English	0.0382	0.1332	-0.0951
	Putonghua	0.0382	0.1484	-0.1102
	Cantonese	0.0382	0.2436	-0.2054
Ass Professional	English	0.0382	0.0831	-0.0450
	Putonghua	0.0382	0.0639	-0.0257
	Cantonese	0.0382	0.1934	-0.1553
Clerk	English	0.0382	0.0145	0.0237
	Putonghua	0.0382	0.0297	0.0085
	Cantonese	0.0382	0.1248	-0.0866
Service Workers	English	0.0382	0.0432	-0.0050
	Putonghua	0.0382	0.1257	-0.0875
	Cantonese	0.0382	0.1535	-0.1153
Craft Worker	English	0.0382	0.0616	-0.0234
	Putonghua	0.0382	0.0768	-0.0386
	Cantonese	0.0382	0.1719	-0.1337
Plant Operator	English	0.0382	0.1469	-0.1087
	Putonghua	0.0382	0.1621	-0.1239
	Cantonese	0.0382	0.2572	-0.2190
Elementary Occupations	English	0.0382	0.0909	-0.0527
	Putonghua	0.0382	0.1061	-0.0679
	Cantonese	0.0382	0.2012	-0.1630

Table 6.32 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1996 cohort and duration = 5 years)

Cohort: 1996	5-year cohort			
Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	0.0173	0.1447	-0.1274
	Putonghua	0.0173	0.0992	-0.0819
	Cantonese	0.0173	0.3786	-0.3613
Professional	English	0.0173	0.0659	-0.0485
	Putonghua	0.0173	0.0204	-0.0030
	Cantonese	0.0173	0.2997	-0.2824
Ass Professional	English	0.0173	-0.0858	0.1031
	Putonghua	0.0173	-0.2001	0.2174
	Cantonese	0.0173	0.1481	-0.1307
Clerk	English	0.0173	-0.1492	0.1665
	Putonghua	0.0173	-0.1947	0.2120
	Cantonese	0.0173	0.0847	-0.0673
Service Workers	English	0.0173	-0.1867	0.2041
	Putonghua	0.0173	-0.0975	0.1149
	Cantonese	0.0173	0.0472	-0.0298
Craft Worker	English	0.0173	-0.1411	0.1585
	Putonghua	0.0173	-0.1866	0.2040
	Cantonese	0.0173	0.0927	-0.0754
Plant Operator	English	0.0173	0.0068	0.0105
	Putonghua	0.0173	-0.0387	0.0560
	Cantonese	0.0173	0.2407	-0.2233
Elementary Occupations	English	0.0173	-0.0158	0.0331
	Putonghua	0.0173	-0.0613	0.0787
	Cantonese	0.0173	0.2181	-0.2007

Table 6.33 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1981 cohort and duration = 10 years)

Cohort: 1981   10-year cohort

Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	0.0064	2.2498	-2.2433
	Putonghua	0.0064	2.1200	-2.1135
	Cantonese	0.0064	2.4731	-2.4667
Professional	English	0.0064	2.1429	-2.1365
	Putonghua	0.0064	2.0131	-2.0067
	Cantonese	0.0064	2.3663	-2.3598
Ass Professional	English	0.0064	2.5518	-2.5453
	Putonghua	0.0064	2.4220	-2.4156
	Cantonese	0.0064	2.7751	-2.7687
Clerk	English	0.0064	1.8954	-1.8890
	Putonghua	0.0064	1.7656	-1.7592
	Cantonese	0.0064	2.1187	-2.1123
Service Workers	English	0.0064	2.0699	-2.0635
	Putonghua	0.0064	1.9401	-1.9337
	Cantonese	0.0064	2.2933	-2.2868
Craft Worker	English	0.0064	1.8444	-1.8380
	Putonghua	0.0064	1.7146	-1.7082
	Cantonese	0.0064	2.0678	-2.0613
Plant Operator	English	0.0064	1.2381	-1.2316
	Putonghua	0.0064	1.1083	-1.1018
	Cantonese	0.0064	1.4614	-1.4550
Elementary Occupations	English	0.0064	1.0273	-1.0209
	Putonghua	0.0064	1.0696	-1.0631
	Cantonese	0.0064	1.2506	-1.2442

Table 6.34 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1986 cohort and duration = 10 years)

Cohort: 1986   10-year cohort

Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	0.0664	1.3122	-1.2458
	Putonghua	0.0664	1.2624	-1.1961
	Cantonese	0.0664	1.5342	-1.4678
Professional	English	0.0664	1.2479	-1.1816
	Putonghua	0.0664	1.1982	-1.1318
	Cantonese	0.0664	1.4699	-1.4036
Ass Professional	English	0.0664	1.4023	-1.3359
	Putonghua	0.0664	1.3181	-1.2518
	Cantonese	0.0664	1.6243	-1.5579
Clerk	English	0.0664	1.0054	-0.9391
	Putonghua	0.0664	0.9557	-0.8893
	Cantonese	0.0664	1.2274	-1.1611
Service Workers	English	0.0664	1.1214	-1.0550
	Putonghua	0.0664	1.1390	-1.0726
	Cantonese	0.0664	1.3433	-1.2770
Craft Worker	English	0.0664	1.0271	-0.9607
	Putonghua	0.0664	0.9773	-0.9110
	Cantonese	0.0664	1.2491	-1.1827
Plant Operator	English	0.0664	0.8092	-0.7428
	Putonghua	0.0664	0.7595	-0.6931
	Cantonese	0.0664	1.0312	-0.9648
Elementary Occupations	English	0.0664	0.6478	-0.5814
	Putonghua	0.0664	0.6841	-0.6177
	Cantonese	0.0664	0.8698	-0.8034

Table 6.35 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1991 cohort and duration = 10 years)

Cohort: 1991   10-year cohort

Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	0.0391	0.2881	-0.2491
	Putonghua	0.0391	0.3184	-0.2794
	Cantonese	0.0391	0.5087	-0.4697
Professional	English	0.0391	0.2665	-0.2274
	Putonghua	0.0391	0.2968	-0.2577
	Cantonese	0.0391	0.4871	-0.4480
Ass Professional	English	0.0391	0.1663	-0.1272
	Putonghua	0.0391	0.1278	-0.0887
	Cantonese	0.0391	0.3869	-0.3478
Clerk	English	0.0391	0.0290	0.0101
	Putonghua	0.0391	0.0593	-0.0202
	Cantonese	0.0391	0.2496	-0.2105
Service Workers	English	0.0391	0.0863	-0.0472
	Putonghua	0.0391	0.2513	-0.2123
	Cantonese	0.0391	0.3069	-0.2679
Craft Worker	English	0.0391	0.1233	-0.0842
	Putonghua	0.0391	0.1536	-0.1145
	Cantonese	0.0391	0.3439	-0.3048
Plant Operator	English	0.0391	0.2939	-0.2548
	Putonghua	0.0391	0.3242	-0.2851
	Cantonese	0.0391	0.5145	-0.4754
Elementary Occupations	English	0.0391	0.1818	-0.1428
	Putonghua	0.0391	0.2121	-0.1731
	Cantonese	0.0391	0.4024	-0.3634

Table 6.36 Decomposition of Average Cross-Section Growth in

Immigrant/Native Relative Earnings by Occupation and Language

(1986 cohort and duration = 15 years)

Cohort: 1986   15-year cohort

Occupation	Language	Cross-Section Growth	Within-Cohort Growth	Across-Cohort Growth
Manager	English	0.0760	2.4920	-2.4160
	Putonghua	0.0760	2.3167	-2.2407
	Cantonese	0.0760	2.9492	-2.8733
Professional	English	0.0760	2.3063	-2.2303
	Putonghua	0.0760	2.1310	-2.0550
	Cantonese	0.0760	2.7635	-2.6875
Ass Professional	English	0.0760	2.5636	-2.4876
	Putonghua	0.0760	2.3194	-2.2435
	Cantonese	0.0760	3.0208	-2.9448
Clerk	English	0.0760	1.8437	-1.7678
	Putonghua	0.0760	1.6684	-1.5925
	Cantonese	0.0760	2.3010	-2.2250
Service Workers	English	0.0760	1.9807	-1.9047
	Putonghua	0.0760	1.9401	-1.8641
	Cantonese	0.0760	2.4379	-2.3620
Craft Worker	English	0.0760	1.8008	-1.7249
	Putonghua	0.0760	1.6255	-1.5496
	Cantonese	0.0760	2.2581	-2.1821
Plant Operator	English	0.0760	1.3424	-1.2664
	Putonghua	0.0760	1.1671	-1.0911
	Cantonese	0.0760	1.7996	-1.7236
Elementary Occupations	English	0.0760	1.1090	-1.0330
	Putonghua	0.0760	1.1058	-1.0298
	Cantonese	0.0760	1.5662	-1.4903

6.7 Conclusion

This chapter aims to estimate how language skills affect the assimilation process and earnings of Chinese immigrants as well as natives in Hong Kong, under the special nature and evolution of English usage and Putonghua usage in Hong Kong, empirical results are summarized as follow: Firstly, possessing English language skills can contribute to earning regardless of place of birth, however, the importance of English language skill is relatively less important less Cantonese in term of enhancing assimilation rate. Whilst Putonghua language skills do improve male immigrants' earnings by the extent of more than 50 percent and it ranks the least important in terms of assimilation rate. Secondly, the assimilation rate is relatively higher for managerial grade occupation and lower in clerical jobs and craft-related occupations, while Putonghua skill does positively enhance immigrants' earning regardless of occupations. Thirdly, assimilation rate is relatively higher in financial sector and lower in construction industry, immigrants possessing Cantonese reward the most in all industries amongst various cohorts. Overall speaking, this study shows the marginal effect of language on earnings depends upon which industries and occupations we are referring to, if we are studying an industry where Putonghua is the major communication medium, the marginal effect of Putonghua on earning is expected to be larger than that of industry where Cantonese or English dominate communication medium. Moreover, the assimilation hypothesis is valid regardless of gender, occupation and industry, even after controlling language skills, empirical results are still supporting assimilation hypothesis.

CHAPTER 7

TRIANGULATION: COMBINING QUALITATIVE AND QUANTITATIVE TECHNIQUES

7.1 Why Triangulation?

Triangulation is a term to describe a research design strategy that combining quantitative and qualitative methods. Quantitative methods basically refers to analyzing numerical information using statistical or econometrics techniques, whereas qualitative methods refers to a technique that are basically interpretative and aims to describe and explain phenomena in the social world, research techniques like individual in-depth interview and focus group interview are commonly used in qualitative approach. Quantitative technique attempts precise measurement of something and is often used for theory testing, but it is sometimes criticized by researchers on its failure of providing insights and understandings for making policy decision, while qualitative technique seeks to develop understanding and idea through detailed description that facilitate the establishment of theory but rarely tests it. Cribier (2005) analyzes several types of data collected in various disciplinary fields since the 1960s and finds that qualitative data help to understand real lives lived by real people, Cribier (2005) believes that qualitative data help to grasp the social density of cultures, social bonds, social strategies, also allow feelings and values to be expressed and produce a "not-simplistic" picture of

social reality. In fact, every method or technique is expected to have its own shortcomings and controversies, some researchers suggest quantitative studies can be combined with qualitative ones to enhance the perceived quality of research, in particular when a quantitative study follows a qualitative one and provides validation for the qualitative findings. Bryman (2006) conducted a content analysis of 232 social science articles in which qualitative and quantitative approaches were combined and so it found the potential and likelihood of unanticipated outcomes were multiplied given these two approaches were conducted simultaneously, Bryman (2006) suggested that there was considerable value in examining both the rationales and the ways of combining these two approaches and strongly suggested that there is considerable value in examining both the rationales that are given for combining quantitative and qualitative research and the ways in which they are combined in practice.

7.2 Triangulation Methodology

Qualitative data is employed and analyzed in chapter 4 which aims to develop several research hypotheses and also supplement the statistical results present in chapter 3, 5 and 6. The purpose of chapters 3, 5 and 6 is to analyze quantitative data which allow the author to study the overall Chinese immigrants assimilation picture in Hong Kong, but if the author desires to penetrate the intimacy of Chinese immigrants' experience of living (Cribier 2005) and examine Chinese immigrants' individual experience, feeling, intentions, values as well as attitudes, then the author should employ qualitative materials to develop new insights and research hypotheses for

empirical testing in chapter 5 and 6. Besides, some qualitative materials employed in chapter 4 allow the author to strength the interpretations of statistical results as qualitative data allow the author to deploy a wider range of interconnected interpretive practices and to get a better understanding of the subject matter at hand. (Denzin and Lincoln 2003). Econometrics techniques are the major tools for empirical testing in chapters 5 and 6, labour migration is regarded as an economic phenomenon and econometrics techniques attempt to quantify immigrant assimilation patterns, thus econometrics not only allows the measurement of assimilation pattern, but also the prediction of future assimilation pattern and its impacts. Denzin (1978) developed the concept of triangulation which is the idea that researchers always better look at something from various angles than to look at it in only one way. Researchers who use either only quantitative or qualitative approach alone do not always communicate well (Neuman 2006), so the author adopts both quantitative and qualitative approach in this study as the complementarity between quantitative and qualitative approaches should not be understated and social sciences always aim to propose interpretation which qualitative data contribute much to it. The purpose of chapter 4 is to consolidate the quantitative results by answering the questions of how assimilation process and experience are created and given meaning. Qualitative data do produce a less simplistic picture of social reality than the predetermined categories often used in quantitative analyses (Cribier 2005) as quantitative data carry the disadvantages of losing the richness of meaning whereas qualitative data can be richer in meaning than quantified data (Babbie 2007).

The qualitative source used in chapter 4 is from Hong Kong Council of Social Services, it conducted a qualitative research in 2002 which consisted of fifteen individual in-depth unstructured interviews, the qualitative interview was designed to collect the data on Chinese immigrants' difficulties in employment, the target interviewees are Chinese immigrants who have already resided in Hong Kong for less than 7 years and with a paid job or with job searching experience. Individual unstructured interviews were conducted based on four major dimensions: (1) immigrants' job expectation; (2) immigrants' potential and limitations of participating in labour market; (3) effects of the potential and limitations on immigrants' employment; (4) strategies on utilizing potential and alleviating limitations. Two other quantitative sources are also employed in chapter 4, they are two Thematic Household Survey reports which were conducted by Hong Kong Census and Statistics Department. The first survey is the Thematic Household Survey Report No. 17 - Needs of Persons from the Mainland Having Resided in Hong Kong for 3 years and less which was conducted from November 2002 to May 2003 while the second survey is the Thematic Household Survey Report No. 28 - Needs of Persons from the Mainland Having Resided in Hong Kong for less than 7 years which was conducted during October to December 2005, the purpose of these two surveys is to gathering latest information regarding the needs of recent Chinese immigrants who are living in Hong Kong. The quantitative source in chapter 5 is five Hong Kong censuses, they are 1981, 1991, 1996. 2001 and 2006 censuses whereas the quantitative source in chapter 6 is four Hong Kong census datasets, they are 1991, 1996. 2001 and 2006 censuses.

7.3 Qualitative Findings

In chapter 4, immigrants' job experience is examined through the analysis of more than ten individual in-depth interview scripts, analytic induction is used for analyzing qualitative data, the author looked at the event and develop a hypothetical statements of what happened for Chinese immigrants, and then looked at another similar events and see if it fits the hypothesis, if it doesn't , then the author revised the hypothesis, eventually the author developed several hypotheses that accounts for all cases. The results are summarized as follow: Respondent A (Mr Cheung) concerned his career development, and was willing to invest in human capital, but he experienced a qualification unrecognition problem. Secondary data source in Table 4.4 reveals that language barrier is one of the issues that have to adapt and resolve when Chinese immigrants move to Hong Kong. Besides language barrier, Respondent B (Ms Cheung) lacks the skills of using the computer and English usage, even she tried to find a job which may not be demanding much on these two kinds of skills, such as salesperson, however, she is still fail to get a job, which reveals that immigrants encounter the office-related skills insufficiency and deficiency problem.

Moreover, some immigrants lack confidence in performing a simple task, Respondent C (Mrs. Chan) desires to work in the catering sector, however, she is not confident to take the job as any mis-order would lead to salary deduction, the main problem of Respondent C is the lack of confidence to working in the catering sector, it can attribute to the insufficiency of basic skills of recording and message dissemination. Other than skills insufficiency, Respondent D

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(Mrs Chan) worries about the age discrimination problem, as employers are required to contribute to the retirement scheme regardless of age and potential of their employees, thus Mrs Chan has been worrying if employers tend to fire those aged or senior workers and hire those younger and energetic workers in order to improve the company efficiency, however, the author argue that this age bias should not be only adversely affecting Chinese immigrants, but also to locals, the problem is whether employers are intended to protect locals but discriminate immigrants. Another side of the age discrimination story can be found in Respondent E (Miss Chan) who aged 17, as she looks extremely young even she is legally permitted to join the labour force and applies for a sales job, she is usually asked to wait for further notice of job offer, the author argue that this situation can also be happening for locals, not only immigrants, the problem is whether employers are intended to favor locals but not immigrants. Another story about Respondent F (Ms Cheung) who aged 30 something and planned to be a domestic helper, during the training programme, instructor reminded her about the preference of masters and mistress, and encouraged her to seek another job instead of being a domestic helper, this story reveals that age plays a critical role in employment opportunity, but the author argue that this bias can be occurring on natives and immigrants, the dilemma is if employers plan to hire locals but not immigrants. In short, if the age preference or discrimination exists, there should be more than one labour demand curves in the market, for example, one labour demand curve for young native, another demand curve for old native, the third demand curve for young immigrants, another one for old immigrants, if it is the case, then it is reasonable to expect different wage levels exist for these four labour groups

given also varying labour supply as well.

The secondary data source in Table 4.9 and 4.10 reveal that some immigrants may originally being a clerk or craft and related worker, or even managers and administrators in China, they changed their job and became service workers and shop sales workers after migration. Immigrants tend to change their occupations in this way can attribute to the transferability of their qualifications and skills acquired in China, in fact, some local employers do not recognize or discount Chinese immigrants' qualifications and work experience since the skill acquired in China is not perfectly transferable. Respondent G (Ms Yuen) case reveal similar problem, Respondent G was self-employed as a boutique owner before moving to Hong Kong, nevertheless, she was backed off when she desired to find a similar sales job in Hong Kong even she has substantial experience in operating a shop, trading, bargaining and front-line servicing, as employers thought the skills that Ms Yuen acquired in China are not transferrable to Hong Kong. This in-depth interview case shows the skills non-transferability problem. Another qualitative findings strengthen this result is Respondent H (Ms Yu) case, who has been a teacher for twenty years, she would like to find a teaching-related job (even a lower rank teaching job) in Hong Kong, but her qualifications and teaching experience are all acquired in China, and they are not recognized in Hong Kong, Ms Yu case is another typical example that indicates the qualifications and skills non-transferability problem, even immigrants are well-educated, it does not necessarily mean that similar job would be offered to them as host country employers do not recognize immigrants' qualifications.

Another issue occasionally raised by immigrants is the problem of unfair treatment on remuneration and workload, Respondent I (Mrs Chan) have been working in China for long than 10 years, with only primary school qualification, she can only opt for some elementary servicing jobs that do not require high educational qualification and claim that remuneration package and workload are unfair. The author argues that unfair treatment on remuneration and workload are everywhere, the point is if the unfair treatment can solely attribute to place of birth, or some others factors. Respondent L (Mr Lee) encounters similar problem, with a well-built body and younger age, his paid at courier centre of airport express is around average but he claimed the time off is varied. In fact, varied time off is very common in Hong Kong, the point is if this treatment can solely attribute to place of birth, or some others factors.

After analyzing all qualitative data, the author summarizes the problems that immigrants encountering as follow. The first problem is qualification or skills unrecognition, the second problem is underpaid or unfair paid, the third problem is poor working condition or long working hours, the fourth problem is lacking of confidence and worries, the fifth problem is the failure of finding a job. Based on these five major problems and the secondary statistical data sources presented in chapter 4, the author has formulated four research hypotheses: (1) Since male immigrants are self-selected, and more willing to take those dirty, difficult and dangerous (3Ds) jobs, thus male immigrants

should have a higher assimilation rate than female immigrants; (2) assimilation rate should be higher in occupations which less demanding on relevant work experience, the occupation such as managers and administrator which strictly require relevant and substantial work experience, its assimilation rate should be relatively lower, since economic agents always choose to work in an occupation that provide them the highest return given their own possession of human capital; (3) Since immigrants are mostly lack of confidence and worrying about their earnings, and it takes time to familiarize themselves with host country language, thus assimilation rate is higher for industries with less emphasis on interpersonal skills, and vice versa; (4) Due to diminishing marginal return of language skills, the total effect of English and Putonghua on earning is positive, but the marginal effect of English and Putonghua on earnings should be converging over time, thus the author hypothesizes that both English and Putonghua language skills can positively enhance immigrants' earning, the effect of Putonghua on earning is becoming more significant compare to English.

7.4 Quantitative Findings

Chapter 5 aims to investigate how Chinese immigrants assimilate in Hong Kong, in particular the patterns they assimilate in various industries and occupations. Using econometrics techniques to analyze five Hong Kong census datasets, first, the author consider the relative earning between male immigrants and male natives, also the relative earning between female immigrants and female natives, as male immigrants share some common characteristics with male natives and female immigrants also share some other

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common characteristics with female natives, thus the author finds that higher earning power of men than women regardless of place of birth does not automatically imply that male immigrants assimilate better than female immigrants. Second, the author expects assimilation rate should vary amongst marital status, empirical results show that the earnings of married immigrants and natives are generally higher than that of singled immigrants and natives, using similar logic in gender analysis, we know that the result does not imply married immigrants assimilate better than singled immigrants as married immigrants share common characteristics with married natives.

In chapter 5, the author also use the average values of within-cohort growth rate to approximate the assimilation pattern across cohorts, the 5 years 1981 cohort assimilation rate is around 20.57 percent, the quality of this cohort is improving by 23.78 percent over the 5 years of duration, while the similar pattern happens for 5 years 1986 cohort, but the assimilation rate of 5 years 1986 cohort (10.93 percent) is lower than 5 years 1981 cohort, the quality of this cohort is just improving by 6.35 percent over the 5 years of duration. The assimilation rate is even worse for 5 years 1991 and 1996 cohorts, the assimilation rate for 5 years 1991 cohort is -1.66 percent while it is -15.32 percent for 5 years 1996 cohort, the quality of 5 years 1991 and 1996 cohorts is declining. Similar pattern can be observed in 10 years and 15 years duration cohorts, both assimilation rate and quality of Chinese immigrants are declining over time. In short, the empirical results show that assimilation rate and quality of immigrants are varying amongst cohorts over different years of duration. Thirdly, the author also examines the assimilation pattern across

industries and finds that within cohort growth is varying amongst industries, industries such as financing, insurance, real Estate and business services and community, social and personal services sectors always yield a relatively higher within-cohort growth, by contrast, construction, wholesale, retail and import or export Trades, restaurants sectors always yield a lower within-cohort growth. The quality of Chinese immigrants is higher for the earlier cohorts, such as 1976, 1981 and 1986 cohorts, whereas the quality has been declined for the later cohorts, such as 1991 and 1996 cohorts.

Chapter 6 aims to examine if the marginal effect of English and Putonghua on earnings have been converging over time, since the author hypothesizes that both English and Putonghua language skills can positively enhance immigrants' earning thus the effect of Putonghua on earning is becoming more significant compare to English. Using econometrics techniques to analyze four Hong Kong census datasets, first, since Cantonese is the most important language amongst these three languages in Hong Kong, thus the author expects the effect of Cantonese on assimilation rate is also the most significant amongst three languages employed in this study. Empirical results show that the assimilation rate of immigrants who possess Cantonese language skills is the highest regardless of cohort and years of duration. Besides, the results show that the quality of Chinese immigrants who possess Cantonese language skills also have the greatest improvement in quality amongst these three languages, this result is valid regardless of cohort and years of duration. Secondly, for the immigrants who possess English language skills, the assimilation rate is always the second highest regardless of cohort and years of

duration, unlike the quality of immigrants who possess Cantonese language skills, the quality of Chinese immigrants has been improved in 1981 and 1986 five years duration cohort only, but the quality has been deteriorated in 1991 and 1996　five years duration cohort, but the improvement or deterioration of immigrants' quality is still ranked the second amongst these three language skills in five years duration cases. While the quality of immigrant possessing English language skills has been improved for 1981, 1986 and 1991 cohort in 10 years of duration cases, but the quality improvement rate is declining over these three cohorts. Thirdly, the author find that immigrants who possess Putonghua language skills, the assimilation rate is always the lowest (except the 1991 cohort in five-year duration case) regardless of cohort and years of duration.

Moreover, the author find that within cohort growth is varying amongst industries, industries such as financing, insurance, real Estate and business services and community, social and personal services sectors always yield a relatively higher within-cohort growth, by contrast, construction, wholesale, retail and import or export Trades, restaurants sectors always yield a lower within-cohort growth. The assimilation rate is relatively higher for immigrants possessing Cantonese language skill, besides, possessing Putonghua language skills can improve immigrants' earnings even the corresponding assimilation rate is relative lower than that of other two languages. The quality of Chinese immigrants is higher for the earlier cohorts, such as 1981 and 1986 cohorts, whereas the quality has been declined for the later cohorts, such as 1991 and 1996 cohorts.

7.5 Consistency of Qualitative and Quantitative Findings

Comparing the results summary in section 7.3 and 7.4, it seems that qualitative results are not fully supported by quantitative evidence. In total, there are four research hypotheses being formulated using qualitative information and tested using quantitative approach. The first hypothesis, male immigrants should have a higher assimilation rate than female immigrants, is not fully supported by empirical evidence, one possible reason for this inconsistency is that qualitative information concerns only individual's experience and opinion, the interviewees are always not in the right position to comment and judge the others' qualification and experience, when ordinary people think that male immigrant is a selected group so that the corresponding assimilation rate is expected to be higher than that of female immigrant, they may neglect such self-selectivity also apply to male native as well, if we are investigating the relative earning changes between male immigrants and male natives, this self-selectivity effect should have been cancelled out in relative sense, thus, the empirical results show the relative earning assimilation which do not support the qualitative results.

Using the qualitative data, the author formulate the second research hypothesis that assimilation rate should be higher in occupations which less demanding on relevant work experience, the occupation such as managers and administrator which strictly require relevant and substantial work experience, its assimilation rate should be relatively lower, since economic agents always choose to work in an occupation that provide them the highest return given

their own possession of human capital. However, the empirical evidence seems only partly support this hypothesis, one possible reason is as follow: Normally, an earning assimilation disadvantage for immigrants cannot be found in those occupations which fully recognise the immigrants' qualifications and work experience obtained in China or simply do not require any school training or relevant work experience. For instance, the job requirements of managers and administrators and professionals normally consist of professional qualifications, which are internationally recognized, in addition, country-specific skills are relatively more important than other occupations, which explains why the year of duration may account for immigrants' earning increments and the assimilation effects are greater than that of other occupations. Moreover, the relatively low assimilation rate of elementary occupations such as mining, construction manufacturing, agriculture and fishing is certainly due to the nature of these occupations, elementary occupations are typical jobs that do not require much hands-on experience or country-specific skills. Thus, even labours have been staying in Hong Kong for a number of years, they still find that their earnings in elementary occupations only increase at a remarkably low rate. To conclude, the relationship between the importance of work experience and the assimilation rate generally tends to be negative, but the key issue is whether employers in such occupations recognise immigrants' qualifications and work experience obtained in the sending country. It is much depending on the human resources policies of different occupations, and no particular type of occupation in which immigrants work must suffer in this regard. This inconsistency happens due to scopes of data examined are differ between

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quantitative and qualitative approach, quantitative approach emphasizes the broad coverage of the data while qualitative approach focuses on the depth of the data, the narrowness of qualitative data may limit the comprehensiveness of the analysis.

The author tests the third hypothesis being tested in both chapter 5 and 6, the author hypothesizes that assimilation rate is higher for industries with less emphasis on interpersonal skills, and vice versa. However, the empirical results only partly support this hypothesis. Since ordinary people think that industries such as wholesale, retail and import or export trades, restaurants or transport, storage and communication or financing, insurance, real estate and business services or community, social and personal services always require labourers to possess proficient communication skills should yield a lower assimilation rate, and industries such as manufacturing and construction, which mainly require physical involvement rather than interaction with others which enables immigrants to assimilate better than other industries. However, it may not be the case if behavioral dynamics are being taken into account, that is when immigrants tend to choose to work in an industry that they think they can assimilate better, it eventually alters the actual assimilation rate as the relative labour supply in that sector may be changed, so as to earnings. Thus, immigrants may not assimilate better in industries with lower work experience and interpersonal skills requirements, due to the possible relatively supply change. This inconsistency happens due to ignorance of market dynamic which ordinary individuals are not familiar with and present in an in-depth interview, in fact, one important benefit of using qualitative data is its

provision of the ordinary people thought which is testable and also refutable while quantitative data can be analyzed using different modeling techniques so that the market dynamic can also be examined.

Finally, the author argue that due to diminishing marginal return of language skills, the total effect of English and Putonghua on earning is positive, but the marginal effect of English and Putonghua on earnings should be converging over time, thus the author formulate the forth hypothesis, that is both English and Putonghua language skills can positively enhance immigrants' earning, the effect of Putonghua on earning is becoming more significant compare to English. The empirical results in chapter 6 are fully support this hypothesis, the results are valid regardless of cohorts and years of duration.

7.6 Conclusion

This chapter explains why and how the author triangulate the quantitative and qualitative approach in the thesis, also summarizes, compares and contrasts the quantitative and qualitative results. Qualitative results are not perfectly matching with quantitative results, the author justifies this inconsistency by arguing that, first, since the self-selectivity effect would possibly greatly diminish in relative sense, so male immigrants may not assimilate better than female immigrants; second, due to different scopes of data coverage in quantitative and qualitative approach, so the empirical evidence only partly support the hypothesis of higher assimilation rate occurs in occupations which less demanding on relevant work experience; third, due to ignorance of market dynamic, the empirical evidence cannot show the higher assimilation rate

happens in industries with less emphasis on interpersonal skills. The occurrence of these inconsistencies does not reject the complementarity between quantitative and qualitative approach, since one important benefit of using qualitative data is its provision of the ordinary people thought which is testable and also refutable while quantitative data can be analyzed using different modeling techniques so that the relative changes and market dynamics can also be examined comprehensively.

CHAPTER 8

CONCLUSIONS AND POLICY

RECOMMENDATIONS

8.1 Introduction

In the last two decades, there were two important milestones happened which create a gap in the Hong Kong migration literature, the first one was the handover of Hong Kong sovereignty to People's Republic of China took place on 1 July 1997, the second one occurred shortly after the handover in 1997, that was the world economy, including Hong Kong, was hard hit by Asian financial crisis. Besides, Hong Kong immigration department adopted three new admission schemes in the last decade, chapter 3 has described these new immigration policies in detail. The thesis contributes to the literature by incorporating the consideration of these two incidents and Hong Kong latest immigration policies, the first research question is about the relationship between Chinese immigrants' characteristics and the corresponding effects on Chinese immigrants' assimilation in Hong Kong labour market. The author has handled the concept of assimilation in migration literature, this concept derives several interesting questions, for instance, how does assimilation effect play a role in explaining the effects of immigration on Hong Kong labour market? Which groups of immigrants can assimilate better? Why immigrants assimilate differently in various industries? Why immigrants assimilate differently in various occupations? Hong Kong census data provides detailed information about individual and household observations, the author has

employed the Hong Kong census data to investigate different assimilation patterns of Chinese immigrants in Hong Kong, and these patterns should be different between male and female, amongst various marital statuses, industries and occupations. The second research question is about Chinese immigrants' endowment, since Chinese immigrants are typically endowed with Putonghua speaking skills and 'China-knowledge', these two skills are becoming increasingly important after 1997 sovereignty handover, for instance, when Hong Kong people trade in China, many businessmen are required to communicate in Putonghua, Chinese immigrants possess fluent Putonghua skills imply a relative advantage in business communication while Chinese immigrants have a better understanding on Chinese business culture than Hong Kong natives, which is expected to be helpful in trade and business negotiation, thus this "endowment effect" can somewhat explain the assimilation pattern, the author believe that "endowment effect" can narrow down the income gap between Hong Kong native and Chinese immigrants. Several interesting questions follow, for instance, how large is this "endowment effect"? Can this "endowment effect" significantly improve Chinese immigrants' earning after controlling possible cohort effect? Are Putonghua and English gaining similar earning power?

Why these questions are significant? In the migration literature, many studies were only specifically handling Mexico-U.S. migration and South-east Asia-Europe migration, there were not many empirical research studies about China-Hong Kong migration in the literature. In fact, China-Hong Kong migration is not less attractive than Mexico-U.S. migration or South-east

Asia-Europe migration since Hong Kong was originally a part of Chinese sovereignty until 1842 and it became a colony of the United Kingdom based on a series of treaties between China and the United Kingdom. On 1 July 1997, Hong Kong sovereignty was handover to Chinese government, under the basic law with 'One Country, Two Systems' principle, Hong Kong is a Special Administrative Region of the People's Republic of China, the series of treaties signed in eighteen century and the sovereignty handover makes China-Hong Kong migration can be treated as inter-country migration as well as intra-country migration over the last century. As mentioned in section 2.3.4, most China-Hong Kong migration studies are an empirical examination using Hong Kong census data, but they were conducted without completely referring to traditional and new migration theories, some determinants such as immigrants' characteristics, economic structure and institutional arrangements which fundamentally influencing migration incentives and migration impacts on Hong Kong are being neglected in the literature. In the thesis, the interaction among and implications of these determinants have been proved as a useful guide to immigration policymakers. The existing literature can also be amplified by this research as it improves the comprehensiveness of assimilation patterns picture by considering immigrants' characteristics as well as incorporating the two important events occurred in Hong Kong and several new admissions schemes adopted in the last decade. The thesis contributes to the existing migration knowledge in a way to bridging the gap in the fundamental reasoning of migration impacts literature. In short, the importance of this thesis is its distinctive focus on various assimilation patterns in China-Hong Kong migration under different economic

environments and structures, these patterns have been examined empirically in this thesis.

8.2 A Brief Summary of Each Chapters

Chapter 1 explained the nature of the research problems addressed in this thesis, summarized the context and motivation of this research, explained the research methodology in detailed and provided an overview of the hypotheses and conclusions. Chapter 2 is a literature review which represented the starting point for establishing the theoretical and empirical framework, it specifies what research questions had already been covered and set out the theories that are useful in understanding the research problems and the findings. Chapter 2 also reviews various migration literature, including causes and consequences of labour migration as well as Hong Kong empirical results, the discourse about assimilation hypotheses and empirical analyses results have also been presented. A conceptual framework was constructed for further discussion and empirical studies in chapters 3 to 6. Chapter 3 describes the distinct features of Hong Kong census data, socio-economic characteristics of Chinese immigrants and Hong Kong natives as well as Hong Kong immigration policies development in the last two decades. In Chapter 4, the author employs various qualitative materials to develop several testable hypotheses for empirical analysis in chapter 5 and 6, it also summarizes several viewpoints suggested by Hong Kong scholars and discusses various socio-economic characteristics of Chinese immigrants, five different but related characteristics are discussed, they are (1) general characteristics: income, education and marital status; (2) languages: problem and training; (3) skills and occupations;

(4) economics activeness; (5) intention to work: before and after migration, supplement with fifteen qualitative in-depth interview scripts, five research hypotheses were developed for empirical study, the summary of these hypotheses is presented in Table 4.18. Chapter 5 aims to answer the first research question, how does assimilation effect play a role in explaining the effects of immigration on Hong Kong labour market? Which groups of immigrants can assimilate better? Why immigrants assimilate differently in various industries? Why immigrants assimilate differently in various occupations? It mainly studied how the change of earnings differential between Chinese immigrants and natives relates to the year of duration. In other words, it investigates the assimilation patterns of Chinese immigrants in various industries and occupations. Chapter 6 aims to address the second research question which is about the extent of "endowment effect", though employing language skills as a predictor for understanding a new assimilation process, the author investigates the hypothesis that the marginal effect of language on earnings are different amongst industries as well as amongst occupations, the author also estimates how language skills affect the assimilation patterns and earnings for Chinese immigrants and Hong Kong natives.

8.3 A Summary of the Research Findings

Regarding the socio-economic characteristics of Chinese immigrants and Hong Kong natives, the author found that the immigrants' gender proportion of male to female has been declining since 1996, and since women participation rate is rising, the contribution of Chinese immigrants to Hong

Kong economy should become more significant, this result is strengthened further through the age-group analysis presented in section 3.5.2. With respect to residence duration, the proportions of more than 10 years residence duration for both China-born immigrants and Hong Kong natives are both declining gradually, one possible reason is related to China-born immigrants' intention to start their own business in China. Besides, section 3.5.4 shows that proficiency in Putonghua can be one of the factors that allow China-born immigrants to gain a better life in Hong Kong under the open door policy in China. Regarding the skill levels, Hong Kong natives have a relatively higher skills level than that of China-born immigrants, but China-born immigrants are pursuing a significant improvement on both generic and professional skills.

Moreover, the author develops several explanatory and descriptive hypotheses for empirical testing, these hypotheses are based on the analysis of both quantitative and qualitative results in chapter 4. The first hypothesis is about the impact of schooling on earning, test has been conducted in section 5.6 to examine if the impact of schooling is different between natives and immigrants; the second hypothesis is about the selectivity of married group individuals, married group individuals are regarded as a more responsible and reliable group of persons, married group is keen to earn as much as possible so that their assimilation rate is expected to be higher than "non-married" group. The third hypothesis is related to language ability, other things being constant, both English and Putonghua language skills can positively enhance immigrants' earning, the effect of Putonghua on earning is becoming more significant compare to English. The fourth hypothesis is about the impact of

immigrants' qualifications transferability on job selection, the author expects immigrations' qualifications unrecognition problem would only occur in certain industries and occupations, but not in all industries and occupations. The final hypothesis is related to the impact of working experience relevance on job selection and its corresponding assimilation rate. All these hypotheses have been summarized in Table 4.18 and examined using Hong Kong census data and econometrics techniques.

This thesis does not presume that the assimilation hypothesis is valid in every economic circumstances, the author expects the hypothesis is only valid under certain conditions as the validity of assimilation hypothesis depends on different economic circumstances. The major contribution of this thesis is to find out in what particular situation the assimilation hypothesis is true. The author subsampled the dataset based on different dimensions: gender, marital status, occupation and industry. The validity of the assimilation is expected to be different between males and females, amongst different marital statuses, amongst various occupations and amongst different industries. The empirical results are shown in section 5.6, for gender, the results show that male immigrants may not assimilate better than female immigrants, and which does not support the general consensus is that the self-selected male group is more productive, the author argue that male native and male immigrants share similar self-selected characteristics, thus male immigrants may not assimilate better than female immigrants in relative sense. . New immigrants almost always suffer from an earning disadvantage. Regarding the assimilation hypothesis, the empirical evidence shows was found that immigrants'

assimilation exists, but the income gaps are still widening due to the deterioration of immigrants' quality, it implies that immigrants' earning is increasing with their years of residence, but the increasing rate is less than that of natives under even stronger immigrants' quality deterioration, thus, income gaps between natives and immigrants are widening. In addition, single married immigrants have may not assimilate better than married single immigrants, regardless of gender; since married male immigrants have a similar assimilation rate as e similarly to married female immigrants share similar self-selected characteristics with married natives, thus married immigrants may not assimilate better than single immigrants in relative sense. Moreover, employees of professional assimilate much better than those working in elementary occupations. Last but not least, the result cannot confirm the ordinary thought of an inverse relationship between assimilation rate and interpersonal skills requirements due to the presence of behavioral dynamics.

The purpose of chapter 6 is to estimating how language skills affect the assimilation process and earnings of Chinese immigrants, the results are as follow: Firstly, possessing English language skills can contribute to earning regardless of place of birth, however, the importance of English language skill is relatively less important less Cantonese in term of enhancing assimilation rate. Whilst Putonghua language skills do improve male immigrants' earnings by the extent of more than 50 percent and it ranks the least important in terms of assimilation rate. Secondly, the assimilation rate is relatively higher for managerial grade occupation and lower in clerical jobs and craft-related occupations, while Putonghua skill does positively enhance immigrants'

earning regardless of occupations. Thirdly, assimilation rate is relatively higher in financial sector and lower in construction industry, immigrants possessing Cantonese reward the most in all industries amongst various cohorts. Overall speaking, this study shows the marginal effect of language on earnings depends upon which industries and occupations we are referring to, if we are studying an industry where Putonghua is the major communication medium, the marginal effect of Putonghua on earning is expected to be larger than that of industry where Cantonese or English dominate communication medium. Moreover, the assimilation hypothesis is valid regardless of gender, occupation and industry, even after controlling language skills, empirical results are still supporting assimilation hypothesis.

8.4 Implications for Theory

In migration literature, there are numerous amount of research works related to analyzing the causes and effects of migration, most of these works are country-specific case study, in particular focusing on Mexico-United States migration and Asia-United States migration. Not too many of the previous studies are studying China-Hong Kong migration, but it still sounds to believe the effect of the large influx of immigrants towards small economies, like Hong Kong, is probably negative rather than positive, however, a simulation study conducted by Suen (2000) provides a surprising results that the effect of immigration towards local labour market is rather insignificant. For large economies, such as United States and Europe, a renowned Mariel Boatlift experience by David Card (1990) as well as other similar studies by LaLonde and Topel (1991), Butcher and Card (1991) and Friedberg (2001) indicated the

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common rationale above may not be applicable to small economies but only to large economies. Only Borjas, Freeman and Katz (1997) and Borjas (2003) provide a contrasting result. It seems that empirical results are not consistently supporting each other, it can be due to the failure of discovering some implicit but critical factors, some of these factors are country-specific which cannot be generalized and further applied to other countries. Besides, the estimation results are mostly based on implicit assumptions that immigrants are largely homogenous, the validity of this implicit assumption could critically alter the assimilation results, since this unrealistic assumption would only allow researchers to produce an "averaged" or "overly-averaged" assimilation rate estimation results, these results can probably be fail to explain the reality as immigrants are heterogeneous in nature. Some essential determinants such as immigrants' socio-economic characteristics, economic structure and institutional arrangements are essentially affecting assimilation pattern but they are being neglected in the previous studies. In the thesis, the interaction among and implications of these determinants are examined and proved as a useful guide to immigration policymakers. This thesis does not presume that the assimilation hypothesis is valid in various economic circumstances, the author proves that the validity of assimilation hypothesis depends on different economic circumstances and only valid in specified economic conditions, these conditions are not being addressed in migration literature.

Economics assimilation of migrant workers has attracted a huge amount of theoretical and empirical research which generally concludes the earnings of immigrants assimilate over their years of residence, this conclusion generally

attribute to the accumulation of the host country specific human capital, including labour market information and host language skills. The author employs language skills as a predictor in order to understand a new assimilation process in Hong Kong, this assimilation process is new to migration theory as Chinese immigrants possessing language skills which are useful in the host country (Hong Kong). Previous research studies in this area are twofold, one is about the determinants of investing in the host country-specific language skills, the other is related to the effect of possessing host country-specific language skills on immigrants' earnings, both theoretical and empirical studies have been conducted extensively for the United States labour market, however, this kind of empirical studies for China-Hong Kong migration is very rare and inadequate, also previous assimilation theory did not consider the possibility that immigrants can possess skills that are useful in the host country, so chapter 6 results can supplement the existing literature in this regard.

8.5 Implications for Policy and Practice

Since 2003, there are three new immigration admission schemes adopted by Hong Kong Immigration Department, namely, Mainland Talents and Professional Admission Scheme (adopted in July 2003); Capital Investment Entrant Scheme (adopted in October 2003); Quality Migrant Admission Scheme (adopted in June 2006). Obviously, these policies aim to attracting highly skilled or professional or talented or wealthy persons from the foreign countries, in particular China.

The empirical findings suggest several guidelines to Hong Kong immigration policymakers regarding methods of facilitating immigrants to adapt the life in Hong Kong. The adoption of Admission Scheme for Mainland Talents and Professionals can partly accommodate the sectoral employment shifts in Hong Kong, even the structures and contents of immigrants' economic activeness are somewhat varying in the last two decades, based on different demographic and economic dimensions discussed in section 3.5, it is expected that the three admission schemes are very essential and critical to Hong Kong economic development in the long run.

Moreover, the Quality Migrant Admission Scheme mostly attracts professional immigrants to participate in the Hong Kong labour market, empirical results in section 5.6 showed that the assimilation rate of highly skilled or professional or talented persons is relatively lower than other non-professionals, it implies that professional or talented persons' earnings are not greatly affected by their year of duration in Hong Kong, this result can provide policymakers additional information when they review the assimilation supporting policies as well as admission renewal criterion for professionals.

In addition, family reunion is always used to justify the priority of granting a one-way permit to Chinese immigrants, empirical results in section 5.6.3 show that married immigrants have a higher assimilation rate than single immigrants. Regardless of gender, married male immigrants have a similar assimilation rate as married females and married females do assimilate better than a single females. Table 3.1 indicates the changes in the One-way permit quota for

Chinese immigrants, as there are fifteen One-way permits are allocated for spouse having split for over 10 years every day, and married male immigrants assimilate similarly to married females and married females do assimilate better than single females, thus, in terms of assimilation performance, the criterion for selecting qualified One-way permits holder should not bias towards married female and discriminate against married male, but allocating more quota to married female than single female is a correct policy decision as single females do assimilate worse than married female. In conclusion, policymakers can consider these determinants when they refine the entry arrangement for dependants in the future.

8.6 Limitations

There are several limitations in this thesis. The first limitation is about the data coverage, as mentioned and illustrated in the previous chapters, six Hong Kong censuses data are employed in the empirical studies and they are cross-sectional data. From the literature, the author knows that the best way to control the immigrants' cohort effects is to use a longitudinal or panel dataset in which the same respondents are being re-interviewed over a number of years, however, longitudinal data are very rare and not available in Hong Kong, thus the author adopted Borjas's (1984) approach (discussed in section 5.4) to construct a quasi-panel dataset, different cross-sectional data are divided into several small samples based on "year of arrival" and then combined all same "year of arrival" small samples together, the quality of this "quasi-panel" is lower than real longitudinal or panel dataset, as a result, it limits the possible extension and generalization of the thesis's results to other

countries and also the results may not be comparable to other countries as the longitudinal dataset is less rare in the United States, Canada and Australia.

Second, even Quality Migrant Admission Scheme aims to attracting professionals and talents from other countries, but a parallel concern derived is its corresponding dependent policy in which typical dependents, such as spouse and children aged under eighteen, are allowed to migrate to Hong Kong accompany with the quality migrants, the problem is that even quality migrants are able to assimilate better than other "low quality migrants" but it does not imply their dependents can also assimilate in the same way. Under the China-Hong Kong migration context, there are thirty One-way permits quota being allocated to dependents under "family reunion" justification every day, so dependent policy is one of the important issues in immigration policy, however, the author discerns this issue in this thesis.

Third, the research results are based on empirical findings, thus the accuracy of these results are highly depending upon the econometrics modeling techniques as well as interpretative narration. An incorrect modeling and interpretation would create problematic results which would significantly discount the value of research findings. Lastly, on top of only considering the human capital that immigrants acquired, the author should also take the financial capital into account in order to analyze the possible impact of Capital Investment Entrant Scheme on Hong Kong economy, this new immigration policy aims to facilitate the entry for residence by capital investment entrants, the capital investment means that any person who make capital investment of

not less than HKD 6.5 million in permissible investment assets in Hong Kong. In theory, the amount of assets held by immigrants may affect their assimilation pattern, but the Hong Kong census data did not record the amount of wealth held by immigrants, thus, the possible impact of Capital Investment Entrant Scheme on immigrants' assimilation pattern as well as Hong Kong economic development cannot be estimated.

8.7 Further Research: New Dataset and Idea

One controversial issue of Capital Investment Entrant Scheme is its impact on Hong Kong asset markets, no matter the capital investments are being made on real estate or specific financial assets, such capital inflows would create upward pressure on asset prices. For instance, Hong Kong property price are expected to be rising given massive capital inflows, Hong Kong residents would find it hard to purchase an apartment if the properties prices are kept going up, if Hong Kong residents cannot afford the basic accommodation due to soar property price, they may urge the Hong Kong government to stop implementing the Capital Investment Entrant Scheme, but then those Hong Kong residents who are holding property assets must suffer, property holders would urge the government to continue the Capital Investment Entrant Scheme, Hong Kong government official would stick into a policy dilemma. As mentioned in section 7.6, the current census dataset does not allow the author to estimate the impact of Capital Investment Entrant Scheme on immigrants' assimilation pattern as well as on Hong Kong economic development, thus if new dataset are available for these estimations, the results would be very influential and crucial to the forthcoming Hong

Kong immigration policy, on top of only estimating how immigrants assimilate into the destination country, researchers can theorize and estimate how natives adapt a new social life under massive wealthy in-migration.

Moreover, Hong Kong Census and Statistics department will conduct a new population census in March 2011 and the dataset will be available in June 2012, researchers can employ this new dataset to check the robustness of this thesis results and conduct more in-depth study.

8.8 In Conclusion

As regards Hong Kong's immigration policy, Hong Kong immigration department adopted three new admission schemes in the last decade, all of them are related to attracting talents from foreign countries, in particular from China. The first new immigration policy is called Quality Migrant Admission Scheme which was started in 28 June 2006, it aims to attract talented people from the Mainland and overseas to settle in Hong Kong. Successful applicants are not required to secure an offer of local employment before taking up residence in Hong Kong. They may also apply to bring in their spouse and unmarried dependent children below the age of 18 under the prevailing dependant policy. As of 31 March 2008, 398 applicants were allocated quotas under this scheme. The second immigration policy is related to capital investment, so called Capital Investment Entrant Scheme, which was launched in October 2003. The objective of this scheme is to facilitate the entry of residence of people who make capital investments in Hong Kong but who would not be engaged in running any business in Hong Kong. As of 31 March

2008, 4,443 entrant applications, together with 8,103 related dependant applications were received, of which, 2,449 entrant applications were approved. The amount of investments made under this scheme totaled $30.776 billion, these capital bought by capital investment immigrants are expected to strengthen Hong Kong's economic development. The final new admission scheme was implemented in July 2003, Mainland Talents and Professionals Admission Scheme, the objective of this scheme is to attract qualified Mainland talent and professionals to work in Hong Kong in order to meet local manpower needs and enhance Hong Kong's competitiveness in the globalised market. As of 31 March 2008, 21,697 talents and professionals were admitted under this scheme. In short, these three new admission schemes are centered around those "high quality" Chinese immigrants, thus from policymakers' perspective, it is undeniably that Chinese immigrants are essential to Hong Kong economic development. This thesis provides substantial empirical evidences that based on different assimilation patterns and the value immigrants' endowed human capital, it is of great blessing that the three admission schemes are very essential and critical to Hong Kong economic development in the long run.

Appendix I Quasi-Panel Data Codebook

Variables		Code and description
Original Variables		
1	Sex (SEX)	1 Male 2 Female
2	Age (AGE)	00 0 01 1 02 2 .. .. 84 84 85 85 and over
3	Place of birth (POB)	11 Hong Kong 31 The mainland of China 32 Macao 33 Taiwan 34 United Kingdom 41 Japan 43 Singapore 44 Philippines 45 Thailand 46 Malaysia 47 Indonesia 48 India

		49 Pakistan, Bangladesh, Sri-Lanka
		52 Vietnam
		53 Nepal
		57 Australia
		64 Portugal
		71 United States of America
		72 Canada
		90 Others
4	Marital status (MS)	1 Never married
		2 Now married (except widowed / divorced / separated)
		3 Widowed
		4 Divorced
		5 Separated
5	Highest level of educational attainment completed (EA)	01 No schooling
		02 Pre-primary
		11 Primary 1 (Grade 1)
		12 Primary 2 (Grade 2)
		13 Primary 3 (Grade 3)
		14 Primary 4 (Grade 4)
		15 Primary 5 (Grade 5)
		16 Primary 6 (Grade 6)
		21 Secondary 1 (Grade 7)
		22 Secondary 2 (Grade 8)
		23 Secondary 3 (Grade 9)

		24 Secondary 4 (Grade 10)
		25 Secondary 5 (Grade 11)
		26 (Grade 12) and Project Yi Jin
		31 Secondary 6 (1-year course)
		32 Secondary 6 (2-year course)
		33 Secondary 7 (2-year course)
		41 Craft level (including apprenticeship)
		42 Other craft level courses
		51 Diploma / Certificate courses in Vocational Training Council / Clothing Industry Training Authority / Construction Industry Training Authority
		52 Diploma/Certificate courses in Open University / School of Professional and Continuing Education of Universities
		53 Diploma/Certificate courses in former Polytechnics / other statutory or approved Post-secondary Colleges
		54 Diploma/Certificate courses in other colleges providing post-secondary Courses
		55 Diploma/Certificate courses in former Teacher Colleges
		56 Diploma/Certificate courses in Commercial schools
		57 Nurse training courses at diploma/certificate level

		58 Dental training courses at diploma/certificate level
		59 Distance learning courses at diploma/certificate level
		50 Other at diploma/certificate level courses
		61 Higher Certificate/Higher Diploma/Professional Diploma/Associate Degree/Pre-Associate Degree/Endorsement Certificate/Associateship or equivalent courses in Universities / Vocational Training Council
		63 Higher Certificate/Higher Diploma / Professional Diploma / Associate Degree / Pre-Associate Degree or equivalent courses in former Polytechnics / other statutory or approved Post secondary Colleges
		64 Higher Diploma / Professional Diploma / Associate Degree / Pre-Associate Degree or equivalent courses in other colleges providing post secondary courses
		65 Sub-degree courses in Hong Kong Institute of Education
		66 Sub-degree level nurse training courses
		67 Sub-degree level dental training courses
		68 Distance learning sub-degree level courses
		62 Other Sub-degree courses in Universities funded

		by University Grants
		Committee
		69 Other sub-degree level courses
		71 First degree courses in institutions in Hong Kong
		72 Distance learning first degree courses
		73 Other first degree courses
		81 Postgraduate certificate / diploma courses in institutions in Hong Kong
		82 Distance learning postgraduate certificate/diploma courses
		83 Other postgraduate certificate / diploma courses
		84 Master degree courses in institutions in Hong Kong
		85 Distance learning master degree courses
		86 Other master degree courses
		87 Doctor degree courses in institutions in Hong Kong
		88 Distance learning doctor degree courses
		89 Other doctor degree courses
		91 Master of Philosophy (MPhil) courses in institutions in Hong Kong
		92 Other Master of Philosophy (MPhil) courses
		93 Doctor of Philosophy (PhD) courses in institutions in Hong Kong
		94 Other Doctor of Philosophy (PhD) courses

		95 Other equivalent research degrees courses in institutions in Hong Kong
		96 Other equivalent research degrees courses
6	Highest field of education completed (EF)	01 Basic programmes
		02 Arts
		03 Humanities
		04 Social and behavioral sciences
		05 Life sciences
		06 Physical sciences
		07 Mathematics and statistics
		08 Teacher training and education science
		09 Accountancy and studies in secretarial skills
		10 Business administration and financial management
		11 Computing
		12 Health
		13 Architecture
		14 Transport services
		15 Environmental protection
		16 Construction, civil and structural engineering
		17 Mechanical and marine engineering, production and industrial engineering,
		18 Electrical and electronic engineering
		19 Textiles and clothing technology
		20 Manufacturing and processing

		21 Law
		22 Journalism and information
		23 Social services
		24 Personal services
		25 Security services
		26 Other programmes
		99 N.A. (For persons with no schooling)
7	Usual language spoken at home (LANG)	01 Cantonese
		02 Chiu Chau
		03 Sze Yap (San Wui, Hoi Ping, Yan Ping, Toi Shan)
		04 Hakka
		05 Putonghua
		06 Fukien
		07 Shanghainese
		08 Other Chinese dialects
		34 English
		41 Japanese
		44 Philipino
		48 Hindi (India)
		49 Bengali and Urdu (Pakistan and Bengladesh)
		90 Others
		99 N.A. (Aged under 5 and mute persons)
8	Other languages spoken (OLANG)	01 Cantonese
		02 Chiu Chau
		03 Sze Yap (San Wui, Hoi Ping, Yan Ping, Toi Shan)

		04 Hakka
		05 Putonghua
		06 Fukien
		07 Shanghainese
		08 Other Chinese dialects
		34 English
		41 Japanese
		44 Philipino
		48 Hindi (India)
		49 Bengali and Urdu (Pakistan and Bengladesh)
		90 Others
		99 N.A. (Aged under 5 and mute persons)
9	Activity status (AS)	(a) Economically active population: This comprises the employed (that is the working population) and the unemployed. *Employed population* 11 Employees 12 Outworkers 13 Employers 14 Self-employed (Hawkers) 15 Self-employed (Others) 16 Unpaid family workers *Unemployed population* 21 Job-seekers who are available for work 22 Job-seekers who are not available for work

		because of temporary sickness / injury
		23 Persons waiting to take up new jobs / businesses
		24 Persons not seeking work because they expect to return to original jobs
		25 Persons not seeking work because suitable work is not available / difficult to get a job
		(b) Economically inactive population: This comprises persons who have not had a job and have not been at work during the seven days before the By-census, excluding persons who have been on leave / holiday during the seven-day period and persons who are unemployed. Person such as home-makers, retired persons and all those aged under 15 are thus included.
		31 Home-makers
		32 Students
		33 Persons of independent means
		34 Retired persons
		35 Inmates in penal institutions, in-patients in psychiatric hospitals / infirmaries / convalescent hospitals
		36 Persons not seeking work because of temporary sickness / injury
		37 Persons not seeking work because of permanent sickness / disablement

		38 Other inactive persons
10	Occupation (OUP)	01 Managers and Administrators
		02 Professionals
		03 Associate Professionals
		04 Clerks
		05 Service Workers and Shop Sales Workers
		06 Skilled Agricultural and Fishery Workers
		07 Craft and Related Workers
		08 Plant and Machine Operators and Assemblers
		09 Elementary Occupations
		021 Occupations unidentifiable or inadequately described
		099 N.A. (Persons who are unemployed or economically inactive)
11	Industry (INS)	01 Agriculture and Fishing
		02 Mining and Quarrying
		03 Manufacturing
		04 Electricity, Gas and Water
		05 Construction
		06 Wholesale, Retail and Import / Export Trades, Restaurants and Hotels
		07 Transport, Storage and Communication
		08 Financing, Insurance, Real Estate and Business Services
		09 Community, Social and Personal Services

		10 Not Applicable and Industrial Activity Not Classified
12	Earning from main employment (EME)	000000 None 000001 $1 …… …. 000010 $10 …… …. 000123 $123 …… …. 150000 $150,000 and over 999999 N.A.
13	Earning from secondary employment (ESE)	000000 None 000001 $1 …… …. 000010 $10 …… …. 000123 $123 …… …. 150000 $150,000 and over 999999 N.A.

New Variables			Formula / Description	Code
14	Years	of	- No schooling	0
	schooling		- Pre-primary	3
	(S)		- Primary 1 (Grade 1)	4
			- Primary 2 (Grade 2)	5
			- Primary 3 (Grade 3)	6
			- Primary 4 (Grade 4)	7
			- Primary 5 (Grade 5)	8
			- Primary 6 (Grade 6)	9
			- Secondary 1 (Grade 7)	10
			- Secondary 2 (Grade 8)	11
			- Secondary 3 (Grade 9)	12
			- Secondary 4 (Grade 10)	13
			- Secondary 5 (Grade 11)	14
			- (Grade 12) and Project Yi Jin	16
			- Secondary 6 (1-year course)	15
			- Secondary 6 (2-year course)	16
			- Secondary 7 (2-year course)	16
			- Craft level (including apprenticeship)	16

		- Other craft level courses	16
		- Diploma / Certificate courses in Vocational Training Council / Clothing Industry Training Authority / Construction Industry Training Authority	17
		- Diploma/Certificate courses in Open University / School of Professional and Continuing Education of Universities	17
		- Diploma/Certificate courses in former Polytechnics / other statutory or approved Post-secondary Colleges	17
		- Diploma/Certificate courses in other colleges providing post-secondary Courses	17
		- Diploma/Certificate courses in former	17

		Teacher Colleges	
		- Diploma/Certificate courses in Commercial schools	17
		- Nurse training courses at diploma/certificate level	17
		- Dental training courses at diploma/certificate level	17
		- Distance learning courses at diploma/certificate level	17
		- Other at diploma/certificate level courses	17
		- Higher Certificate/Higher Diploma/Professional Diploma/Associate Degree/Pre-Associate Degree/Endorsement Certificate/Associateship or equivalent courses in Universities / Vocational Training Council	17

		- Higher Certificate/Higher Diploma / Professional Diploma / Associate Degree / Pre-Associate Degree or equivalent courses in former Polytechnics / other statutory or approved Post secondary Colleges	17
		- Higher Diploma / Professional Diploma / Associate Degree / Pre-Associate Degree or equivalent courses in other colleges providing post secondary courses	17
		- Sub-degree courses in Hong Kong Institute of Education	18
		- Sub-degree level nurse training courses	18
		- Sub-degree level dental training courses	18
		- Distance learning	18

		sub-degree level courses	
		- Other Sub-degree courses in Universities funded by University Grants Committee	18
		- Other sub-degree level courses	18
		- First degree courses in institutions in Hong Kong	19
		- Distance learning first degree courses	19
		- Other first degree courses	19
		- Postgraduate certificate / diploma courses in institutions in Hong Kong	20
		- Distance learning postgraduate certificate/diploma courses	20
		- Other postgraduate certificate / diploma courses	20

		- Master degree courses in institutions in Hong Kong	21
		- Distance learning master degree courses	21
		- Other master degree courses	21
		- Doctor degree courses in institutions in Hong Kong	24
		- Distance learning doctor degree courses	24
		- Other doctor degree courses	24
		- Master of Philosophy (MPhil) courses in institutions in Hong Kong	21
		- Other Master of Philosophy (MPhil) courses	21
		- Doctor of Philosophy (PhD) courses in institutions in Hong Kong	24

		- Other Doctor of Philosophy (PhD) courses	24
		- Other equivalent research degrees courses in institutions in Hong Kong	21
		- Other equivalent research degrees courses	21
15	Years of work experience (EXP)	- Age-Schooling-6 ≥ 0 - Age-Schooling-6 <0	Age-Schooling-6 0
16	Chinese immigrant dummy (DCI)	- Chinese Immigrants - Natives	1 0
17	New Chinese immigrant dummy (NEW)	- Chinese immigrants in HK for less than 5 years - Chinese immigrants in HK for at least 5 years	1 0
18	Year of residence (YD)	Natives - Duration of residence is less than 1 year	0

		- Duration of residence between 1 to 19	0-19
		- Duration of residence is 20 years and over	Age
		Immigrants	
		- Duration of residence is less than 1 year	0
		- Duration of residence between 1 to 19	0-19
		- Duration of residence is 20 years and over	Age
19	Year of Arrival Cohort (COHORT)	- 1976-1981	1
		- 1982-1986	2
		- 1987-1991	3
		- 1992-1996	4
		- 1997-2001	5
		- 2002-2006	6

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