

**INSTITUTION AND INEQUALITY IN TRANSITIONAL URBAN CHINA: EARNINGS
AND EMPLOYMENT OF MIGRANTS AND NON-MIGRANTS**

A Thesis Submitted to the College of
Graduate Studies and Research
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in the Department of Sociology
The University of Saskatchewan
Saskatoon

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ABSTRACT

This dissertation focuses on labour market returns of migrants and non-migrants in transitional urban China. Literature on internal migrants in urban China reveals different perspectives on whether internal migrants have higher or lower labour market returns than urban residents. Labour market segmentation theory highlights the effect of an institutional barrier, the *Hukou* system, and suggests that migrants are placed in the lower segment of the market while urban residents have many advantages over migrants. On the contrary, migration selectively literature suggests migrants in urban China are positively selected and have higher quality than non-migrants, thus suggesting that migrants have higher-level returns than non-migrants. Market transition theory provides a transitional view and suggests the inequality caused by the *Hukou* system is decreasing with the development of a market economy, with competitiveness increasing among both migrants and urban non-migrants.

The main objective of this research is to examine the differences in earnings and occupational attainments among different population groups - urban non-migrants, temporary migrants and permanent migrants - and their changes over time, and to examine factors that contribute to the changes. Three key factors, *Hukou* reforms, development of market mechanisms and migration selectivity, are highlighted in this study.

Using CGSS 2003 and 2008, the empirical analysis shows that first, the independent effect of migrant status on earnings was significant in 2003 but not significant in 2008, however, migrant status had a significant independent effect on individuals' occupational attainments in both 2003 and 2008. Second, migration selection had significant and positive effects on individual's earnings and occupational attainments in both 2003 and 2008. Third, migrants with urban *Hukou* status have an advantage in labour market returns. Urban migrants (temporary and permanent

migrants from urban to urban) had a net earnings advantage over urban non-migrants in two years of 2003 and 2008; permanent migrants (permanent migrants from rural to urban and from urban to urban) had an advantage in occupational attainments over urban non-migrants in both 2003 and 2008.

The mixed findings of decreased effects of migrant status on individual's earnings from 2003 to 2008 and the remaining effect of migrant status on individual's occupational attainment from 2003 to 2008 indicate that both segmentation and competition exist in urban labour markets in China. This reflects the nature of China's transition from a planned to a market economy, where growing market forces co-exist with institutional legacies. Migrants in China are positively selected and migration experience contributes positive returns on earnings and occupational attainments.

Key Words: *Hukou* system, Labour market returns, Migration selection, Market transition

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the support of several people. First and foremost, I wish to express my sincere appreciation to Dr. Terry Wotherspoon, my supervisor, who has consistently guided and supported me throughout my graduate study at Saskatoon and was always there to provide intellectual direction. Dr. Mobinul Huq of the Department of Economics is a member of the Advisory Committee. He has provided invaluable advice and guidance on statistical modeling, analyses, and interpretation. Dr. Hongming Cheng of the Department of Sociology, another member of the Committee, has been supportive and kind in encouraging me every step of the way. I appreciate Dr. Patience Elabor-Idemudia for her valuable comments and advice on improving dissertation. I would like to thank the external examiner, Dr. Jieming Chen, Texas A&M University-Kinville and Xi'an Jiaotong University, for providing solid suggestions and valuable comments on interpreting statistical findings.

Other faculty members in the Department of Sociology have been very supportive; in particular I would like to thank Dr. Li Zong and Dr. Peter Li for their help and support during my graduate study. The staff members of the Department of Sociology, including Ms. Lori Giles, Ms. Barb Wotherspoon, and Ms. Kristen Harms, have been very supportive and helpful.

Finally and most importantly, I would like to express my deep-hearted gratitude to my family and friends. I would like to thank my parents for their unconditional love, patience, support and understanding. I also would like to thank my husband for his love and encouragement. I also want to give my sincere thanks to my friends who are too numerous to list for their help, support and encouragement.

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CHAPTER 1 INTRODUCTION

1.1 Introduction and research questions

Since the beginning of economic reform and opening in late 1978, with its transition from a planned to a market economy, China has experienced a great economic and social transformation. One of the most significant features of China's social change is the dramatically increased internal migration within the population which is dominated by rural to urban migration and migration from northwest inland to southeast coast regions. In 1990, the Chinese Census recorded 30 million migrants (SSB, 1991); the number increased to 104 million people by the 2000 Census (SSB, 2001) while, according to the latest 2010 Census, the number of migrants is 221 million persons and accounts for 16% of the total population in China (SSB, 2012). Some scholars assert that China has witnessed the largest internal migration in human history (Cai, 2006). The large size of China's migrant population is the major component of demographic process and highly related to China's development model.

In the planned economy era, migration rate in China was very low and internal migration was strictly controlled through household registration system (*Hukou* system). First started in cities in 1951 and extended to nationwide in 1955, the *Hukou* system classified every Chinese citizen into "agricultural" (rural) or "non-agricultural" (urban) category according to their *Hukou* location (registration location). Every newborn in China has been assigned a *Hukou* status according to the status of the parents. Only through proper authorization of the government can one permanently change his/her *Hukou* location and especially his/her *Hukou* type from a rural to an urban one. Virtually no self-initiated migration occurred, as people could not survive without

local *hukou* status which was directly linked to entitlement to rationed food, housing, jobs and other necessities (Cheng and Selden, 1994). Together with other institutions like the ration system and work unit system, the *Hukou* system created two very different societies in the planned economy era: on the one hand the urban class, whose members worked in the priority and protected industrial sector and who had access to social welfare; and on the other hand the peasants, who were tied to the land to produce an agricultural surplus for industrialization and who had to fend for themselves (Chan, 2009). After market economy reform, the rising demand for labour in the newly developed non-state enterprises such as foreign invested, joint-venture, and privately owned enterprises coupled with the erosion of the rigid rationing system for food and housing and loosened the migration restrictions of *Hukou* system created social space for rural migrants (Liang & White, 1997; Wu, 2002). Thus internal temporary migration, mainly from rural to urban areas and without changing their *Hukou* type and *Hukou* locations, increased dramatically during last 30 years. The massive rural migrant population in urban area are shaking the old system of the rural/urban hierarchy but bringing new type of inequality: the inequality between migrants and urban residents in urban labour market.

There has been considerable interest in the consequences of migration, or to be specific, how migrants have fared in the new destinations, posing questions as to whether there are any differences in labour market returns between migrants and local residents. On the one hand, both Chinese and western scholars have long subscribed to the view that the *Hukou* system is the major source of hardship for migrant workers living in cities (Solinger, 1999; Chan and Zhang, 1999; Fan, 2002; Lu, 2003; Alexander and Chan, 2004; Zhan, 2011). Migrants without urban household registration status are regarded as marginal workers and treated as outsiders and second class citizens in the cities (Chan, 1996). Rural migrants tend to make less money, receive

far fewer benefits, and have no health insurance (Chan, 1996; Lu, 2006; Liu, 2005). On the other hand, research in recent years has pointed out that the role of the *Hukou* system in maintaining social exclusion is declining (Zhan, 2011; Huang et al, 2010) and migrants, especially the permanent migrants, have higher incomes than non-migrant urban residents (Fan, 2001; Lu, 2008; Li, 1997). Scholars posed questions such as “are all migrants really worse off in urban labour market in China?” (Gagnon, 2009), is there “segmentation or competition in China’s urban labour market?” (Knight & Yueh, 2009) or “Does *Hukou* system still matter?” (Lu, 2008) as a consequence of these trends.

Based on these controversies, my examination of labour market returns of migrants and non-migrants in urban China involves two dimensions of social exclusion of institutional arrangement and migration in general. This thesis on the one hand examines the role of institution, the *Hukou* system, in determining individuals’ labour market returns and on the other hand highlights the effect of migration selection on labour market returns. Specifically, this study is guided by the following questions:

First, do migrants receive higher or lower returns compared to urban non-migrants, and what is the relationship between migrants and urban non-migrants (are they still segmented or do they become more competitive with each other?)

Second, to what extent do differences in labour market returns between migrants and urban non-migrants result from the institutional arrangements of the *hukou* system?

Third, what is the role of *Hukou* system and migration selection in determining labour market returns in contemporary China, and does institutional reform and development of market mechanism reduce or increase the inequality of *Hukou* system?

1.2 Theoretical framework and method

I propose a theoretical framework that integrates theories of labour market segmentation theory and migration selectivity theory with market transition theory. This framework allows me to examine comprehensively the relationship between migrants and urban non-migrants and to explore whether institutional reform and development of market mechanism reduce or increase the inequality among migrants and non-migrants. This framework will be elaborated in literature review in Chapter 3. Here I outline its major features.

In the context of China's social transition, three main dimensions should be considered when examining labour market returns of migrants and non-migrants, which are effects of institutional rules inherited from planned economy era, effects of market mechanism and effects of migration selectivity. The labour market segmentation theory clearly suggests that market segmentation is the result of institutional rules that differ across labour market segments. In urban China, migrants and urban residents with different *Hukou* status belong to different segments, and migrants are placed in the lower tier of the market while urban residents have many advantages over migrants. On the contrary, from the perspective of migration selectivity, migrants in China are positively selected and they have higher quality than those who are not migrants. They tend to be younger, more educated, have higher skills, and are more motivated, ambitious, and have relatively higher aspirations than non-migrants. Thus, migrants would have higher-level returns than non-migrants in urban China. Market transition theory claims that inequality under one system can be reduced by introducing an alternative mechanism; thus, the penetration by market factors will undermine the socialist inequality created by redistribution (Szelenyi, 1983). In understanding effects of *Hukou* system on labour market returns, market transition theory provides a transitional view to explain the declining role of the *Hukou* system and the changing

relationship between migrants and urban residents. According to this theory, the development of a market economy, the inequality caused by the *Hukou* system is decreasing, and migrants and urban non-migrants will become more competitive.

To investigate the relationship of *Hukou* system, migration and inequality of labour market returns, I employ data from the China General Social Survey 2003 and 2008 to examine the two important aspects of labour market returns, earnings and occupational attainments, of migrants and urban non-migrants in contemporary China. Five groups which are urban non-migrants, temporary migrants from rural to urban areas, temporary migrants from urban to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban are included in my analysis. Classification of these five groups is based on their different *Hukou* type, *Hukou* location, *Hukou* origin and whether they have migration experience or not. Thus this thesis can separate the effect of *Hukou* type, and *Hukou* origin from the general term of *Hukou* effect and highlight the mostly neglected effect, the effect of migration selection.

Using urban non-migrants as reference group, difference in earnings and occupational attainments between urban non-migrants and other four migrant groups are examined separately in Chapter 5 and Chapter 6. Multiple regression analyses are conducted to examine the gross and net earnings difference between urban non-migrants and other four migrants groups in 2003 and 2008. Oaxaca-Blinder decomposition method is then used to decompose the original log earnings gap into components of explained gaps (gaps can be attributed to difference in characteristics) and unexplained gaps (gaps can be attributed to discrimination). Logistic regression models are conducted to compare the likelihood of urban non-migrants and four migrants groups of being in ordinary, service and sales work rather than managerial & professional work before and after controlling for the effects of human capital variables and ownership sectors in 2003 and 2008.

Oaxaca-Blinder decomposition analyses are then conducted to examine how much of the occupational differentials is attributed to discrimination. By comparing the results of 2003 with those of 2008, this thesis can provide evidence to assess whether the effects of an institution associated with socialist regulation, the *Hukou* system, would decrease with the development of a market economy.

1.3 Structure of the dissertation

This dissertation consists of seven chapters. Chapter 2 provides a historical account of the *Hukou* system and related state policies, exploring internal migration and inequality under the *Hukou* system in both the socialist period and the market reform era. This chapter describes how the *Hukou* system was implemented in the 1950s, and examines internal migration and rural-urban inequality in the socialist period. It also depicts the reform of the *Hukou* system within a changing political-economic context, the massive population migration since market reform and dimensions of inequality within the *Hukou* system in the reform era. The objective of this chapter is to set a descriptive background for the discussion of effect of *Hukou* based difference on individual's labour market returns and its changes over time.

Chapter 3 describes the three major theoretical perspectives of labour market segmentation theory, migration selectivity literature and market transition theory. These three theoretical perspectives have provided opposing explanations of the effects of institutional rules on labour market returns of migrants and non-migrants in urban China. In addition to these three theoretical perspectives, several debates in the empirical studies such as debated on segregation and competition, debates on role of the *Hukou* system and debates on heterogeneity of migrants

are also reviewed. The chapter ends with an explanation of what this thesis is trying to accomplish.

Chapter 4 describes the data used in this thesis and five groups in my analysis: urban non-migrants, temporary migrants from rural to urban, permanent migrants from rural to urban, permanent migrants from rural to urban. The final part of this chapter describes the research methods and analytical strategy employed in this study.

Chapter 5 examines economic returns of migrant groups and urban non-migrants in 2003 and 2008 to see first whether non-migrants have higher earnings than migrants and second whether the effect of migrant status decreases in 2008 compared to in 2003. Descriptive, multiple regression and decomposition analyses were used in this chapter.

Chapter 6 examines occupational attainment of migrant groups and urban non-migrants using data from CGSS 2003 and CGSS 2008 and to test whether migrant status affects individual's occupational attainments and whether the effect of migrant status decreases in 2008 compared to in 2003. As in the previous chapter, descriptive, logistic regression and decomposition analyses were used in this chapter.

Chapter 7 further investigates the separate effect of *Hukou* type, migration selection and *Hukou* origin on labour market returns. In this chapter, I selected four pairs of groups, first, temporary migrants from rural to urban and permanent migrants from rural to urban, they differ from each other only in different *Hukou* type; second, urban non-migrants and permanent migrants urban-urban, they differ from each other only in whether have migration experience or not; third, permanent migrants rural-urban and permanent migrants urban-urban, they differ from each other in different *Hukou* origin; fourth, Urban non-migrants and Temporary migrants rural-urban.

Using multivariate regression and logistic regression, earnings and occupational attainments of these four pairs of groups are compared separately.

Chapter 8 summarizes the main findings presented in previous chapters, points out the limitations and direction for further studies, and discusses the theoretical and empirical implications of those findings.

CHAPTER 2 BACKGROUND: POLITICAL-ECONOMIC INSTITUTIONAL ARRANGEMENTS AND CHANGES, RURAL-URBAN INEQUALITY

Rural-urban inequality has been salient in China throughout the Mao and reform periods. The rural-urban gap has further deteriorated since the market reform, becoming the most important contributor to dramatic distributive inequality in China. Although growing rural-urban disparity is hard to avoid during the process of industrialization (Lipton 1977), what differentiates China from other countries is that the persistence and aggravation of the rural-urban inequality from the Mao era to the market reform period has largely stemmed from state institutional arrangements and related policies (Han, 2007).

This chapter provides a brief introduction to the *hukou* institution, the root cause of rural-urban inequality, and to related state policies, as well as discussing their consequences for inequality between rural and urban areas under the socialist system and since the market reform. The purpose of this overview is to lay an empirical background for the comparison of labour market returns of five migrant groups in the chapters that follow.

2.1. Institutions and Inequality in the Planned Economy Era

2.1.1 Establishment of the *Hukou* system

The *Hukou* system was implemented initially in Chinese cities in 1951 to record the residence of the urban population and to track down any anti-government people with the officially stated purpose of maintaining social peace and order, safeguarding the people's security, and protecting their freedom of residence and movement (Liu, 2005). However, in response to the huge influx

of farmers into the cities, the government issued a directive in 1955 to expand the *Hukou* system to cover both the rural and urban populations. In the meantime, the *Hukou* system shifted its emphasis from registration purposes to a regulatory purpose of preventing unplanned migration and rural influx into the cities. In 1958, the promulgation of a more far-reaching *Hukou* regulation (*Hukou dengji tiaoli*) marked the final step of codification in this direction. Even today, the 1958 regulation represents the only national legislation on migration and residence promulgated by the National People's Congress (China's highest legislative body), and it remains fully in force (Zhu, 2003). The decree required that each person had to be registered in the locale where they resided, and they were then categorized as having either an agricultural or non-agricultural status; for newborns, the *Hukou* classification followed that of the mother (Chan, 2009). Secondly, all internal migration was subject to approval from the authorities at the destination.

The gradual development of the *Hukou system* during the 1950s was an inevitable outcome of the establishment of a planned economic system, which required meticulous planning and control of all macro- and micro-facets of society, and pursuit of a Stalinist-type, Big Push industrialization strategy premised on the unequal exchange of industry and agriculture (Chan, 1994; Alexander & Chan, 2004; Naughton, 2007). The state not only overwhelmingly favored industry through government investment, but also monopolized the trade between the agricultural and industrial sectors. Through the well-known process of "scissors prices" which deliberately set low prices for grain and high prices for industrial products, the state siphoned off resources in the rural sector for capital accumulation in industry (Lardy, 1983; Chan, 1994). Several institutional practices were exercised coercively in both rural and urban areas to enforce such an extraction. In rural areas, as Yang and Cai (2003) observed, the compulsory procurement

and monopoly of sales of farm produce and the rural collective (commune) system were implemented. The first tool was to generate an unequal inter-sectoral exchange, and the second was designed to bind farmers to their land. In urban areas, a ration system¹ and work units were introduced; the first was for state distribution, and the second was to enforce state control of urban employment. The *Hukou* system covered both rural and urban areas and controlled the population's mobility. In this way, the *Hukou* system is recognized by some scholars as the major institutional pillar underlying the deep rural-urban chasm in China in the last half century (Chan, 1994; Knight & Song, 1999; Solinger, 1999; Whyte, 2010).

The *Hukou* book has been dubbed “China’s No. 1 Document” (Tian, 2003) and records the attributes of a household: *Hukou* type and *Hukou* location. The *Hukou* type is generally classified as an “agricultural” and “non-agricultural” *hukou* or a “rural” and “urban” *hukou* (Chan & Zhang, 1999: 821-822). The *Hukou* location is the place of registration and is based on one’s residential location.

***Hukou* Type.** The *hukou* type is differentiated into “agricultural” or “non-agricultural.” Since the early 1960s, this classification has determined one’s entitlements to state-provided goods and services (Chan, 2009). Those with a non-agricultural status were entitled to state-provided grain rations (1955-1992), housing, education, employment, and access to medical care, as well as other benefits (Cheng & Selden, 1994). The non-agricultural population were loosely considered to be holders of an urban *Hukou* (Chan & Xu, 1985).

***Hukou* Location.** In addition to the *Hukou* type, each person was also categorized according to his or her place of *Hukou* registration. This was the individual’s official and only “permanent”

¹ Under the ration system, basic staples such as grain, meat, cooking oil, sugar, and cotton could be bought only in state-run stores using ration certificates or coupons, which were distributed in cities to local residents with an urban *Hukou*; rural residents were excluded from the ration system and were expected to be self-sufficient in food. This system was abolished in 1992.

residence. The local regular *hukou* registration defined one's rights to pursue many activities and eligibility for services in a specific locality—a not inconsequential status given that levels and availability of services still vary from place to place even today (Chan, 2009).

2.1.2 Population Migration in the Planned Economy Era

Since the establishment of the *Hukou* system, the overall rural-urban migration rate until recently has been very low (Wu, 1994). An individual would have to obtain approval from the state to convert one's *hukou* type from agricultural to non-agricultural and, subsequently, to change the place of *hukou* registration (from a specific village to a particular town/city or from a specific city to another city). *Hukou* conversion was tightly controlled and permitted only under very limited conditions. The latter process (changing the place of *Hukou* registration) usually happened at the same time as converting *Hukou* type from agriculture to non-agricultural. The criteria for converting *Hukou* type from agricultural to non-agricultural were stipulated by the central government and were designed to serve the needs of the state. In Mao's period, converting *Hukou* type from agricultural to non-agricultural was conferred mainly on those persons: (a) recruited as permanent employees by a state-owned enterprise (*zhaogong*); (b) displaced due to state-initiated land expropriation (*zhengdi*); (c) recruited for enrollment in an institution of higher education (*zhaosheng*); (d) promoted to administrative positions (*zhaogan*); (e) relocated because of family crises (such as moving to a city to live with and look after a sick parent); (f) joining the army (*canjun*) and demobilized to cities; and (g) deemed to belong to special categories (either recipients of compensation for past policy mistakes or people who had endured personal sacrifices and hardships because of their work for the state).

In each locale, the annual quota of converting *Hukou* type from agricultural to non-agricultural was set by the central government at 0.15 to 0.2 percent of the non-agricultural population (Chan, 2009). The overall growth of the non-agricultural population was very slow, averaging, for example, 1.47 percent annually for the period 1966–1976 (Chan, 2009).

2.1.3 Inequality under the *Hukou* system during the Planned Economy Era

In line with the priority on socialist industrialization, the state adopted differential resource allocation policies biased toward the city, which largely shaped rural-urban inequality during this time. Although the state also employed a rational, low-wage system for urban workers during much of the central planning period and even enacted a wage freeze in 1957, real wages were set at a level that allowed city dwellers to keep a higher living standard than rural households (Knight & Song 1999). As a result, the gap in the average incomes between rural and urban citizens expanded from the 1950s to 1970s, with the urban-rural per capita income ratio growing from about 2:1 in 1952 to 2.5:1 or even 3:1 in 1976 (Whyte 1995; Han, 2007).

The inequality in consumption between the two types of *hukou* holders was grave due to the installation of the rationing system biased in favor of city people (Han, 2007). Various types of food could not be purchased by farmers and were only obtainable by urban residents; additionally, the food available to farmers to purchase was not of very high quality (Potter 1983). In general, the ratio of consumption of food and other necessities including vegetable oils and cotton and cloth between urban and rural populations widened dramatically from the 1950s to 1970s (Lardy, 1982, 1983).

Rural-urban disparities were exacerbated by starkly unequal access to welfare benefits. For urban *Hukou* holders, the state-run work units (*danwei*) distributed a wide range of state-funded

fringe benefits to urban employees, particularly heavily subsidized public housing, paid maternity leave, and retirement pensions (Walder, 1983). Most state enterprises provided additional social services and facilities, such as meal halls with subsidized meals, nurseries and kindergartens, bus transportation to and from work, and tickets for sports or cultural events (Whyte & Parish, 1984). For rural *Hukou* holders, fringe benefits were quite scarce compared with those enjoyed by city dwellers. Housing was built by farmer households without state subsidies. Unlike the urban dweller's reliance on retirement pensions, children were the primary source of support for their parents in old age (Potter & Potter, 1990). Although the provision of those benefits varied depending on the ownership type (state-owned or collectively-owned), rank, and size of work units and the category of employees (e.g., permanent vs. temporary), urban residents as a group were much more privileged than their rural counterparts in their access to those benefits (Han, 2007). It is estimated that these non-cash compensations amounted to around 82% of the state employee's average wage in 1978 (Lee, 1997). If these additional benefits are factored in, the estimated gap between urban and rural incomes in the 1970s was as high as 5 or even 6 to 1 (Rawski, 1982).

State investment in education in the countryside and the city was also inequitable. Education in cities was virtually fully covered by the state budget, whereas the inputs from the state budget in rural education were quite limited (Sun, 2003). The commune or the production brigade had to bear the responsibility for a sizable share of the expenses of primary and secondary education. The wages of non-state employed teachers (*minban jiaoshi*) had to be paid by farmers. Despite the imbalance in state financial investment, the enrollment of rural students in basic education achieved impressive improvement. The share of rural students in lower secondary schools increased from 37.1% in 1962 to 73% in 1971 and to 77.5% in 1978. The share for upper

secondary schooling was only 7.8% in 1962, and climbed to 61% in both 1971 and 1978 (Whyte, 1995; Han, 2007).

To sum up, the *hukou* system and related policies of the commune system, ration system, and work units effectively restricted internal migration from the less-developed countryside to industrializing cities during the socialist period. Farmers were bound to the land, while urbanites' livelihoods were secured. Differential state policies of resource allocation favoring the urban *hukou* holders resulted in expansion of rural-urban gaps in income, consumption, and access to a wide range of fringe benefits with only a few exceptions (Han, 2007). In essence, the *hukou* system was not merely a means of limiting rural/urban population and labor mobility as it is commonly depicted, but also a system of social control aimed at excluding the rural population from access to state-provided goods, welfare, and entitlements (Chan, 2009).

2.2. Institutional reform and Inequality in the Market Economy Era

In 1978, China began to reform its highly centralized economic system to create a socialist market economy. Two stages were carried out. The first stage, in the late 1970s and early 1980s, involved the de-collectivization of agriculture, the opening up of the country to foreign investment, and permission for entrepreneurs to start-up businesses. However, most industry remained state-owned. The second stage of reform, in the late 1980s and 1990s, involved the privatization and contracting out of much state-owned industry and the lifting of price controls, protectionist policies, and regulations, although state monopolies in sectors such as banking and petroleum remained. The State no longer has the ability to directly control the firms or the pricing mechanism, but the Chinese government still has a semi-visible hand in term of

macro controls via the manipulation of many upstream factor prices, and periodically tweak the incentive structures as leverage (Hou, 2002).

The market reform has brought dramatic changes to economic and social spheres in China. Reform first started in rural areas with the abolition of the commune system and the introduction of the “household responsibility system,” which made individual households responsible for particular plots and allowed producers to sell any surplus grain on the open market. This institutional change greatly improved the efficiency of agricultural production and farmers were thus freed from the land to seek jobs in the industrial and service sectors (Liang, 2001; Lin, 1988; Wu, 2004). Secondly, in urban areas, the erosion of the rigid *danwei*-based rationing system created social space for rural migrants (Liang & White, 1997; Wu, 2004). Furthermore, the rapid development of non-state enterprises such as foreign invested, joint-venture, and privately owned enterprises created a great demand for migrant workers. Even some state-owned work units preferred to hire rural peasants either because they had no commitment to peasant-workers’ housing and other social benefits, or because the jobs were unattractive to urban workers (Wu, 2004).

Like other remnants of the central planning system, the *Hukou* system has been subject to revisions and reforms since the 1980s (Sun & Fan, 2011). New policies were introduced to accommodate the growing demand for low-skilled workers to fill positions shunned by urban locals, and the even larger number of factory jobs created by China’s new export-oriented industrialization strategy in the late 1980s (Chan, 2009).

2.2.1 Reform of the *Hukou* System

A small breakthrough occurred in small towns in 1984 with the introduction of a new *hukou* category called “*hukou* with self-supplied food grain” (Chan & Zhang, 1999). This category applied to migrants moving to small towns who didn’t convert their *Hukou* type from agricultural to non-agricultural, meaning that the state was not fiscally responsible for the welfare of the new migrants in these towns (Chan, 2009). A wider door was opened to migration with a national policy of allowing temporary residences in 1985 (Solinger, 1999; Chan, 2009). In July 1985, the Ministry of Public Security promulgated a document titled “Provisional Regulations on the *Hukou* Management of Temporary Urban Residents,” which established a temporary urban *Hukou* system and began to issue “temporary residence permits.” People were permitted to move and stay “temporarily” at a location different from that where they had been registered, including in large cities, but again without local *hukou* and all the associated rights and benefits (Chan, 2009). In an effort to improve the *Hukou* system, in September 1985, the National People’s Congress passed a regulation introducing the personal identification card, which carries a national serial number, the individual’s personal information, and the *Hukou* location.

The management of the *Hukou* system devolved from the central government to lower-level government in the late 1980s. Some city and town governments began to offer new forms of urban *hukou* to eligible migrants. Eligibility for these new *hukou* was usually tied to home purchase, investment, age, education, and skills, although the specific criteria varied from place to place and changed frequently (Sun & Fan, 2011). Shanghai, for example, offered a “blue stamp” hukou in the mid-1990s to investors, new homeowners, and professionals (Wong & Huen 1998). In 2002, Shanghai replaced the blue stamp with a new resident card to accommodate skilled workers, overseas Chinese, and foreigners. Between 2007 and 2009, Tianjin adjusted its

criteria for the blue stamp *Hukou* several times to boost or monitor home purchase (Sun & Fan, 2011). Cities such as Shijiazhuang and Zhengzhou also experimented with plans in the early 2000s to allow some qualified migrant laborers to acquire a city *hukou* (Chan, 2009).

At the same time, efforts have been made to extend the urban *Hukou* to a larger spectrum of rural migrants. In 1997, the State Council approved a pilot scheme to award an urban *Hukou* to migrants who have stable jobs and have resided in their place of residence for more than two years. After being tested in 450 cities and towns, in 2001 the scheme was further expanded. In 1998, the State Council approved guidelines making it easier for urban residents' immediate family—spouse, parents, and children—to obtain the urban *Hukou* (Yu, 2002; Sun & Fan, 2011). For example, spouses and children of existing residents with a local urban *Hukou* could be granted the urban *Hukou*. Other changes included issuing new forms of identity to rural migrants. Shenzhen, for example, rolled out a new resident permit system in August, 2008 that enabled migrants who have worked in the city for more than a month, who own a property, or who have a business to enjoy a range of free public services including low-cost housing (Sun & Fan, 2011). In recent years, an increasing number of cities have eliminated the distinction between the agricultural and non-agricultural *Hukou* (Congressional-Executive Commission on China 2005; Chan & Buckingham 2008).

Not only are the multitude and variety of *Hukou* reforms complex and confusing, but they also make it difficult to assess if the reforms have made it easier or harder for migrants to change their *Hukou* (Sun & Fan, 2011). After focusing on *Hukou* research for 20 years, Chan (2009) claimed that there has been no fundamental change in the *Hukou* system. In the post-1984 period, the one substantive change has been the removal of obstacles to geographical mobility outside the *Hukou* conversion framework (Chan, 2009). Thus, population migration in China consists of

permanent migration and temporary migration, which has been called two-track migration system by Sun and Fan (2011).

2.2.2 Population Migration and the “Two Track Migration System” in a Market Economy

The institutional changes make it possible for rural people to migrate to and survive in the city. Migration began to rise in the 1980s when, in general, the proportion of migrants was still small. In 1987, when China first included information on migration in a national survey, only 15.2 million respondents had migrated, which amounted to about 1.5% of the total population (Chan, 2001; Han, 2007). In 1990, population migration increased drastically, and it has been called the “age of migration” by scholars (e.g., Liang, 2001). In 1992 when China adopted full-blown market reforms, the number of rural migrants seeking jobs in the city reached 46 million, or 4% of the total Chinese population of 1.17 billion (Wen, 2006). According to the census in 2000, the number of migrants who had been away from the place of their *hukou* registration swelled to 121 million (at which time the population of the whole country was 1.3 billion); 88.4 million of these migrants were moving from rural to urban areas (National Bureau of Statistics of China, 2002). According to a 2010 census, the number of migrants accounted for 221 million people (SSB, 2012).

What is unique about migration in China is the difference between permanent migration and temporary migration. *Permanent migrant* refers to migrants who have changed their registration from their original place to their place of residence; for migrants from rural to urban areas, they also have converted their *Hukou* type from agricultural (rural) to non-agricultural (urban). *Temporary migrant* refers to migrants whose place of residence differs from their place of registration; they have moved to a new place, but do not possess the local *Hukou*, meaning that

they are not *de jure* residents even though they are *de facto* residents (Chan, 2009). Rural migrant workers are temporary migrants. It is where individuals are registered, rather than the duration of stay, that defines them as permanent migrants or temporary migrants (Goldstein & Goldstein, 1991). A variety of terminologies have been used to describe this dichotomy—*hukou* versus non-*hukou* migrants, “plan” versus “non-plan” (or self-initiated) migrants, formal versus informal migrants, and *de jure* versus *de facto* migrants (Gu, 1992; Yang, 1994; Li, 1995; Chan, Liu, & Yang, 1999; Fan, 1999). Regardless of which terminology is used, this two-track system is key to explaining the persistent divides and inequality between rural and urban China (Sun & Fan, 2011). While the volume of annual permanent migrants remained quite stable in the last 30 years, Temporary migrants have expanded significantly. ‘Rural migrant workers’, numbering at 166.7 million in mid-2012, are the major constituent group of temporary migrants, whose size reached 221 million in 2010 (NBS, 2012b; SC & NBS, 2012).

Research has shown that permanent migrants are sponsored by the State and are more skilled and highly educated, whereas temporary migrants mostly are self-initiated, market-driven, and of lower socioeconomic statuses (e.g., Li, 1997; Chan, Liu, & Yang, 1999; Fan, 2002; Shen, 2002). Temporary migrants do not enjoy the same institutional, economic, and social statuses as permanent migrants and local residents (Sun & Fan, 2011).

Overall, it is well established that temporary migrants in China are disadvantaged compared to permanent migrants. Permanent and temporary migrants belong to two very different segments of the population (Li & Siu, 1997).

Table 2.1 Selected Characteristics of Permanent and Temporary Migrants

	Permanent Migrants	Temporary Migrants
<i>Hukou</i> Status	Non-Agricultural and Local	Agricultural and Non-Local
Access to state-supplied benefits	Full	None
Educational attainment	High share of college educated	High share of junior secondary
Migration origin	More urban	More rural
Reasons for migration	Education/training, job assignment, job transfer	Employment in industry and business
Employment	Mostly Permanent	Temporary or contract work
Occupation	More in professional and technical categories	Mostly industrial workers
Housing	Same as other local residents	Company quarters and rented housing

Source: Sun (2011); Chan, Liu, & Yang (1999); Fan (2002)

2.2.3 Inequality under the *Hukou* system in the reform era

Since market reform in late 1978, the inequality under the *Hukou* system has been reflected in two ways: first, the persistent and aggravated rural-urban inequality; and second, the so-called “two class urban society” (Chan, 1996).

The rural-urban inequality first decreased after market reform and then began to increase in the mid-1980s. The period between 1978 and 1984 witnessed a reduction in the urban-rural income ratio. Based on official statistics, the urban-rural income ratio dropped from 2.36:1 in 1978 to less than 1.9:1 in the mid-1980s (Zhao, 1993). This trend favouring rural people reversed since the mid-1980s when the government turned its attention to urban reforms (Han, 2007). The rural-urban income gap during this period has been consistently found in empirical studies. For example, Wang (2006) estimates that, with inflation taken into account, urban citizens' real income grew by 2.4 times between 1985 and 2000, compared with 1.8 times for the rural population. In fact, by the mid-1990s, the rural-urban income gap had returned to the level it had been in the late 1970s before the market reform. Khan and Riskin (1998, 2005) find that the ratio

of urban-rural per capita income changed from 2.42 in 1988 to 2.47 in 1995 and to 3.01 in 2002. Calculations based on the definition of income by the National Statistics Bureau reveal that the income ratio of urban to rural households rose from 1.82 in 1983 to 3.23 in 2003 (Li & Luo, 2006). Despite the slight differences in the ratio number, these studies share a consensus that the rural-urban income gaps have increased in China since the mid-1980s. Corresponding to the trend in the income gap, inequalities in consumption of food and daily necessities between rural and urban populations have continued to expand despite improvement in absolute terms both within cities and in the countryside (Han, 2007). The rural-urban gap in entitlement to social welfare also widened during the reform era. Li and Luo (2010) estimated the monetary value of various forms of social protection that rural and urban people received based on the data from the Chinese Household Income Project Survey for 2002. They found that the per capita disguised subsidies were RMB 247 Yuan for rural households compared to RMB 4,275 Yuan for urban households: the rural-urban gaps in incomes and entitlement to social welfare that developed in the socialist period have increased substantially during the reform era.

In addition to the increasing rural-urban inequality, segregated urban society in the reform era also reflects the continuing exclusionary and discriminatory functions of the *Hukou* system. With the easing of restrictions on population migration and especially the migration from rural to urban, rural migrant workers were allowed to enter the cities. “Rural migrant labour” (*nongmingong*) has a specific meaning in China: it refers to industrial and service workers with a rural *hukou*. These labourers, though working in urban jobs and residing for the most part in towns and cities, are not considered legally to be urban workers and belong to the temporary migrant category (Chan, 2010). The legally “temporary” status of this group’s members and their permanent ineligibility for local “citizenship” in the form of an urban *hukou* makes them

forever vulnerable and easily expendable (Chan, 2010), and they stay at the bottom of the urban pyramid (Chan, 2009). They work in a segmented labour market, are trapped in low-end factory jobs, service jobs, low-skilled 3-D (“dangerous, dirty, and demeaning”), and often physically demanding jobs, work for longer hours, and live in inferior housing (Knight & Song, 1999; Park & Wang, 2006; Wang, 2010; Chan, 2010). They are paid less for working the same job as their urban colleagues and are almost entirely excluded from various forms of social insurance and protection such as medical care, housing, and urban unemployment relief or “minimum protection” benefits (Khan & Riskin, 2005; Wang, Zuo, & Ruan, 2002). They even have to pay a large amount of extra fees if their children want to attend schools in the city. Their difficulty in integrating into the city is further intensified by the segregation of their networks from those of city dwellers (Solinger, 1999).

Feng and Zuo (1999) identify five major consistent gaps between temporary migrants and urban residents: (1) segregated labour market and occupations, (2) low income and poor benefits, (3) temporary housing and residential segregation, (4) individual instead of family migration, and (5) absence of social integration. Based on social and economic disparities between temporary rural migrants and urban residents, Chan (1996) claims that a two-class social structure has been emerging in the cities of China. The structure is an extension of the rural-urban segmentation from the planned economy era. In the reform era, while the geographical divide has been largely broken down and tens of millions of peasants have been freed from the structures of the planned economy, their old position in the social hierarchy has not fundamentally altered (Chan, 1996). *Hukou* status is an important ascribed status in determining one’s social and economic achievements.

2. 3. Summary

Despite the many far-reaching and dramatic social and economic changes taking place in China over the last 30 years, the *hukou* system remains one of the most enduring remnants from the 1950s. Through immobilizing and binding farmers to the land, the *Hukou* system has been a mechanism for organizing labour in pursuit of the Big Push forced industrialization during the first three decades of the People's Republic. In the reform era, the *hukou* system gradually adapted to serve the state's new industrialization agenda of making China the world's low-cost supplier of manufactured goods— this time, ironically, by “freeing” the farmers to create a vast class of extremely cheap, mobile labour (Chan, 2009).

Together with other institutions, the *Hukou* system created two very different societies in the planned economy era: on the one hand the urban class, whose members worked in the priority and protected industrial sector and who had access to (at least basic) social welfare and full citizenship; and on the other hand the peasants, who were tied to the land to produce an agricultural surplus for industrialization and who had to fend for themselves (Chan, 2009). The geographical, social, and economic segregation of rural and urban populations continues in the reform era. To an individual, *hukou* status is an important ascribed attribute in determining one's social and economic circumstances.

CHAPTER 3 LITERATURE REVIEW: THEORY ON INSTITUTION AND LABOUR MARKET RETURNS TO MIGRANTS AND NON-MIGRANTS

Overall, the greater part of the research on labour migration has focused on theorizing the determinants and consequences of migration, as well as the dynamics of the migratory process. The determinants of migration are factors affecting migration, including characteristics of the sending and receiving locations and those of the migrants and their families. These factors include personal characteristics, geographic factors, economic factors, and policy factors (Massey et al., 1993, 1994). The consequences of migration include the impact of migration on the sending and receiving locations, as well as on the migrants themselves, including the performance of migrants in their new locations.

By comparing earnings and occupational attainment of migrants and non-migrants, the focus of this thesis is on the consequences of migration. This chapter describes the three major theoretical perspectives that have been used to study the effects of institutional rules on labour market returns for migrants and non-migrants in urban China. In addition to these three theoretical perspectives, several debates in the literature are also reviewed. The chapter ends with an explanation of what this thesis is trying to accomplish.

3.1 Labour Market Segmentation Theory

3.1.1 Labour market segmentation theory and its application

Labour market segmentation theory can be traced back to the early 1960s, and was initially developed by American economists to understand exclusion from the labour market. However, it

has gradually challenged the underlying assumption of neo-classical economics about the competition embedded in the labour market and constant allocation of employment and workers (Abercrombie, Hill, & Turner, 2006). Specifically, this theory assumes that there is no market for labour where both purchasers and sellers can compete with each other in a fair competition environment. Also, this theory holds that the differences in compensation for labour (e.g., earnings) cannot be attributed to the supply side only, but must also include demand side factors, which cannot be explained by an individual's characteristics. Accordingly, labour market segmentation theory verifies the existence of differences in the demand side, which cannot be explained by individuals' characteristics. In this sense, having realized that labour market is not perfect, this theory implicitly considers some non-market institutional and sociological factors, which may lead to differentiated consequences for employees with equivalent characteristics (Jain & Sloane, 1981).

Segmentation theorists emphasize barriers in the labour market. In contrast to economic approaches, labour market segmentation theories emphasize how social stratification variables affect the labour market. Leontaridi (1998) argues that there are several key tenets central to segmentation theory: 1) the labor market consists of a few clearly identifiable segments; 2) mobility barriers exist and prevent individuals from obtaining jobs in other segments; 3) each segment is subject to a different set of occupation, industry, employment, and wage setting mechanisms, and respondent characteristics; and 4) neoclassical theory for returns on human capital is not applicable for the lower segment of the labor market (Leontaridi, 1998; Zang, 2002). Contrary to neoclassical labor economists who posit that wage differentials are primarily the result of differences in acquired human capital, labour market segmentation theorists argue that market segmentation is the result of institutional rules that differ across labor market

segments and have thus replaced the market processes of supply and demand (Leontaridi, 1998). Labour market segmentation theory often describes a dual labor market where all jobs fall into one of two separate sectors: primary and secondary. The primary sector represents good jobs in the labor market, which are marked by high negotiated wages, fringe benefits, and high employment security, whereas the secondary sector represents bad jobs, marked by low skill requirements, low wage rates, and little or no access to career advancement opportunities (Zang, 2002).

In many Western industrialized countries, including the U.S., a large body of labour market literature dealing with racial, gender, and migrant discrimination exists. Researchers have used empirical evidence to support the existence of wage inequality amongst differing social groups who possess similar human capital characteristics; many experts conclude that minority groups are overrepresented in the secondary sector or the bottom tier of the labour market, face wage and other forms of discrimination, and are oftentimes unable to achieve inter-sectoral mobility (Bauder, 2001; Constant & Massey, 2005; Gordon, 1995; Hayter & Barnes, 1992; Hiebert, 1999; Hudson, 2007; McLafferty & Preston, 1992; Reich, Gordon, & Edwards, 1973). Vulnerable groups become trapped in the lower segment of the labour market because of mobility barriers—for example, place of residence, poor work histories, and discrimination—which reduces inter-sectoral job transfers while occupational stratification increases (Bauder, 2001; Gordon, 1995). Labour market segmentation theory posits that even after controlling for human capital factors, minority workers will earn less money than members of the majority and are less likely to be hired for employment (Becker, 1971).

Although most of the labour market segmentation theory literature has been developed and applied in a Western context, more recently scholars have applied and modified labour market

segmentation theory to better capture social and economic dynamics in developing countries. In his research on developing countries, Fields (2008) concludes that labour market segmentation exists if one or both of the following conditions exist: jobs for individuals with the same skill level differ in terms of wages or other characteristics, and access to good jobs is limited in that people who want better jobs are unable to obtain them (Fields, 2008). According to Fields's (2008) definition, labour market segmentation in developing countries reflects similarities in developed countries. Similar to cases in developed countries, findings from developing countries show minorities, females, and, in many cases, migrants have limited access to good jobs and are disproportionately placed in lower segments of society (Beck, Horan, & Tolbert, 1980; Coverdill, 1988; Hiebert, 1999; McLafferty & Preston, 1992; Reid & Rubin, 2003; Stolzenberg 1990).

3.1.2 Labour market segregation in China

In the case of China, conventional labour market segmentation theory is used to posit rural-urban labour market segmentation as well as labour market segmentation within the urban labour market.

Within the urban labour market in China, the two-tier and three-tier labour market based on different *Hukou* status is examined by scholars. The two-tier labour market refers to the segregation between rural migrants and urban residents; scholars noticed the heterogeneity of migrants groups and urban residents and examined the three-tier labour market of permanent migrants, urban residents and temporary migrants segregation and non-retrenched urban workers, re-employed urban workers, and rural-urban migrants segregation.

Primarily, the segregation between rural migrants and urban residents has been studied. Scholars conclude migrants without an urban *Hukou* status are more likely to be placed in lower

tiers of the market, not allowed to obtain permanent positions even if they are employed in the state-owned sector, earn fewer wages relative to urban non-migrant workers, and are not eligible for accessing to the subsidies and benefits enjoyed by urban residents. Knight et al. (1999) conducted an analysis of migrants using the 1995 national survey. They found a large wage disadvantage for migrants remained after standardization for differences in characteristics in human capital, and argue that this reflects labour market segmentation and lack of competition between migrants and non-migrants. Migrant wages were influenced more by market forces. Urban residents were protected by preferential access to urban employment, institutional determination of wages and benefits in kind, and the job security provided by their work units (danwei). Knight et al. (1999) also found that migrant and non-migrant workers were highly imperfect substitutes or even complements: migrants did jobs that non-migrants shunned. The China Center for Economic Research (1998) investigators claim that within the urban area of Shanghai, the old rural-area/urban-area dualism is being replaced by a new rural-migratory-worker/urban-resident-worker dualism. Rural people who have successfully overcome the migratory barriers now face discriminatory treatment and even types of social exclusion (Yao, 2001b), which are far more difficult to conquer. The exclusion is comprehensive and striking. The migrants are geographically segregated, politically ignored, and financially discriminated against (Yao, 2001b). The well-known “Zhejiang Village” formed by migrants in a suburb of Beijing provides an example of this kind of exclusion. Knight, Song, and Jia (1999) found that only 1 percent of migrants hold managerial and technical positions, compared with 19 percent of non-migrants. Controlling for personal characteristics, a migrant is 17.6 percent less likely to have a white-collar job than a local resident (Yao, 2001b). Meng (2001) studied the migration population alone and found that, among migrants, individuals with higher labour market quality,

such as those who are more educated, more trained, and have more city work experience, are more likely to be self-employed in the informal sector.

Segmentation between rural migrants and urban residents is largely due to state policy and institutional barriers. Government at various levels restricts the employment of temporary rural migrants by imposing fees and controls on enterprises, and by erecting a labyrinthine system of permissions and fees through which rural migrants have to pass (Knight & Yueh, 2009). There is evidence that city governments have pursued these regulatory policies in order to protect their residents. For instance, Solinger (2004) reported that regulations in various cities across China excluded workers without local hukous from a range of occupations and required employers to obtain permits for hiring such labour. Using data from the 1995 national survey, Knight et al. (1999) found that no less than 81% of their surveyed enterprises reported to be officially restricted in recruiting migrant workers. In some cities, the labour bureau classified jobs into three types: urban hukou jobs, rural migrant jobs, and jobs open to all but with urban workers receiving preference. They also imposed quotas on the number of migrants that each enterprise could employ. The restrictions were sensitive to the state of the city labour market, being tightened if unemployment among city residents rose. Until the mid-1990s, urban residents were protected by government policy to ensure their employment and avoid competition with rural migrants.

By classifying migrant groups and urban residents into different sub-groups, the three-tier labour market based on different *Hukou* status was also examined. Chan (2002) indicates that, in terms of human capital attributes, mobility resources, and labour market entry and shifts, permanent migrants are the most privileged and successful elite, followed by non-migrant natives, and finally by temporary migrants at the bottom of the hierarchy. Resident status (*Hukou*

status) is central to explain migration processes and labour market segregation in the Chinese cities. Fan (2001) also believes the *Hukou*-based opportunity structure has segmented the urban labour market and shaped the differential returns to labour. Peasant migrants are relegated to jobs with poor compensation not only because of their disadvantaged personal attributes, but also because they lack an urban *Hukou*. The barriers they experience are similar to those of illegal immigrants and some minority groups in the USA who are shut out from certain segments of the labour market because of their lack of citizenship and their ethnicity. Permanent migrants, on the other hand, are the most privileged group because of their affiliations with state sponsorship and institutional channels, and because of their advantaged personal attributes

Classifying workers into three categories of recently retrenched and re-employed urban workers, non-retrenched urban workers, and rural–urban migrants, Appleton et al. (2004) investigated whether wage levels and structures differed across these categories of workers using a 1999 household survey and panel data. The results indicate that non-retrenched urban workers enjoy a wage premium, although migrants receive similar returns to education. Re-employed workers receive no return to education and appear to have lost out on the wage increases enjoyed by the non-retrenched. These findings suggest that the urban labour market is segmented into these categories.

3.2. Migration selectivity

3.2.1 Migration Selectivity Literature

Migration is selective (Lee, 1966). Migrants do not represent random samples of the population at the origin. Those who respond primarily to plus (pull) factors at a destination tend to be positively selected. They are of a higher quality (more educated, skilled labour, etc.) than the

origin population as a whole. Those who respond primarily to minus (push) factors at the origin tend to be negatively selected. They are of a lower quality than the origin population as a whole. The degree of positive selection increases with the difficulty of the intervening obstacles; for example, the more educated are more likely to be involved in longer distance migration (Lee, 1966). Since urban jobs require higher skills, thus, rural-urban migrants are generally positively selected.

Most migrants are young. One of the most consistent findings of migration is the selectivity of age. A number of studies conducted in various contexts and at different times all come to the conclusion that persons in their later teens, twenties, and early thirties are more migratory than those in other age groups (Thomas, 1938; Shaw, 1975). Gender is another common demographic factor of migration selectivity/differentials. Migrants are more often males. The predominance of male migrants may be related to the higher labour-force participation rate of males, males' greater tendency to attend college, and males' greater freedom to travel (Shryock, 1964; Simons et al., 1977). Educational selectivity of migration is controversial. On the one hand, migrants are believed to have a higher educational level than non-migrants and educational attainment is an important factor that differentiates migrants from non-migrants (Shaw, 1975; Zachariah & Conde, 1981; Hugo et al., 1987). On the other hand, analysis also indicates that educational selectivity is more likely to be bimodal; that is, migrants come from both the highest and lowest ends of the educational distribution (Connell et al., 1976). Closely related to the educational dimension is that of occupation. A combination of highly marketable skills, blunted organizational advancement, and decentralized work units fosters high rates of migration (Ladinsky, 1967). Most migrants are in the middle of the socioeconomic hierarchy—those at the bottom might not have the resources needed for migration, and those at the top might not feel the

need to seek new opportunities via migration (Massey, Goldring, & Durand, 1994). Migrants must overcome uncertainties, chart new paths of migration and settlement, and develop new networks and inroads into the destination's labour market. The risks and costs involved demand that migrants be a special group: they are adventurous, have relevant skills, and are resourceful to tap into opportunities at the destination.

Although it generalized these common characteristics of migrants, migration selectivity literature did not draw a conclusion as to whether temporary migrants are positively or negatively selected compared to permanent migrants. Temporary migrants could be either better educated, highly skilled, or be those who have failed in the destination. Empirically, the literature shows that, in general, temporary migrants are negatively selected among migrants. They tend to be older, poorly educated, and less skilled, and therefore face difficulties in finding a job in cities and adapting to urban life (Borjas, 1999; Lee, 1980; Newbold, 2001; Reyes, 1997; Stark, 1995). These temporary migrants are generally rejected by the city. However, there are studies showing that temporary migrants are positively selected. For example, Saenz and Davila (1992) find that younger and more educated Chicano migrants from the Southwest of the U.S. are more likely to return than other Chicano migrants.

3.2.2 Migration Selectivity in China

Internal migration in developing countries is dominated by rural-urban migration, and rural-urban migration is dominated by young, relatively better educated adults (Lucas, 1997). Since the costs of moving are typically lower at a younger age (weaker ties to origin) and moving at an early age allows for more time to take advantage of the income differentials between origin and destination regions and compensate for costs, younger people tend to have higher mobility than

older people (Clark, 1986; Lucas, 1997). Meanwhile, urban jobs require higher skills. Thus, rural-urban migrants are generally positively selected.

In China, the dichotomy of permanent migration and temporary migration reflects two forms of migration selectivity. Permanent migrants, who converted their *Hukou* type from agricultural (rural) to non-agricultural (urban) and changed their registration from their original place to their place of residence, are selected by the *Hukou* system to meet the needs of urban economic development. Temporary migrants, who migrated without possessing the local *Hukou*, are self-selected migrants.

The selection of permanent migrants by *Hukou* system is quite strict. In planned economy period, converting *Hukou* type from agricultural to non-agricultural was conferred mainly on those persons, recruited as permanent employees by a state-owned enterprise (*zhaogong*), displaced due to state-initiated land expropriation (*zhengdi*), recruited for enrollment in an institution of higher education (*zhaosheng*), promoted to administrative positions (*zhaogan*), relocated because of family crises (such as moving to a city to live with and look after a sick parent), joining the army (*canjun*) and demobilized to cities. In market reform era, the decision-making power of granting *Hukou* devolved from the central government to local governments. City Governments have used these new powers mostly to attract the very rich and the highly educated (by granting local permanent *hukou* mostly to those who are mostly millionaires and are able to purchase a high-end apartment in the market or make large investments to open a company, or those who have a degree or professional qualifications), and to those who are immediate family members (usually spouses and children) of existing urban residents (Chan, 2009). Through restriction and selection of *Hukou* system, the volume of annual permanent migrants remained quite stable in the last 30 years (Chan, 2012),

As for the self-selection of temporary migrants, both the censuses and national migrant surveys in China indicate that rural temporary migrants tend to be young, between the ages of 18 and 40. While men dominated internal migration in the 1980s and early 1990s, more women have recently participated in migration, and family migration has been on the rise. The 2004 migrant survey shows that 34 percent of rural migrants were female; 20.9 percent migrated with their family members, an increase of 1.6 percent since 2003 (LSSB, 2006). Most rural migrants have finished the nine years of compulsory schooling. Although on average they are better educated than peasants who do not migrate, their educational levels are lower than urban residents, reflecting the huge rural-urban divide and its impact on educational opportunities (Chen, 2011).

Using 1990 and 2000 census data, Sun and Fan (2011) conducted a comprehensive study on migration selectivity in China and the selectivity differentials between temporary migrants and permanent migrants.

Age

Sun and Fan (2011) claim that, in general, migrants are younger than non-migrants. The mean age of migrants and the general population is respectively 27.4 and 31.3 in the 1990 census, and 26.9 and 33.7 in the 2000 census. Based on the 1990 census, the mean ages of permanent and temporary migrants are very similar, at 27.2 and 27.6 respectively. But in the 2000 census, the mean age of permanent migrants declined to 25.2, resulting in a two-year gap with that of temporary migrants (27.2).

Education Attainments

Migrants tend to be positively selected in terms of educational attainment. For both 1990 and 2000, the proportion of migrants with senior secondary and higher levels of education (i.e., sum

of “senior secondary” and “college and above”) is higher than that of the general population. Between 1990 and 2000, although the educational attainment for all three groups—the general population, permanent migrants, and temporary migrants—increased, the improvement is the least among temporary migrants and the greatest among permanent migrants. This shows that, over time, permanent migrants are increasingly selected and temporary migrants are less selected (Sun & Fan, 2011).

Occupational attainments

In terms of occupational attainment, Sun and Fan (2011) found that permanent migrants have higher occupational attainment than temporary migrants. According to the 1990 census, 38.1 percent of permanent migrants and only 5.2 percent of temporary migrants were in professional, government, and administrative occupations—occupations characterized by high pay, good benefits, and job stability. Interestingly, by 2000, the proportion of permanent migrants in those occupations declined to 26.1 percent, whereas that of temporary migrants increased to 6.9 percent. Among temporary migrants, the most dominant occupation is industrial, with a share of 58.7 percent in 1990 that increased to 66.0 percent in 2000. Their second leading occupation in the 2000 census was commerce and services (21.2 percent). Both industrial and commerce/services occupations are characterized by low pay, poor benefits, and lack of stability (Sun & Fan, 2011).

Gender Selection

The conventional wisdom about gender balance in migration is that men have greater migration propensity than women. Indeed, the 1990 census documents a migrant sex ratio of 142, much higher than the sex ratio of 106 for the general population. Temporary migrants are especially sex-selective, marked by sex ratio of 156. Since many temporary migrants in the

1980s were among the first in their communities to leave home, the high sex ratio supports the notion that men are more likely than women to be pioneer migrants. Notably, from 1990 to 2000, the sex ratio of migrants has declined sharply, indicating an increased number of women participating in migration and a rise in women's mobility more so than that of men (Fan, 2008). The decline is especially notable among temporary migrants, whose sex ratio drops by 46, from 156 to 110, whereas the change for permanent migrants is 22, from 128 to 106. Over time, therefore, the decline in sex-selectivity is more pronounced among temporary migrants and permanent migrants.

Among rural-urban migrants, however, the sex ratio of permanent migrants has increased, from 115 in 1990 to 160 in 2000. The increased dominance of men among rural-urban permanent migrants, again, reflects the prominence of "study/training" as a migration reason, as well as the persistent patriarchal tradition in rural areas that prioritizes boys' access to education over that of girls. On the other hand, among rural-urban temporary migrants, the sex ratio has dropped from 201 in 1990 to 125 in 2000, pointing to a massive increase in rural women's migration propensity.

From the perspective of migration selectivity, migrants in China are responding primarily to plus (pull) factors at the destination and tend to be positively selected. They are of a higher quality (e.g., younger, more educated, skilled labour) than those who are not migrants. Inside the migrant category, permanent migrants are more selective than temporary migrants due to the highly restrictive and selective regulations of the *Hukou* system; it is hard to gain a permanent registration status after migration.

3.3. Market Transition Theory and Inequality

Since social inequalities are always generated by the dominant mode of economic integration, the institutional transformation of state socialism has provided a unique opportunity for sociologists to examine how institutions shape social stratification and how the change has influenced social inequality (Wu, 2002).

3.3.1 Relation of Market, Institution, and Inequality

Szelenyi had initially expected that market reform would actually result in an overall decline of inequality in socialist countries (1978). Inequality under one system can be reduced by introducing an alternative mechanism; thus, the penetration by market factors will undermine the socialist inequality created by redistribution (Szelenyi, 1983). Even under partial reform, he had anticipated an expansion of private economy that would benefit those without redistributive power and ties with it (Szelenyi & Manchin, 1987). Parallel to Szelenyi's theoretical argument, Nee (1989) proposed several theses about the effect of the transition to the market based on empirical evidence from rural China. He found that overall income inequality declined in China from 1977 to 1985. The income gap between urban and rural residents decreased, as did the gap between peasants and cadres within rural society. He argued that, with the emergence of a market, central distributors would lose power, direct producers would have more discretion over the terms of exchanges of goods and services, and the distribution of rewards would favor those who held market rather than distributive power (Zhou & Tuma, 1996).

3.3.2 Returns to Human Capital and Political Capital

Market transition theory suggests that market-oriented reforms in state socialist countries have contributed to increasing returns to human capital as well as to a decline of the influence of redistributive power. During this transition period, direct producers (ordinary workers and peasants) gained more in human capital and were rewarded more, whereas political loyalty came to matter less (Wu, 2002). Meanwhile, income inequality in urban China exhibited distinctive patterns in the state and the market sectors: there were higher returns to human capital (education and work experience) in the market sector than in the state sector, while advantages enjoyed by administrators were found only in the state sector. In the market sector, Communist party membership had even become a disadvantage (Nee & Cao, 1995).

3.3.3 Market Transition Debates

Disagreements on market transition theory are centered on the relationship between market mechanisms and redistributive mechanisms and on the operationalization of core concepts.

Conceptually, the controversy is rooted in the dichotomy of state and markets. Market transition theory is centered on the premise that markets and state socialist redistribution represent two fundamentally different logics of resource allocation. In Nee's early formulation, the rise of the market mechanism implies the decline of the redistributive mechanism. While market transition theory puts emphasis on the emerging market economy, his critics, on the other hand, have emphasized the coexistence and continuing importance of the state and redistributive institutions in resource allocation in China's economic transformation (Bian & Logan, 1996; Parish & Michelson, 1996; Walder, 1995). This antithetical framework is espoused within most literature involved in the debate. The deadlock in the ongoing market transition debate implies

that the division may have been improperly drawn. The market-political coevolution model believed that the expansion of markets has not been a self-evolving process, but is associated with political interests, producing a co-evolutionary transformation governed by two mechanisms simultaneously: market forces that compete against and undermine the redistributive economy, and interest politics that influence market development through establishing, enforcing, and changing institutional arrangements.

Empirically, two major explanatory variables (education and political attributes) representing the antithesis also deserve questioning. On the one hand, education is arbitrarily interpreted as a proxy for human capital in the market economy; hence, its effect indicates the increasing importance of market mechanisms in generating inequality. However, educational credentials have significant effects on the allocation of resources and life chances in state socialist societies as well (Szelenyi, 1988; Zhou, 2000a). On the other hand, the effects of party membership and cadre status, representing the role of the redistributive state, were indeed filtered by other intermediate institutions (Walder, 1995).

3.3.4 The Future of Market Transition Theory

As Zhou (2000b) comments: “When a theoretical debate generates more controversies than intellectual growth, it often signals that conceptual issues and theoretical logic are poorly defined and they are not widely shared among other scholars. Another contributing factor is that concepts and operationalization employed in empirical studies may no longer reflect the changing world.” Many scholars argue that China’s economic transition has been an interactive process of market growth and state transformation, and they propose views of market-hierarchy co-existence (Bian

& Logan, 1996), dual transformation of economic and political markets (Parish & Michelson, 1996), and market-political coevolution (Zhou, 2000a).

Despite these controversies, the market transition theory provides a valuable analytical framework to analyze inequality in China. At the macro level, the two most influential mechanisms in China are the existing institution from the planned economy and the emerging market system. The existence and interaction of these two mechanisms influence labour market inequality and individual life. In debates in social transition theory, Zhou (2000b) has called for substantive institutional analyses of the actual process of social change ongoing in former state socialist societies. In this research, I focus on the concrete institution, the *Hukou* system, by which markets and political forces are coevolving the actual process of change of the *Hukou* system, and shed light on the role of the *Hukou* system in inequality between migrants and non-migrants. *Hukou* system is a political mechanism for regulating migration and organizing labour in pursuit of industrialization during the planned economy era. In reform ear, many flexible *Hukou* policies have been adopted in response to boost demand for labour in manufacturing and export-oriented enterprises. The change of *Hukou* system is closely connected with political and economic change in recent years. I would first examine how market reform and *Hukou* reform affect each other, and then compare the effects of the *Hukou* system on employment and earnings in different years. This research examines whether the impact of the *Hukou* system on employment and earnings has declined with the recent changes in the system, and to explore further whether the inequality of the socialist institution has declined with the penetration of the market system.

3.4. Debates in literature

3.4.1 Debate on segregation or competition

In China, urban residents have traditionally been protected against labour market competition from rural–urban migrants (Knight & Yueh, 2009). Numerous studies, as reviewed in “labour market segmentation in China,” provide evidence of segmentation between rural migrants and urban residents. However, as the reform process gained speed and migration controls were lifted, whether the relationship between migrants and urban residents is segregation or competition is under debate.

The urban labour market changed rapidly from the mid-1990s, and the relatively privileged position of urban workers in China has been challenged. From the mid-1990s, the government seriously tackled the problem of inefficiency of state-owned enterprises, in particular overstaffing. One policy response was the imposition of labour redundancies, started in 1994 and extended in 1997. Only urban *Hukou* workers had been made redundant from jobs in state-owned work units (state-owned enterprises and collective-owned enterprises) which was guaranteed for life (Knight and Yueh, 2009). Appleton et al. (2002) examined a fairly representative survey of urban residents conducted in 1999 to analyze the incidence and extent of redundancy and re-employment among them. Eleven percent of urban workers had been retrenched since 1992. Certain personal characteristics were associated with a greater risk of redundancy, including having little education, being female, being middle-aged, and having a manual or unskilled occupation. Registered urban unemployment was very low in 1994 (2.8% of the urban labour force) and redundant workers (not classified as unemployed) negligible (0.9%). A quarter or more of state workers were to be laid off within the four years from 1997 to 2000.

By the end of 2000, the official figure of the accumulated laid-off workers was 41.13 million, representing 28% of the workers who had been at risk.

Appleton et al. (2004) believe that earlier studies of the labour market, just prior to the redundancy policy, found clear evidence of segmentation. However, with the development of economic reform, did the Chinese labour market become more competitive as a result of labour market reforms? There are two entirely different perspectives on the consequences of these economic reforms—one that argues the labour market is still a segmented one, the other that a more competitive labour market will be created. In the first view, the labour market in China still has the two segments of migrants and urban residents. Alternatively, the availability of migrants prepared to work at low wages provides potential competition for urban residents. Redundancy creates an opportunity for firms to renegotiate old contracts, both formal and implicit, and may force urban residents to compete with migrants for work.

Analyzing more recent data for 1999, Dong and Bowles (2002) found no significant differences among firms of different ownership in the returns to human capital. This may be consistent with a degree of competition in the urban labour market across ownership categories. Appleton et al. (2004) use a 1999 household survey to test whether wage levels and structures differ across the categories of workers (recently retrenched and re-employed urban workers, non-retrenched urban workers, and rural–urban migrants). There are signs of emerging competitiveness in the rise in the return to human capital among non-retrenched urban workers and the fact that it is equally rewarded for migrants. However, their evidence suggests that the urban labour market is still segmented into three tiers, distinguished not only by the level, but also by the structure of wages.

Knight and Yueh (2009) use attitudinal responses from two urban surveys in 1996 and 2000. The 1996 survey suggested that the urban labour market was sharply segmented, while the 1999 survey presented a rather different picture. The majority of urban workers viewed migrants as potential competitors, and this view was more common among women, the less educated, and those with long employment experience—the same variables that have been found to increase the probability of being laid off. The findings are consistent with the presence of continued labour market segmentation, but suggest also that competition between the two groups is increasing.

Using data collected from 21 manufacturing companies in Shanghai, Chen (2011) examined the occupational attainment and upward job mobility for rural migrants (migrants from countryside), urban migrants (migrants from other cities), permanent migrants, and locally-born workers. This study found that residential status still significantly influenced individuals' occupations, but the effect of local *hukou* status on occupation was largely reduced at high educational levels. Also, urban migrants were more capable of matching their capabilities to better jobs. Based on these findings, Chen (2011) concluded the occupational inequalities reflected both market forces (rewards for differing productivity) and institutional factors (rewards on grounds of residential status), and both segmentation and competition existed in the Chinese urban labour market, which can be explained by the nature of China's transition from a planned to a market economy where growing market forces co-exist with institutional legacies.

3.4.2 Debate on earnings and employment of migrants and non-migrants, and the heterogeneity of migrants

Studies on labour market returns and migrant status have been conducted in developed capitalist societies, and there are three competing perspectives: information costs, socio-demographic characteristics, and psychosocial resources. The information costs perspective (Da Vanzo, 1983; Da Vanzo & Morrison, 1981; Lee, 1966) assumes an inverse linkage of distance with the amount and reliability of information possessed by prospective migrants, and a corresponding positive association between distance and uncertainty, risk, and possible failure at the destination. Thus, this perspective posits that migrants have lower labour market returns than non-migrants. The remaining two perspectives specify that migrants have higher labour market returns than non-migrants. The explanation of socio-demographic characteristics (Blau & Duncan, 1967; Duncan et al., 1972) for the positive linkage of migrant status to labour market returns is that migrants possess resources associated with certain social-demographic characteristics to a greater extent than non-migrants, hence the higher-level returns. These socio-demographic characteristics generally are thought to reflect forms of human capital potential that employers would deem attractive (Stinner, 1993). The general explanation for the psychosocial resources pattern emphasizes psychological traits—migrants are more motivated, ambitious, and have relatively higher aspirations (Stinner, 1993). Furthermore, migrants are not necessarily devoid of social capital at destination; migrants can have informal kin and friendship links there (Harbison, 1981; Hugo, 1981).

Empirical studies on labour market returns and migrant status in China also produce conflicting findings regarding whether migrant workers earn more or less than urban resident workers and whether there is inequality and discrimination in occupational attainment between

migrant workers and urban residents. On the one hand, Chan (1996) claims that migrants are more likely than urban residents to work in the secondary sector in labour markets with less stable, low-paying jobs with few benefits. Empirical analyses (Liu, 2005; Lu, 2006; Li, 2007) have lent support to this claim. Liu (2005) analyzed national data collected from ten provinces and one municipality and found that people who obtained urban *hukou* late in their lives fared significantly worse than other urban residents. Using data from Tianjin, Lu (2006) found that, on average, migrant workers earned 762 Yuan a month in 2003, which was roughly half of the average of an urban worker's earnings. Li (2007) analyzed national data from the towns and villages of 28 provinces and found that the average wage of migrant workers was 921 Yuan per month, while the average monthly income for urban workers was 1346 Yuan.

On the contrary, other scholars (Li, 1997; Fan, 2001; Lu, 2008) point out that the migrants, especially the permanent migrants, have higher incomes than non-migrant urban residents. Li (1997) analyzed data from the cities of Meizhou and Dongguan, both in Guangzhou province, and found that the permanent migrants' mean income was higher than that of non-migrant urban residents in Dongguan, and the income levels of these two groups were almost the same in Meizhou. Fan (2001) used data from Guangzhou and found that the mean monthly income for non-migrants, permanent migrants, and temporary migrants was 1836 Yuan, 3654 Yuan, and 1511 Yuan, respectively in 1998. Using national data from the China General Social Survey 2003, Lu (2008) found that the average monthly income for temporary migrants was 921 Yuan, while the average monthly income for urban residents was 705 Yuan. Lu explained that most urban residents work in state-owned units that provided a low salary, but good benefits, but temporary migrants were more likely to be self-employed or to work in private enterprises or foreign businesses that provided a high salary, but less welfare. Empirical studies on occupational

attainment of migrants and urban non-migrants also produce competing results on whether there is occupational discrimination on migrants.

Some scholars believe the *Hukou* status still has significant effect on an individual's occupational attainment. Using data collected from 21 manufacturing companies in Shanghai, Chen (2010) examined the occupational attainment and upward job mobility for rural migrants (migrants from countryside), urban migrants (migrant from other cities), permanent migrants, and locally-born workers. This study found that residential status still significantly influenced an individual's occupations after controlling for education, work experience, and demographic characteristics. This reflects occupational discrimination between workers with different *hukou* status. Gagnon et al. (2009) had similar findings as Chen's study did. Using data from a random draw of the 2005 Chinese national census survey, Gagnon et al. (2009) investigated the earnings and the sector of work (formal vs. informal) between rural migrants, urban migrants, and urban residents. The authors found no earnings discrimination against rural migrants compared to urban residents; in contrast, urban migrants were found, in fact, to gain a large wage premium by migrating. Nevertheless, both rural and urban migrants are found to be discriminated out of the formal sector, working in informal jobs and lacking adequate social protection. The extent of discrimination is larger for rural migrants than for urban migrants.

Different from the findings of Chen (2010) and Gagnon et al. (2009), Kondo and Ou (2010) found that *Hukou* status had no effect on occupational attainment. Using data from the China General Social Survey 2003, Kondo and Ou (2010) investigated the occupational attainment and job mobility of permanent rural-to-urban migrants compared to permanent urban-to-urban migrants. This study examined the gaps in occupational-prestige scores between permanent rural- and urban-born migrants and found that they can be explained by differences in observable

characteristics such as gender, educational attainment, family background, and the occupational-prestige score of pre-migration jobs. They found that the difference in occupational attainment between rural and urban migrants becomes statistically insignificant or even positive for some subgroups with controls for these characteristics. As well, in terms of job mobility, rural migrants were found generally more mobile and also more likely to move to better jobs by changing work-units, whereas urban migrants are more likely to be promoted within a work unit.

The controversy among these studies is partly because of the different ways of defining who migrants are. This confusion reflects the multitude of concepts and terms related to migration and the frequent changes of definition in census and census-type surveys in China (Duan & Sun, 2006). In studies by Lu (2006) and Li (2007), the term “migrants” refers to the floating population that refers to temporary migrants moving from rural to urban areas. In Li’s 1997 study and Fan’s 2001 study, temporary migrants and permanent migrants were examined separately, but they do not consider the *Hukou* status of migrants prior to migration, so they do not distinguish between rural-urban from urban-urban migrations.

3.4.3 Debate on the role of the *Hukou* system

Both Chinese and Western scholars have long subscribed to the view of the *Hukou* system as a critical barrier and major source of hardship for migrant workers living in cities (Solinger, 1999; Chan & Zhang, 1999; Lu, 2006; Liu, 2005). However, recent articles (Zhan, 2011; Huang et al. 2010) have argued that the *Hukou* system is playing a declining role in determining a migrant’s life chances and social exclusion.

First, many empirical studies have demonstrated that the *Hukou* system is a major source of hardship for migrant workers. Using data from a survey done in Tianjin in 2003, Lu (2006)

compared the employment and social conditions of migrants with those of permanent urban residents and investigates the wage determinants of both migrant and non-migrant workers. The results showed that after standardizing all other variables, urban workers still made more money than migrant workers, which suggests wage discrimination. Thus, *Hukou* does have a significant impact on the wage gap between migrant and non-migrant workers. Lu concludes that the *Hukou* system not only hinders rural-urban migration, but also contributes to a wage gap between migrant and urban workers. Abolishment of the hukou system will thus improve labor mobility, efficiency, and fairness. Using data from the Chinese Household Income Project 1995, Liu (2005) investigated the effect of the *Hukou* system on individual investment in human capital, labour market outcomes, and income, and found that those who obtain an urban *hukou* late in their lives fared significantly worse than other urban residents. They have fewer years of education, are less likely to hold state sector jobs and to have employer-provided healthcare benefits, and are more likely to be self-employed or unemployed. To estimate the potential economic benefit associated with the urban *hukou*, the study conducted pairwise comparisons between urban and rural residents of Beijing and found that the rural–urban income differential can be attributed mainly to the *hukou* system that denies rural residents the right to urban life, education, and employment. From these results, the study concludes that, first, the *hukou* system has played an important role in influencing social and economic outcomes at the individual level in China. Second, by differentiating opportunity structures for rural and urban populations, the *hukou* system is a major cause of rural–urban disparity.

Although it is widely believed that the *Hukou* system plays a fundamental role in causing the inequality between migrants and non-migrants, some recent studies (Zhan, 2011; Huang et al. 2010) contend, on the contrary, that the importance of the *Hukou* system has declined

substantially. Zhan (2011) conducted fieldwork on female migrant workers in Beijing and Chifeng City in Inner Mongolia between March 2004 and May 2006, and examined how each of the three mechanisms—*Hukou* status, social exclusion, and the market—affected a migrant worker’s life chances in these two cities. Through in-depth interviews, the study finds that it is not *Hukou* status, but social exclusion and market resources that concern the majority of female migrant workers when they strive to find better jobs, move up the social ladder, and secure opportunities to settle in the city. Unlike what many scholars believe, *Hukou* status is no longer of fundamental importance in limiting a migrant worker’s life chances. The impact of *Hukou*-based legal exclusion has declined substantially due to market reforms and policy changes since the 1980s, and market and social exclusion have become the most important factors in limiting a migrant worker’s life chances. A migrant worker’s life chances would not be significantly improved even if China were to abolish the *Hukou* system.

Huang et al. (2010) also provide a “beyond *hukou*” perspective to examine the social exclusion of rural-urban migrants in urban China. Using both quantitative and qualitative data collected through questionnaire surveys and in-depth interviews in a village in Hubei province, this article empirically analyzes the extent of social exclusion of rural-urban migrants in a transitional period from three dimensions: geographical, opportunity, and psychological. This study finds that the *Hukou* status is relatively less important than it was during the state socialist period and has a declining impact in the social exclusion of rural-urban migrants. What really matters is their weak position in the urban labour market that restricts welfare opportunities and their ability to construct a new identity.

3.5. Summary

The three theoretical perspectives reviewed in this chapter have provided opposing views regarding the effect of the institution of labour market return of migrants and non-migrants. The labour market segmentation theory clearly suggests that market segmentation is the result of institutional rules that differ across labour market segments. In urban China, migrants and urban residents with different *Hukou* status belong to different segments, and migrants are placed in the lower tier of the market while urban residents have many advantages over migrants. From the perspective of migration selectivity, migrants in China are positively selected and they have higher quality than those who are not migrants. They tend to be younger, more educated, have higher skills, and are more motivated, ambitious, and have relatively higher aspirations than non-migrants. Thus, migrants would have higher-level returns than non-migrants in urban China. Market transition theory provides a transitional view to explain the declining role of the *Hukou* system and the changing relationship between migrants and urban residents. According to this theory, the development of a market economy, the inequality caused by the *Hukou* system is decreasing, and migrants and urban non-migrants will become more competitive.

At the same time, empirical studies in China also provide conflicting findings on the effect of the *Hukou* system and labour market returns of migrants and non-migrants. Many early empirical studies have demonstrated that there is segmentation in the urban labour market with rural migrant labor at the bottom of the urban pyramid, working in the lowest rung of the occupational ladder (mostly frontline industrial and service workers in cities). They have lower incomes, while urban residents have been protected against competition from rural-urban migrants. The *Hukou* system is the key institution caused labour market segmentation. However, China is undergoing tremendous economic and social changes. With the economic reform that accelerated

in the mid-1990s and redundancies of urban workers, many studies point out that migrants and urban residents become more competitive and that the role of the *Hukou* system is declining.

This thesis attempts to do an in-depth study on the controversial question of what effects the *Hukou* system has on labour market returns of migrants and non-migrants in urban China.

Specifically, the main focus is to compare the earnings and occupational attainment of urban non-migrants with that of four migrant groups with different *Hukou* types—*Hukou* origin and *Hukou* location—using data from two different years. The thesis tries to explain in what ways the *Hukou* system affects occupational earning differentials between urban non-migrants and migrants, and whether the effect changes between years.

CHAPTER 4 DATA AND METHODS

4.1 Data

Past empirical studies on earnings and employment of migrants and non-migrants in China were largely based on regional data. For example, Fan (2001) uses data from Guangdong province, Lu's (2006) study is based on data from Tianjin City, and Chen (2010) uses data from 21 manufacturing companies in Shanghai. Using data from different regions to compare earnings and occupational attainment of migrants and non-migrants causes the controversial findings in the literature. The data in this study is national data from the China General Social Survey 2003 and 2008.

The China General Social Survey (CGSS) is the first national, comprehensive, and consistent social survey in China. This survey was conducted jointly by the Sociology Department of Renmin University in China and the Survey Research Centre at the Hong Kong University of Science and Technology. The survey was conducted every other year from 2003 to 2008 using a randomly selected sample of respondents from 125 counties (districts), 500 towns (streets), 1,000 residential committees and 10,000 households. The first stage of the CGSS was completed in 2008 and had five annual surveys. The second stage of the CGSS started in 2010 and has been conducted every other year. In total, there will be 5 surveys done up until 2019. The data collected in this survey includes both demographic information and respondents' opinions on various aspects of China's society. Because of the wide range of topics covered and the comprehensive gathering of demographic information, CGSS is regarded as the most important data source for studies of China's society.

This nationally representative survey adopted the four-phase stratified sampling method: county (district), town (street), village (neighborhood committee), and household. The samples of the former three phases were identified under the sampling framework of China's Fifth National Population Census, and families were randomly selected with the identified villages or neighbourhood committees. After the identification of sampled households, an interviewee was randomly selected among members above the age of 18 who have stayed or will stay in the household for more than one week. In the CGSS 2003, the survey was only conducted in urban areas, 5900 respondents were selected from 28 cities, 92 districts and counties, and 590 residents' committees. CGSS2003 ultimately includes 5,550 effective respondents, all from urban areas. The CGSS 2008 ultimately includes 3982 effective respondents from urban areas and 2018 from rural areas. Only urban respondents from the CGSS 2008 are included in my study.

The survey contains detailed information on individual characteristics (e.g., gender, age, education, occupation), household characteristics (e.g., family size, number of children), and community characteristics (e.g., location, communication conditions, related economic indicators). In addition, a migration module is included to provide detailed information on the migration histories of all household members. Besides demographic information and household registration status (i.e., *hukou*) and migration history, the CGSS provides each respondent's employment history from first to current job. The data include details on the nature of employment, including three-digit occupation codes, management level, professional title, work-unit type, rank of the departmental supervisor for the work unit, job-related housing and medical benefits, and other factors.

4.2 Migrant Groups for analysis

Using different ways to define migrants is an important reason for controversy concerning earnings and employment of migrants and non-migrants. Some scholars (Lu, 2006; Li, 2007) compare earnings and employment of temporary migrants from rural to urban with that of urban residents, while other scholars (Li, 1997; Fan, 2001) distinguish permanent migrants from urban residents and compare earnings and employment of temporary migrants from rural to urban with that of permanent migrants and urban non-migrants. While these studies analyze the effect of the *Hukou* system based on individuals having different *Hukou* type (i.e., temporary vs. permanent migrants in the same labor market), they do not consider the *Hukou* type of migrants prior to migration; therefore, they cannot distinguish between rural-to-urban from urban-to-urban migrations. To provide a more intensive and comprehensive understanding of the effect of *Hukou* system and inequality of migrants and non-migrants, this study classified four migrant groups and one group of urban non-migrants based on the differences in current *Hukou* type, *Hukou* location, and *Hukou* origin (*Hukou* type and *Hukou* location of migrants prior to migration).

In the household registration system, *Hukou* location and *Hukou* type (agricultural/rural or non-agricultural/urban status) are recorded separately. Four main categories can be classified based on whether a person is permanently registered in the city and the *Hukou* status he/she holds. First, those who hold rural *Hukou* status and are temporarily registered in the city are temporary migrants from rural to urban. Second, those who hold rural *Hukou* status, but are permanently registered in the city are residents in a village inside a city, as happens when surrounding villages are absorbed into a growing city, are not an included category in my

analysis. Third, those who hold urban *Hukou* status and are temporarily registered in the city are temporary migrants from urban to urban; for example, this would include a person who has a Beijing *Hukou*, but who works in Shanghai temporarily. The fourth category is for those who hold urban *Hukou* status and are permanently registered in the city; people in this category can be classified into the three groups of urban non-migrants, permanent migrants from rural to urban, and permanent migrants from urban to urban based on their *Hukou* origins and whether they have migration experience or not. Urban non-migrants are individuals who were born in the city and hold local urban *Hukou* registration. Permanent migrants from urban to urban are those who have moved from other cities to the city of residence, changed their *Hukou* locations, and hold local urban *Hukou* registration now. Permanent migrants from rural to urban are people who have moved from a rural area to the city of residence, converted their *Hukou* type from a rural type to an urban type, and hold a local urban *Hukou* registration now.

Table 4.1 presents these four main categories based on different *Hukou* type and *Hukou* registration. Five groups, 1)temporary migrants rural to urban, 2)temporary migrants from urban to urban, 3)urban non-migrants, 4)permanent migrants from rural to urban and 5) permanent migrants from urban to urban are include in analysis. Residents in village inside a city (those who have rural *Hukou* type and are permanently registered in a city) are not included in this study.

Table 4.1 Five groups in the analysis based on *Hukou* Status and *Hukou* Registration

		Local <i>Hukou</i> Registration	
		Temporary	Permanent
Current <i>Hukou</i> Type	Rural (Agricultural)	1. Temporary Migrants Rural-Urban	Residents in village inside a city (not include in analysis)
	Urban (Non-Agricultural)	2. Temporary Migrants Urban-Urban	3. Urban non-migrants 4. Permanent migrants Rural-Urban 5. Permanent migrants Urban-Urban

Using the CGSS 2003, migrant status is derived from the responses to the following four questions: First, “What is your *Hukou* status now?” with answers of “urban *Hukou* status” or “rural *Hukou* status.” Second, “Where is your *Hukou* location now?” with answers of “local *Hukou* registration” or “non-local *Hukou* registration.” Third, “Have you ever had the experience of converting your *Hukou* status from rural to urban?” with answers of “yes” or “no.” Fourth, “How many times have you changed your *Hukou* location?” with answers of actual numbers.

The urban non-migrants are those who have no experience of converting *Hukou* type from rural to urban and changing their *Hukou* location, and hold the urban *Hukou* type and local *Hukou* registration in 2003. Temporary migrants from rural to urban are those who have rural *Hukou* status in 2003. Temporary migrants from urban to urban are those who hold urban *Hukou* status and non-local *Hukou* registration in 2003. Permanent migrants from rural to urban are those who have the experience of converting their *Hukou* status from rural to urban and hold the urban *Hukou* status and local *Hukou* registration in 2003. Permanent migrants from urban to urban are those who hold the urban *Hukou* status and local *Hukou* registration in 2003, have experience of changing their *Hukou* location, but have no experience in converting *Hukou* status from rural to

urban.

Using the CGSS 2008, migrant status is derived from the responses to the following five questions: First, “What is your *Hukou* status now?” with the answer of “urban *Hukou* status” or “rural *Hukou* status.” Second, “Where is your *Hukou* location now?” with answers of “local *Hukou* registration” or “non-local *Hukou* registration.” Third, “Where did you live before you were 14 years old?” with answers of “urban area” or “rural area.” Fourth, “In which year did you get your urban *Hukou* status?” with answers of “I was born with an urban *Hukou* status” or actual years. Fifth, “In which year did you get your local *Hukou* registration?” with answers of “I was local here” or actual years.

Urban non-migrants are those who lived in urban areas before 14 years of age, are local people, hold urban *Hukou* status, and local *Hukou* registration in 2008. Temporary migrants from rural to urban are those who hold rural *Hukou* status and non-local *Hukou* registration in 2008. Temporary migrants from urban to urban are those who hold urban *Hukou* status and non-local *Hukou* registration in 2008. Permanent migrants from rural to urban are those who lived in rural areas before 14 years old and are not local people, but hold urban *Hukou* status and local *Hukou* registration in 2008. Permanent migrants from urban to urban are those who lived in urban areas before 14 years of age and are not local people, but hold urban *Hukou* status and local *Hukou* registration in 2008.

Table 4.2 presents the numbers of the five groups in the CGSS 2003 and CGSS 2008.

Table 4.2 No. of groups in CGSS 2003 and CGSS 2008

	Number	
	2003	2008
Urban Non-Migrants	1630	1705
Temporary Migrants from Rural to Urban	423	364
Temporary Migrants from Urban to Urban	200	288
Permanent Migrants from Rural to Urban	1615	540
Permanent Migrants from Urban to Urban	1677	183
Total	5545	3080

4.3 Methods

Hukou based institutional inequality and discrimination in China refers to the phenomenon in which people are treated differently according to the different categories (rural or urban) and locations of their household registration. Under this system, some 700–800 million people are in effect treated as second-class citizens, deprived of the opportunity to settle legally in cities and of access to most of the basic welfare and state-provided services enjoyed by regular urban residents. To an individual, *hukou* status is an important ascribed attribute in determining one's social and economic circumstances (Chan, 2010).

In studying labour market returns in urban China, researchers have consistently observed that rural migrants have been suffering significantly unequal employment opportunities and wages (Knight & Li, 2005; Meng & Kidd, 1997). But a more recent study argues the rural migrants' lower wages compared to urban locals were attributed to their deficits in pre-market endowments, such as age, work experience and education, rather than on-market discrimination, such as occupation segmentation and wage discrimination (Démurger, Gurgand, Li, & Yue, 2009). By comparing urban locals and rural migrants who subsequently obtained urban *hukou*, Fan (2001; 2002) finds that the latter group performed better in labour market than the former.

In this study, the *Hukou* based inequality or discrimination was first measured by the independent effects of migrant status on earnings and occupational attainments in multivariate analysis. Effects of human capital and ownership sectors variables were controlled. Secondly, decomposition analysis decomposed the original gap in earnings and occupational attainments between migrant groups and urban non-migrants into components of explained gaps (gaps can be attributed to difference in characteristics) and unexplained gaps (gaps can be attributed to discrimination).

The first part of the empirical analyses (Chapter 5) involves examining whether migrant groups receive higher or lower earnings compared to urban non-migrants. For this analysis, multiple regression is used since the dependent variable is a continuous variable. The Oaxaca-Blinder decomposition method is then used to decompose the original log earnings gap between migrant groups and urban non-migrants into components of explained gaps (gaps can be attributed to difference in characteristics) and unexplained gaps (gaps can be attributed to discrimination).

The dependent variable for multiple regression is hourly income in 2002 and 2007 (Ln). The income data in the China General Social Survey are based on one single question that asks about the total earnings in the past 12 months. Only positive and non-zero incomes are included. Weekly income is measured by dividing total gross earnings from 2002 and 2007 by 52. Hourly income is measured by dividing the weekly wage by working hours per week which is a variable available in the dataset. Hourly income rather than monthly income is used because some people work more hours than others to get a higher monthly income; thus, hourly income can measure earnings differences more precisely. The use of log earnings rather than raw earnings has been widely adopted because raw earnings distribution is not linear and it produces larger errors in

regression analysis for higher earnings levels (Portes & Zhou, 1996). The use of log earnings avoids this problem and allows regression results to be interpreted as percentage changes.

There are two types of independent variables in the multiple regression: migrant status, as well as human capital variables and ownership sectors.

The first type of independent variable, migrant status, includes four variables: 1) temporary migrants from rural to urban, 2) temporary migrants from urban to urban, 3) permanent migrants from rural to urban, and 4) permanent migrants from urban to urban. Each of these four independent variables is a dummy-coded variable, with urban non-migrants as a reference group.

In measuring human capital, Xie (1996) modifies Mincer's (1974) human capital model for contemporary China into the form of:

$$T = \log Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_2^2 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_1 X_5 + \epsilon, \dots \dots \dots (4.1)$$

where Y is earnings, X_1 is years of schooling, X_2 is years of work experience, X_4 is a dummy variable denoting membership in the Communist Party of China, X_5 is a dummy variable denoting gender. All β s are unknown parameters, and ϵ is the residual unexplained by the model.

Equation (1) deviates from Mincer's model in two ways. First, Xie (1996) includes party membership in the model and interprets it as an aspect of human capital associated with political advantages. Second, the model is applied to both male and female workers and allows for differences between the sexes in the intercept as well as in the return to years of schooling.

Following Xie's (1996) model, the human capital variables in this study include years of schooling, years of work experience, and party membership. Differing from Xie, the model is applied separately for men and women. Difference in ownership sectors is also included in regression analysis. Lu (2006) and Lu (2008) argue that the ownership of enterprise (state-owned enterprises, township and village enterprises, joint ventures, foreign-invested firms) plays an

important role in determining a worker's earnings.

Table 4.3 presents the main variables and their measurement in the analysis.

Table 4.3 Main variables and their measurement

Kinds of Variables	Name of Variables	Indicators	
		CGSS 2003	CGSS 2008
Dependent Variable	Ln (Hourly Income)	Only positive and non-zero incomes are included. Weekly income=Yearly income/52. Hourly income= Weekly income/ working hours per week. Ln hourly income is a dependent variable in the regression analysis.	Only positive and non-zero incomes are included. Weekly income=Yearly income/52. Hourly income= Weekly income/ working hours per week. Ln hourly income is a dependent variable in the regression analysis.
Independent Variables	Migrant Status	Dummy coded for migrant status. Urban non-migrants=1, temporary migrants from rural to urban=2, temporary migrants from urban to urban=3, permanent migrants from rural to urban=4, permanent migrants from urban to urban=5	Dummy coded for migrant status. Urban non-migrants=1, temporary migrants from rural to urban=2, temporary migrants from urban to urban=3, permanent migrants from rural to urban=4, permanent migrants from urban to urban=5
	Human Capital Variables		
	Years of schooling	Education level is measured in years of schooling completed: being illiterate is recoded as 0 years; completed primary school from first year to the sixth year is recoded as 6 years; completed junior high school is recoded as 9 years; completed high school diploma is recoded as 12 years; completed vocational degree is recoded as 15 years; completed university undergraduate program is recoded as 16 years; and completed graduate program	Actual continuous variable

		and above is recoded as 19 years.	
	Years of working	Age-years of schooling-5	Age-years of schooling-5
	Party membership	Party member=1, non-party member=0	Party member=1, non-party member=0
	Gender	Male=1, female=0	Male=1, female=0
	Ownership sectors	Dummy coded for ownership sectors of the enterprise. Government organization=1, State-owned enterprises=2, Collective enterprises=3, Privately-owned enterprises=4, Foreign-invested enterprises=5	Dummy coded for ownership sectors of the enterprise. State-owned enterprises=1, Collective enterprises=2, Privately-owned enterprises=3, Foreign-invested enterprises=4

In the first empirical part (Chapter 5), a descriptive analysis, multivariate analyses, and a decomposition analysis are conducted. The descriptive analysis consists of two major parts—differences in human capital and ownership sectors by migrant status and earnings by migrant status.

In the multivariate analysis, a linear regression analysis was used to estimate earnings of men and women separately. The two types of potential explanatory variables were entered in separate blocks in a set of hierarchical regression models. Ln hourly earnings for four migrant groups are compared to that of urban non-migrants when (1) other variables are not controlled (gross effect), and (2) other variables are controlled (net effect). Specifically, the multivariate analysis contains two models. Model 1 uses four migrant groups (temporary migrants from rural to urban, temporary migrants from urban to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban) as independent variables. It shows the gross difference between migrant groups and urban non-migrants. Gross difference is the actual difference before other variables are controlled. Model 2 shows net differences when variations in human capital and

ownership sectors are taken into account. Human capital variables include years of schooling, work experience, and party membership.

To examine to what extent earnings differentials are due to discrimination, the Blinder and Oaxaca (OB) method of decomposition (Blinder, 1973; Oaxaca, 1973) is used following the regression analysis to decompose the earnings gap (1) between temporary migrants from rural to urban and urban non-migrants in 2003 and 2008, (2) between temporary migrants from rural to urban and permanent migrants from rural to urban in 2003 and 2008, (3) permanent migrants from rural to urban and urban non-migrants in 2003 and 2008, and (4) permanent migrants from rural to urban and permanent migrants from urban to urban in 2003 and 2008. The income gap between each of these two groups can be decomposed into two parts: one due to differences in individual characteristics and the other due to discrimination. The OB model is estimated in two steps. First, we estimate five separate wage equations—one for each group (group 1, urban non-migrants; group 2, temporary migrants rural-urban; group 3, temporary migrants urban-urban; group 4, permanent migrants rural-urban; group 5, permanent migrants urban-urban)—defining the OLS wage equation for each group as follows:

$$W_i^j = \alpha^j + X_i^j \beta^j + \varepsilon_i^j \quad (j=\text{group } 1, 2, 3, 4, 5) \dots \dots \dots (4.2)$$

where W_i^j refers to the hourly income (in Ln form) of individual i in corresponding group j , X_i^j is a vector of standard control variables including years of schooling, years of working, party membership dummies, and ownership sectors dummies. α^j is the intercept for group j . Next, the OLS results from $\bar{W}^j = \hat{\alpha}^j + \bar{X}^j \hat{\beta}^j$ was used, with \bar{W} and \bar{X} referring to sample means, and $\hat{\alpha}^j, \hat{\beta}^j$ are the OLS estimates for α^j, β^j .

For a linear regression, the Binder-Oaxaca decomposition of the migrants/non-migrants gap in the average value of the dependent variable, $Y=LnW$, can be expressed as:

$$\text{Ln}W^M - \text{Ln}W^{N-M} = [\hat{\beta}^{N-M}(\bar{X}^M - \bar{X}^{N-M})] + [\bar{X}^M(\hat{\beta}^M - \hat{\beta}^{N-M})] \dots \dots \dots (4.3)$$

where \bar{X}^j is a row vector of average values of the independent variables for group j and $\hat{\beta}^j$ is a vector of coefficient estimates for group j . The first term on the right-hand side, $\hat{\beta}^{N-M}(\bar{X}^M - \bar{X}^{N-M})$ is the wage gap due to differing individual characteristics (such as human capital) in the absence of discrimination. The second term, $\bar{X}^M(\hat{\beta}^M - \hat{\beta}^{N-M})$ measures the proportion of the relative wage gap due to discrimination. Discrimination is measured as the residual or the unexplained difference in the regression coefficients.

The second part of the empirical analysis (Chapter 6) involves examining occupational attainment of migrant groups and urban non-migrants. First, the descriptive analyses of occupational differences for individuals with different migrant status were conducted. In this study, the occupations outcomes are categorical dependent variables with two outcomes, therefore, logistic regressions are then conducted following the descriptive analyses. The main purpose logistic regression is to compare the likelihood of urban non-migrants and four migrant groups of being in ordinary, service and sales work controlling for the effects of human capital variables and ownership sectors. It is to test whether or not the observed distribution of occupational attainments between urban non-migrants and four migrants groups still holds if all other things are equal. Finally, OB decomposition using coefficients from logistic regression is conducted to estimate how much the occupational differentials can be attributed to discrimination.

The dependent variables are the most recent occupation in both 2002 and 2007. Occupation is classified into two categories: 1) managerial and professional work; 2) ordinary, service and sales work. The first category is “good job” in the primary segment, with adequate pay, fringe benefits and career development opportunities; while the second category is “bad job” in the

secondary segment, with low wages, poor working conditions and little job security. In regression, managerial and professional work was recoded as 0, and ordinary and service or sales work was recoded as 1.

The logistic regression model is as follows:

$$P(Y) = \frac{e^Z}{1+e^Z} \dots \dots \dots (4.4)$$

$$\text{Where } Z = \beta_0 + \beta_1 X_1 + \dots + \beta_i X_i \dots \dots \dots (4.5)$$

P(Y) is the probability of working in ordinary, service and sales work. β_0 is the intercept of Y. β_1 represents a series of regression coefficients that show the amount that Y changes for each unit change in each X. X_i refers to a series of independent variables.

The independent variables in the logistic regression model, as with independent variables in multiple regression, involve, first, the migrant status variables, including temporary migrants from rural to urban, temporary migrants from urban to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban; and, second, background variables, including years of schooling, years of work experience, party membership, gender, as well as ownership of the enterprise. The measurement of these variables is provided in Table 3.

In logistic regression, the two types of independent variables were entered in separate blocks in a set of hierarchical regression models. Occupational attainments of the four migrant groups are compared to that of urban non-migrants when (1) other variables are not controlled, and (2) other variables are controlled. Specifically, the logistic regression analyses contain two models. Model 1 uses four migrant groups (temporary migrants from rural to urban, temporary migrants from urban to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban) as independent variables. Model 2 shows net differences when variations in human capital and ownership sectors are taken into account.

To examine to what extent occupations differentials are due to discrimination, the Blinder and Oaxaca method of decomposition (Blinder, 1973; Oaxaca, 1973) is used following the logistic regression to decompose the occupations difference amongst (1) temporary migrants from rural to urban and urban non-migrants in 2003 and 2008, (2) temporary migrants from rural to urban and permanent migrants from rural to urban in 2003 and 2008, (3) permanent migrants from rural to urban and urban non-migrants in 2003 and 2008, and (4) permanent migrants from rural to urban and permanent migrants from urban to urban in 2003 and 2008.

For a logistic regression, the Binder-Oaxaca decomposition of the migrants/non-migrants gap in the probability of working in ordinary, service and sales work, $P(Y=1)$, can be expressed as:

$$\text{Total Gap} = \frac{\text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^{N-M})}{1 + \text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^{N-M})} - \frac{\text{EXP}(\sum \hat{\beta}^M \bar{X}^M)}{1 + \text{EXP}(\sum \hat{\beta}^M \bar{X}^M)} \dots \dots \dots (4.6)$$

$$\text{Explained Gap} = \frac{\text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^{N-M})}{1 + \text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^{N-M})} - \frac{\text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^M)}{1 + \text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^M)} \text{ and } \dots \dots \dots (4.7)$$

$$\text{Unexplained Gap} = \frac{\text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^M)}{1 + \text{EXP}(\sum \hat{\beta}^{N-M} \bar{X}^M)} - \frac{\text{EXP}(\sum \hat{\beta}^M \bar{X}^M)}{1 + \text{EXP}(\sum \hat{\beta}^M \bar{X}^M)} \dots \dots \dots (4.8)$$

where \bar{X}^j is a row vector of average values of the independent variables for group j and $\hat{\beta}^j$ is a vector of coefficient estimates for group j . The explained gap is the gap due to differing individual characteristics (such as human capital) in the absence of discrimination. The unexplained gap measures how much of the difference in occupational attainments is due to discrimination.

CHAPTER 5 ECONOMIC RETURNS OF MIGRANTS AND NON-MIGRANTS

The purpose of this chapter is to examine economic returns of migrant groups and urban non-migrants in 2003 and 2008 to see first whether non-migrants have higher earnings than migrants and second whether the effect of migrant status decreases in 2008 compared to in 2003.

Literature has produced conflicting evidence on migrants and non-migrants who have higher earnings (Chan, 1996; Li, 1997; Fan, 2001; Liu, 2005; Lu, 2006; Li, 2007; Lu, 2008). The controversy partly has to do with using different ways to define migrants. Different papers compared earnings of urban non-migrants with those of different migrants; for example some studies (Chan, 1996; Liu, 2005; Lu, 2006; Li, 2007) compared earnings of urban non-migrants and temporary migrants while others (Li, 1997; Fan, 2001; Lu, 2008) compared earnings of urban non-migrants and permanent migrants, thus producing different conclusions. Based on the differences in *Hukou* status, *Hukou* location and *Hukou* origins, this chapter classifies migrants into four groups of temporary migrants from rural to urban, temporary migrants from urban to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban, and compared earnings of these four groups with those of urban non-migrants in 2003 and in 2008.

Market transition theory suggests that inequality under one system can be reduced by introducing an alternative mechanism. Thus, the penetration by market factors will undermine the inequalities created by redistribution under socialist regimes (Szelenyi, 1983). Comparing the earnings difference between migrant groups and urban non-migrants in 2003 and in 2008, this

chapter examines whether the effect of migrant status decreases with the development of a market economy in China.

The first part of the analysis involves describing differences in characteristics and mean hourly earnings of different groups. The second part of the analysis involves developing a regression model to examine whether earnings of urban non-migrants are higher than those of migrant groups. Returns are measured in hourly income (Ln). The analysis first compares the gross differences or effects of migrant status, or in other words, differences before other explanatory variables are being considered. Net differences or effects are then discussed after variations in human capital and ownership sectors are taken into account. The third part of the analysis involves decomposing the earnings difference (1) between temporary migrants from rural to urban and urban non-migrants, (2) between temporary migrants from rural to urban and permanent migrants from rural to urban, (3) between permanent migrants from rural to urban and urban non-migrants, and (4) between permanent migrants from rural to urban and permanent migrants from urban to urban in both 2003 and 2008. This is to examine how much of the earnings difference is due to discrimination and whether the discrimination decreases from 2003 to 2008.

5.1 Descriptive analysis

There are some notable differences in the characteristics of different groups. Table 5.1 presents the means and percentages of selected variables by migrant status in 2003.

Table 5.1 Percentages, means of selected variables by migrant status in 2003

	Urban Non-Migrants	Temporary Migrants Rural-Urban	Temporary Migrants Urban-Urban	Permanent Migrants Rural-Urban	Permanent Migrants Urban-Urban
Mean					
Mean Years of Schooling	10.7	8.2	11.2	9.9	11.4
Mean Years of Working	28.4	26.9	26.5	31.6	31.0
Mean Work Hours/Week	41.2	39.8	43.4	42.5	43.0
Percentage (%)					
Party Member	14.1	5.9	15.9	23.5	22.5
Gender					
Male	51.8	40.7	51.5	48.4	45.3
Female	48.2	59.3	48.5	51.6	54.7
Ownership Sector					
Government Organization	3.5	2.8	1.2	8.0	5.6
State-owned Enterprises	64.1	17.4	60.1	60.0	72.6
Collective Enterprises	12.7	7.3	5.8	14.2	11.0
Privately-owned Enterprises	17.6	70.4	28.9	16.7	9.3
Foreign-invested Enterprises	2.2	2.0	4.0	1.0	1.3

In terms of mean years of schooling, migrants from urban to urban have more years of schooling than other groups, with 11.4 years and 11.2 years respectively for permanent migrants from urban to urban and temporary migrants from urban to urban; followed by urban non-migrants with 10.7 years; migrants from rural to urban have fewer years of schooling than others, with 9.9 years and 8.2 years respectively for permanent migrants from rural to urban and temporary migrants from rural to urban. The ordering of mean years of working is permanent migrants from rural to urban with 31.6 years, permanent migrants from urban to urban with 31.0 years, urban non-migrants with 28.4 years, temporary migrants from rural to urban with 26.9 years and temporary migrants from urban to urban with 26.5 years. Party membership is held by 23.5 percent of permanent, while 22.5 percent of permanent migrants from urban to urban are party members, 15.9 percent of temporary migrants from urban to urban are party members, and 14.1 percent of urban non-migrants and 5.9 percent of temporary migrants from rural to urban are

party members. The results for ownership of enterprise by migrant status indicate that those who have urban *hukou* status are more likely to work in state owned sectors either in government organizations or state-owned enterprises, for example, 78.2 percent of permanent migrants from urban to urban, 68.0 percent of permanent migrants from rural to urban, 67.6 percent of urban non-migrants, 61.3 percent of temporary migrants from urban to urban work in government organization or state-owned enterprises. Only 20.2 percent of temporary migrants from rural to urban work in state owned sectors and 70.4 percent of them work in private owned enterprises. This results indicate that people with urban *Hukou* status are more likely to work in state-owned sectors, while people with rural *Hukou* status would work in private-owned enterprises.

Undoubtedly, differences in background variables affect the economic returns of different groups unequally, and these variations have to be taken into account in the regression models.

Table 5.2 Percentages, means of selected variables by migrant status in 2008

	Urban Non- Migrants	Temporary Migrants Rural-Urban	Temporary Migrants Urban-Urban	Permanent Migrants Rural-Urban	Permanent Migrants Urban-Urban
Mean					
Mean Years of Schooling	11.0	9.4	12.0	10.0	11.2
Mean Years of Working	22.9	10.2	17.2	25.0	28.7
Mean Work Hours/Week	52.3	66.0	58.7	52.9	45.5
Percentage (%)					
Party Membership	13.4	2.7	11.1	23.0	24.0
Gender					
Male	50.4	45.3	49.0	46.3	45.9
Female	49.6	54.7	51.0	53.7	54.1
Ownership Sector					
State-owned Enterprises	54.4	8.6	37.1	62.2	69.8
Collective Enterprises	13.4	6.7	6.9	9.7	9.9
Privately-owned Enterprises	29.0	77.5	46.8	26.0	17.4
Foreign-invested Enterprises	3.2	7.1	9.3	2.0	2.9

Table 5.2 presents the means and percentages of selected variables by migrant status in 2008. In

terms of mean years of schooling, in common with results from CGSS2003, migrants from urban to urban still have more years of schooling than other groups, with 12.0 years and 11.2 years respectively for temporary migrants from urban to urban and permanent migrants from urban to urban; followed by urban non-migrants with 11.0 years; migrants from rural to urban have fewer years of schooling than others, with 10.0 years and 9.4 years respectively for permanent migrants from rural to urban and temporary migrants from rural to urban. The ordering of mean years of working from CGSS2008 is also the same with results from CGSS 2003, permanent migrants from urban to urban with 28.7 years, permanent migrants from rural to urban with 25.0 years, urban non-migrants with 22.9 years, temporary migrants from urban to urban with 17.2 years and temporary migrants from rural to urban with 10.2 years. In terms of party membership, permanent migrants are more likely to be party members than other groups, with 24.0 percent and 23.0 percent respectively for permanent migrants from urban to urban and permanent migrants from rural to urban; 13.4 percent of urban non-migrants are party members; temporary migrants are less likely to hold party membership, as 11.1 percent of temporary migrants from urban to urban and 2.7 percent of temporary migrants from rural to urban are party members.

As with CGSS 2003, in 2008 people with urban *Hukou* status were more likely to work in state enterprises, for example, 69.8 percentage permanent migrants from urban to urban, 62.2 percentage permanent migrants from rural to urban, 54.4 percentage urban non-migrants work and 37.1 percent of temporary migrants from urban to urban work in state-owned enterprises. Temporary migrants from rural to urban, with rural *Hukou* status, have the least chance to work in state enterprises (8.6 percent) and have the longest work hours per week (66.0) among five groups.

To summarize, from the CGSS 2003 and CGSS 2008 data it appears that there were some differences in characteristics between permanent migrants, urban non-migrants and temporary migrants. Undoubtedly, differences in background variables affect the economic returns; it is possible that earnings difference between five groups can be explained by the variations in human capital and ownership sectors. In order to explore this further we turn to multivariate analysis of earnings and these variations have to be taken into account in the regression.

5.1.1 Earnings of different migrant groups over time

I first present some descriptive results about the mean hourly incomes of different migrant groups for male and female. Table 5.3 presents the mean hourly incomes of five groups in 2003 and 2008.

Table 5.3 Mean hourly incomes by migrant status in 2003 and 2008

	Mean Hourly Income (<i>yuan</i>)			
	<u>2003</u>		<u>2008</u>	
	Male	Female	Male	Female
Urban Non-Migrants	4.5	3.5	10.0	7.3
Temporary Migrants from Rural to Urban	4.4	2.2	7.7	6.0
Temporary Migrants from Urban to Urban	5.9	5.4	16.4	10.5
Permanent Migrants from Rural to Urban	4.9	2.8	10.3	5.4
Permanent Migrants from Urban to Urban	5.3	4.2	10.5	8.6
Total	4.9	3.5	10.4	7.2

From the smallest to the largest, in 2003, male temporary migrants from rural to urban had the smallest mean hourly income (4.4), male urban non-migrants had the second smallest mean hourly income (4.5), followed by male permanent migrants from rural to urban (4.9) and male permanent migrants from urban to urban (5.3), while male temporary migrants from urban to urban had the highest mean hourly income (5.9) among five groups. For females, female temporary migrants from rural to urban had the smallest mean hourly income (2.2), female

permanent migrants from rural to urban had second smallest mean hourly income (2.8), followed by female urban non-migrants (3.5) and female permanent migrants from urban to urban (4.2), while female temporary migrants from urban to urban had the highest mean hourly income (5.4) among five groups. Females as a whole had smaller mean hourly income than male, and each female group had smaller mean hourly income than their male counterpart.

Earnings rankings of the five groups present the same patterns in 2003 and in 2008. From smallest to the largest, in 2008, male temporary migrants from rural to urban had the smallest mean hourly income (7.7), male urban non-migrants had the second smallest mean hourly income (10.0), followed by male permanent migrants from rural to urban (10.3) and male permanent migrants from urban to urban (10.5), and male temporary migrants from urban to urban had the highest mean hourly income (16.4). In 2008, female permanent migrants from rural to urban had the smallest mean hourly income (5.4), female temporary migrants from rural to urban had the second smallest mean hourly income (6.0), followed by female urban non-migrants (7.3) and female permanent migrants from urban to urban (8.6), while female temporary migrants from urban to urban had the highest mean hourly income (10.5). In 2008, each female sub-group also had smaller mean hourly income than their male counterpart.

In summary, temporary migrants from rural to urban had the lowest mean hourly income in both 2003 and 2008 for both males and females, while temporary migrants from urban to urban had the highest mean hourly income in both 2003 and 2008 for both males and females. Permanent migrants from urban to urban had higher mean hourly income than urban non-migrants in both 2003 and 2008 for both males and females. The difference in income patterns between males and female is that, for males, except for temporary migrants from rural to urban, other three migrant groups all had higher mean hourly income than male urban non-migrants in

two years. However, for females, mean hourly income of two migrant groups from rural area (whether permanent or temporary) was not only smaller than their male counterpart but also smaller than female urban non-migrants and female migrants from urban area in two years, this indicates that female migrants from rural area were doubly disadvantaged because their gender and rural origin status.

The income patterns indicate that permanent migrants from urban to urban are the most privileged and successful elite, followed by urban non-migrants, and finally by temporary rural migrants at the bottom of the hierarchy. Rural *Hukou* status plays a negative role in individuals' earnings, while migration experience would have positive contribution to individuals' earnings if holding urban *Hukou* status.

5.2 Multivariate analysis

5.2.1 Multivariate analysis in 2003

In order to disentangle the effects of achieved attributes, such as education, from the effects of institutional attributes, I conduct a regression analysis that evaluates the relative contributions of three groups of independent variables, migrant status, human capital variables and ownership sectors. Earnings are estimated separately for men and women using two models. The first model calculates the gross earnings difference of migrant groups compared to urban non-migrants. The second model estimates the net earnings of the groups after taking into account variations in the human capital variables which include years of schooling, years of work experience and party membership and ownership sectors. These results are reported in Table 5.4 for 2003 and Table 5.5 for 2008.

The Model 1 in Table 5.4 shows the gross effect of migrant status compared to urban non-migrants for males; “temporary migrants from rural to urban”, “temporary migrants from urban to urban”, “permanent migrants from rural to urban” and “permanent migrants from urban to urban” are four dummy variables, where the reference group is urban non-migrants. Male temporary migrants from urban to urban had 0.422 in ln earnings more than male urban non-migrants. Male permanent migrants from rural to urban had 0.189 in ln earnings more than male urban non-migrants. Male permanent migrants from urban to urban had 0.333 in ln earnings more than male urban non-migrants. In common with male urban non-migrants, these three groups all hold urban *Hukou* status, but they have migration experience. The coefficient for temporary migrants from rural to urban was positive but not significant. These figures represent the log earnings disparity of different migrant groups with urban non-migrants. In other words, male temporary migrants from urban to urban, male permanent migrants from rural to urban, and male permanent migrants from urban to urban had a clear income advantage compared to male urban non-migrants before variations in other variables are being considered. Male temporary migrants from rural to urban, with rural *Hukou* status, had no significant earning differences with male urban non-migrants.

Table 5.4 Estimated effects of two models to logged hourly income in 2003

	Male				Female			
	Model 1		Model 2		Model 1		Model 2	
	B	β	B	β	B	β	B	β
Constant	1.119*** (.036)		-.075 (.124)		1.050*** (.042)		-.403** (.137)	
<i>Migrant Status (reference: urban non-migrants)</i>								
Temporary Migrants Rural-Urban	-.105 (.091)	-.026	.005 (.088)	.001	-.334** (.107)	-.077	-.007 (.100)	-.002
Temporary Migrants Urban-Urban	.422*** (.106)	.089	.305** (.098)	.064	.426** (.131)	.078	.357** (.116)	.066
Permanent Migrants Rural-Urban	.189*** (.050)	.096	.114* (.047)	.058	-.130* (.059)	-.062	-.019 (.052)	-.009
Permanent Migrants Urban-Urban	.333*** (.051)	.165	.184*** (.048)	.091	.174** (.055)	.090	.072 (.049)	.037
<i>Human Capital</i>								
Years of Schooling			.100*** (.007)	.382			.116*** (.007)	.456
Years of Work Experience			.005** (.002)	.075			.006** (.002)	.093
Party Membership (reference: non-party member)			.156*** (.045)	.078			.200** (.058)	.076
Ownership Sectors (reference: state-owned organizations)								
State-owned Enterprises			-.050 (.058)	-.026			.057 (.064)	.030
Collective-owned Enterprises			-.303*** (.085)	-.089			-.305*** (.081)	-.107
Privately-owned Enterprises			.038 (.074)	.015			-.118 (.079)	-.044
Foreign invested Enterprises			.050 (.180)	.006			.477** (.169)	.062
R Square	.027		.179		.030		.249	
Adjusted R Square	.026		.175		.028		.245	
N	2143		2143		1798		1798	

Significance level: * 0.05; ** 0.01; ***0.001

Since part of the difference in returns for male migrant groups and male urban non-migrants may be related to variations in their features, it is essential to control for other variations to compare the net difference in returns. Model 2 for males in Table 5.4 shows the net effects of migrant status compared to urban non-migrants for males after controlling for the variations in human capital and work-related features. When the human capital variables are considered conjointly, the estimated coefficients associated with education, work experience, and party

membership are all statistically significant and have signs consistent with the prediction from human capital theory. The coefficient of years of schooling (0.100) indicates that each additional year of schooling increased log earnings by 10 percent when variations in other variables in the equation were taken into account. The slope of years of work experience (0.005) suggests that each additional year of work experience raised net log earnings by 0.5 percent. The coefficient of party membership (0.156) shows that those who were party members earned 0.156 in net log earnings more than those who were not party members. Male workers in collective enterprises have 0.303 lower in net log earnings compared to those who work in government organizations; earnings of male workers in state-owned enterprises, private enterprises and enterprises with foreign investment are not significantly different from those of male workers in government organizations.

The inclusion of these human capital variables and ownership sectors considerably narrows the original earnings difference between migrant groups and urban non-migrants and weakens the migrant status effects. The log earnings difference between temporary migrants from urban to urban and urban non-migrants reduced from 0.422 to 0.305, the log earnings difference between permanent migrants from rural to urban and urban non-migrants reduced from 0.189 to 0.114 and the log earnings difference between permanent migrants from urban to urban and urban non-migrants was reduced from 0.333 to 0.184. These results indicate that, first, male permanent migrants and temporary migrants from urban to urban had a net advantage in log earnings compared to male urban non-migrants and, second, some of the original earnings advantage of male permanent migrants and male temporary migrants from urban to urban can be attributed to variations in human capital variables and ownership sectors. Coefficients of temporary migrants from rural to urban in both Model 1 and Model 2 were not significant, which means there is little

earnings difference between male temporary migrants from rural to urban and male urban non-migrants. The result indicates that those male migrants who have urban *Hukou* registration (permanent male migrants from urban to urban, permanent male migrants from rural to urban and temporary male migrants from urban to urban) continue to earn more than male urban non-migrants, earnings of temporary migrants from rural to urban is not significantly different from that of urban non-migrants.

Model 1 for males also shows that using migrant status as the only explanatory variable, 2.6 percent (Adjusted $R^2=0.026$) of the variation in the log earnings can be explained, but when the independent variables of human capital and ownership sectors entered simultaneously, the explained variance increased to 17.5 percent (Adjusted $R^2=0.175$).

The Model 1 for females in Table 5.4 shows the gross effect of migrant status compared to urban non-migrants. Before variations in other variables were being considered, female temporary migrants from rural to urban earned 0.334 less in log earnings than female urban non-migrants; female temporary migrants from urban to urban had 0.426 in log earnings more than female urban non-migrants; female permanent migrants from rural to urban earned 0.130 less in log earnings than female urban non-migrants; female permanent migrants from urban to urban had 0.174 in log earnings more than female urban non-migrants. These figures indicate that females who were from rural areas (temporary migrants from rural to urban and permanent migrants from rural to urban) had lower gross earnings than female urban non-migrants, but those who were from urban areas (temporary migrants from urban to urban and permanent migrants from urban to urban) had higher gross earnings than female urban non-migrants before variations in other variables are being considered.

The Model 2 for females in Table 5.4 indicates the net effects of migrant status compared to urban non-migrants after variations in human capital and ownership sectors were taken into account. With regard to the coefficients of human capital variables and ownership sectors, the results reveal the following findings. First, each additional year of schooling increased the earnings of females by 11.6 percent after controlling for other variables. Second, one additional year of work experience raised net log earnings of females marginally by 0.6 percent. Third, those who were party members earned 0.2 in net log earnings more than those who were not party members. Fourth, female workers in collective enterprises had 0.305 lower in net log earnings compared to workers in government organizations; earnings of female workers in foreign invested enterprises earned 0.477 higher in net log earnings than those in government organizations; and earnings of female workers in state-owned enterprises and private-owned enterprises were not significantly different from those of female workers in government organizations.

After controlling for variations in human capital and ownership sectors, the original earnings difference between female migrant groups and female urban non-migrants was considerably narrowed and migrant status effects were also weakened. The log earnings difference between female temporary migrants from urban to urban and female urban non-migrants reduced from 0.426 to 0.357, which means although the earnings advantage decreased, female temporary migrants from urban to urban still earned 0.357 more in net log earnings than female urban non-migrants. The coefficients of temporary migrants from rural to urban, permanent migrants from rural to urban and permanent migrants from urban to urban were not significant after variations in human capital and ownership sectors were considered. In other words, there was little difference in net returns between female temporary migrants from rural to urban, female

permanent migrants from rural to urban, and female permanent migrants from urban to urban, compared to female urban non-migrants and the original log earnings difference was mainly due to variations in human capital variables and ownership sectors.

Model 1 for females in Table 5.4 also shows that, when using migrant status as the only explanatory variable, 2.8 percent (Adjusted $R^2=0.028$) of the variation in the log earnings can be explained, but when the independent variables of human capital and ownership sectors entered simultaneously, the explained variance is increased to 24.5 percent (Adjusted $R^2=0.245$).

To summarize, in 2003 male migrants with urban *Hukou* status (temporary migrants from urban to urban, permanent migrants from rural to urban, permanent migrants from urban to urban) had higher gross and net earnings than did urban non-migrants. Earnings of male migrants with rural *Hukou* status were not significantly different from those of urban non-migrants. Some of the original earnings advantage of male migrants with urban *Hukou* status can be attributed to variations in human capital variables and ownership sectors.

For females, those who were from rural areas (temporary migrants from rural to urban and permanent migrants from rural to urban) had lower gross earnings than female urban non-migrants, but those who were from urban areas (temporary migrants from urban to urban and permanent migrants from urban to urban) had higher gross earnings than female urban non-migrants. After variations in other variables are considered, except for the finding that temporary migrants from urban to urban had higher net earnings than urban non-migrants, there was little earnings difference between urban non-migrants and other migrant groups. In other words, the original log earnings difference for females was mainly due to variations in human capital variables and ownership sectors.

5.2.2 Multivariate analysis in 2008

In order to examine whether the effects of institutional attributes still play an important role in determining income in 2008, regression analysis was conducted to evaluate the relative contributions of three relevant groups of independent variables, migrant status, human capital variables, and working conditions variables to earnings. As with the previous analysis, hourly earnings are estimated separately for men and women using two models. The first model calculates the gross differences or effect of different migrant status on earnings. The second model estimates the net differences of comparative groups after taking into account variations in the human capital variables which include years of schooling, years of work experience and party membership and also taking into account variations in ownership sectors. These results are reported in Table 5.5. Column 1 to column 4 are for males, and column 5 to column 8 are for females.

The Model 1 for males in Table 5.5 shows the gross effect of migrant status compared to urban non-migrants. Male permanent migrants from urban to urban had 0.301 in log earnings more than male urban non-migrants. The coefficients for temporary migrants from rural to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban are not significant, indicating that earnings of these groups are not significantly different from those of urban non-migrants. In other words, except for male temporary migrants from urban to urban, there was little difference between the earnings of other male migrant groups and those of male urban non-migrants in 2008 before variations in other variables are considered.

Table 5.5 Estimated effects of two models to hourly earnings in 2008

	Male				Female			
	Model 1		Model 2		Model 1		Model 2	
	B	β	B	β	B	β	B	β
Constant	1.897** * (.031)		.803*** (.135)		1.624** * (.030)		.471*** (.133)	
<i>Migrant Status (reference: urban non-migrants)</i>								
Temporary Migrants Rural-Urban	-.141 (.089)	-.043	.000 (.097)	.000	-.003 (.095)	-.001	.150 (.093)	.045
Temporary Migrants Urban-Urban	.301** (.094)	.087	.234** (.089)	.069	.456*** (.091)	.142	.310*** (.082)	.100
Permanent Migrants Rural-Urban	.070 (.071)	.027	.073 (.067)	.029	-.133 (.074)	-.052	-.052 (.068)	-.021
Permanent Migrants Urban-Urban	.139 (.111)	.034	.046 (.104)	.012	.279** (.105)	.076	.200* (.093)	.057
<i>Human Capital</i>								
Years of Schooling			.095*** (.008)	.357			.110*** (.008)	.428
Years of Work Experience			.001 (.002)	.009			.002 (.002)	.034
Party Membership (reference: non-party member)			.156** (.059)	.075			.185* (.074)	.069
Ownership Sectors (reference: state-owned enterprises)								
Collective-owned Enterprises			-.129 (.086)	-.040			-.218** (.069)	-.086
Privately-owned Enterprises			-.013 (.059)	-.006			-.112 (.060)	-.061
Foreign invested Enterprises			.371** (.121)	.082			.059 (.124)	.013
R Square	.011		.167		.029		.237	
Adjusted R Square	.008			.160		.026		.230
N	1390		1298		1239		1157	

Significance level: * 0.05; ** 0.01; ***0.001

The Model 2 for males in Table 5.5 indicates the net effects of migrant status compared to urban non-migrants after variations in human capital and ownership sectors were taken into account. The variable of years of schooling affected the net log earnings positively. The coefficient indicates that one additional year of schooling increased the net returns of males by 9.5 percent. The slope of years of work experience is not significant. In other words, years of

work experience had no net effect on the net log earnings for males in 2008. The effect of party membership is also significant. It shows that those who are party members earned 0.156 in log earnings more than those who are not party members when effects of other variables were taken into account. Male workers in foreign invested enterprises had 0.371 higher in net log earnings compared to workers in state owned enterprises; earnings of male workers in collective enterprises and private-owned enterprises were not significantly different from those of workers in state owned enterprises.

When human capital variables and ownership sectors were considered in conjunction with one another, the log earnings difference between temporary migrants from urban to urban and urban non-migrants was reduced from 0.301 to 0.234, while the coefficients of temporary migrants from rural to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban still were not significant, indicating that net earnings of these groups were not significantly different from those of urban non-migrants. In Model 1 and Model 2 for males, only the coefficient for temporary migrants from urban to urban was significant, while coefficients for other migrants groups were not significant, which suggests that migrant status is not a significant determinant for earnings for males in 2008.

Model 1 for males also shows that using migrant status as the only explanatory variable, 0.008 percent (Adjusted $R^2=0.008$) of the variation in the log earnings can be explained, but when the independent variables of human capital and ownership sectors are entered simultaneously, the explained variance increases to 16.0 percent (Adjusted $R^2=0.160$). For males, the regression model appears to fit better in 2003 than in 2008.

The Model 1 for females in Table 5.5 show the gross effect of migrant status compared to urban non-migrants for female. Female permanent migrants from urban to urban had 0.456 in log

earnings more than male urban non-migrants. Female permanent migrants from urban to urban had a gross advantage of 0.279 in log earnings compared to female urban non-migrants. The coefficients of female temporary migrants from rural to urban and female permanent migrants from rural to urban are not significant, indicating that earnings of these groups are not significantly different from those of female urban non-migrants. These results indicate that female migrants from urban areas (temporary and permanent migrants from urban to urban) had higher gross earnings than female urban non-migrants in 2008 and female migrants from rural areas (temporary and permanent migrants from rural to urban) had little earnings difference with female urban non-migrants in 2008 before variations in other variables are considered.

The Model 2 for females in Table 5.5 shows the net effects of migrant status compared to urban non-migrants after variations in human capital and ownership sectors are taken into account. The coefficients for years of schooling, years of work experience, party membership and ownership sectors show that, first, one additional year of schooling increased net earnings for females by 11.0 percent; second, the slope of years of work experience is not significant meaning that years of work experience had no net effect on the net log earnings for females in 2008; third, those who are party members earned 0.185 in net log earnings more than those who are not party members; and, fourth, female workers in private owned and foreign invested enterprises had little earnings differences with workers in state owned enterprises, while female workers in collective enterprises earned 0.218 in net log earnings less than workers in state owned enterprises.

After controlling for variations in human capital and ownership sectors, the original earnings difference between female migrant groups and female urban non-migrants was considerably narrowed and migrant status effects were also weakened. The coefficient for migrant status show

that the original advantage for female temporary migrants from urban to urban was reduced to 0.310 in log earnings; the original advantage for female permanent migrants from urban to urban was reduced to 0.200 in log earnings; the coefficients of female temporary migrants from rural to urban, female permanent migrants from rural to urban still were not significant after variations in human capital and ownership sectors were considered. These results indicate that female migrants from urban areas (temporary and permanent migrants from urban to urban) had a net earnings advantage relative to urban non-migrants and there was little difference in net returns between female migrants from rural areas (temporary and permanent migrants from rural to urban) and female urban non-migrants when other variables were controlled.

Model 1 for males also shows that using migrant status as the only explanatory variable, 2.6 percent (Adjusted $R^2=0.026$) of the variation in the log earnings can be explained, but when the independent variables of human capital and ownership sectors are entered simultaneously, the explained variance increases to 23.0 percent (Adjusted $R^2=0.230$).

To summarize, in 2008, other than male temporary migrants from urban to urban areas who had higher gross and net earnings than urban non-migrants, there was little difference in gross and net earnings between male urban non-migrants and other migrant groups. For males, migrant status was not an important factor in determining earnings in 2008.

For females, migrants who were from urban areas (temporary migrants from urban to urban and permanent migrants from urban to urban) had higher gross and net earnings than female urban non-migrants. The earnings of migrants who were from rural areas (temporary migrants from rural to urban, permanent migrants from rural to urban) were not significantly different from those of urban non-migrants. Some of the original earnings advantage of female migrants from urban areas can be attributed to variations in human capital variables and ownership sectors.

5.3 Decomposition analysis

Although earnings differences between different migrant groups are reported in regression results (Table 5.4 and Table 5.5), it is not clear to what extent such earnings differentials are due to discrimination. Using the Blinder and Oaxaca method of decomposition (Blinder, 1973; Oaxaca, 1973), it is possible to decompose the original earnings difference between different groups into several components. The tables showing the calculations of the decomposition are in Appendix A to H, and the summary of decomposition is given in Table 5.6 and Table 5.7.

Table 5.6 Decomposing the earnings disparity of Temporary migrants rural-urban with Urban non-migrants and Permanent migrants rural-urban in 2003 and 2008

	Temporary Migrants Rural-Urban VS. Urban Non-Migrants		Temporary Migrants Rural-Urban VS. Permanent Migrants Rural-Urban	
	2003	2008	2003	2008
Total Difference	-0.29	-0.16	-0.28	-0.06
Explained difference	0.09	0.02	0.10	0.13
Unexplained difference	-0.38	-0.18	-0.38	-0.19

Column 1 and column 2 in Table 9 present the decomposition of earnings difference between temporary migrants from rural to urban and urban non-migrants in 2003 and 2008. The calculations are provided in Appendix A and B. In column 1, the decomposition shows that of the original Ln hourly earnings difference of -0.29 in 2003, 0.09 can be attributed to differences in levels of characteristics, such as differences in schooling, years of working, party membership, gender and ownership sectors. The unexplained difference is -0.38. In other words, if levels of the characteristics between these two groups are the same, temporary migrants from rural to urban expect to earn 0.09 more than urban non-migrants, but they actually earn 0.29 less than urban non-migrants, while the unequal returns of other unmeasured factors produce an effect of -0.38. In 2008, the original earning difference is -0.16 while the explained difference and unexplained difference are 0.02 and -0.18 respectively. Comparing the results of 2003 and 2008,

the original earnings difference between temporary migrants from rural to urban and urban non-migrants decreased from -0.27 to -0.16, and the unexplained difference which is the effect of unmeasured factors decreased from -0.36 to -0.18. That is to say, the earnings difference between temporary migrants from rural to urban and urban non-migrants decreased from 2003 to 2008 and the effect of unmeasured factors also decreased.

Column 3 and column 4 in Table 9 present the decomposition of earnings difference between temporary migrants from rural to urban and permanent migrants from rural to urban in 2003 and 2008. The calculations are provided in Appendix C and D. In 2003, the earnings difference is -0.28; it is found that 0.10 of the original differences can be attributed to different levels of characteristics between temporary migrants from rural to urban and permanent migrants from rural to urban. Furthermore, unexplained differences produce an effect of -0.38 for temporary migrants from rural to urban. That means, if human capital and working sectors of temporary migrants from rural to urban are the same as those of permanent migrants from rural to urban, temporary migrants from rural to urban are expected to earn 0.10 more than permanent migrants from rural to urban, but they actually earn 0.28 less than urban non-migrants; the unequal returns of other unmeasured factors produce an effect of -0.38. The decomposition of earnings difference between these two groups in 2008 shows that the original Ln earnings difference is -0.06, the explained difference which is attributed to the different levels of characteristics between two groups is 0.13, and the unexplained difference is -0.19. That is to say, in 2008, if levels of characteristics of these two groups are the same, temporary migrants from rural to urban would expect to have 0.13 more earnings than permanent migrants from rural to urban, but in fact their earnings are -0.06 less, the unequal returns of other unmeasured factors produce an effect of -0.19. Comparing the results for 2003 and 2008, the earnings difference between

temporary migrants from rural to urban and permanent migrants from rural to urban decreased from -0.27 to -0.06, the unexplained difference which is the effect of unmeasured factors decreased from -0.37 to -0.19. In other words, the earnings difference between temporary migrants from rural to urban and urban and permanent migrants from rural to urban decreased from 2003 to 2008 and the discrimination against temporary migrants from rural to urban also decreased. In summary, from 2003 to 2008, the earnings gap between temporary migrants from rural to urban and other groups have been reduced, while the effect of unmeasured factors on the earnings of temporary migrants from rural to urban also decreased significantly.

Table 5.7 Decomposing the earnings disparity of Temporary migrants rural-urban with Urban non-migrants and Permanent migrants rural-urban in 2003 and 2008

	Permanent Migrants Rural-Urban VS. Urban Non-Migrants		Permanent Migrants Rural-Urban VS. Permanent Migrants Urban-Urban	
	2003	2008	2003	2008
Total Difference	0.00	-0.10	-0.23	-0.22
Explained difference	0.04	-0.03	-0.09(38.6%)	-0.12(53.4%)
Unexplained difference	-0.04	-0.07	-0.14(61.4%)	-0.10(46.6%)

Columns 1 and 2 in Table 5.7 present decomposition of earnings difference between permanent migrants from rural to urban and urban non-migrants, and columns 3 and 4 present decomposition of earnings difference between permanent migrants from rural to urban and permanent migrants from urban to urban. The calculations are provided in Appendices E to H. Column 1 shows that in 2003 the original ln earnings difference between temporary migrants from rural to urban and urban non-migrants is 0.00; 0.04 can be attributed to differences in levels of characteristics, such as differences in schooling, years of working, party membership, gender, and ownership sectors. The unexplained difference is -0.04. In other words, if levels of the characteristics between these two groups are the same, permanent migrants from rural to urban expect to earn 0.04 more than permanent migrants from urban to urban, but they actually

earn the same as permanent migrants from urban to urban, as the unequal returns of other unmeasured factors produce an effect of -0.04. In 2008, the original earning difference is -0.10; the explained difference and unexplained difference is -0.03 and -0.07 respectively. That is to say, in 2008, 30 percent of the original difference between permanent migrants from rural to urban and urban non-migrants can be attributed to differences in levels of characteristics between these two groups, while 70 percent of the original differences are due to the effect of unmeasured factors.

Column 3 and column 4 in Table 5.7 present the decomposition of earnings difference between permanent migrants from rural to urban and permanent migrants from urban to urban in 2003 and 2008. The calculations are provided in Appendix G and H. In 2003, the earnings difference is -0.23; it is found that -0.09 of the original differences can be attributed to different human capital and working sectors between permanent migrants from rural to urban and permanent migrants from urban to urban. Furthermore, unexplained differences produce an effect of -0.14 which accounts for 61.4% of the total earnings gap. That means, of the -0.23 earnings difference between permanent migrants from rural to urban and permanent migrants from urban to urban in 2003, 38.6% of the difference can be attributed to the differences in human capital and working sectors, and 61.4% of the difference is attributed to the effect of unmeasured factors. The decomposition of earnings difference between these two groups in 2008 show that the original ln earnings difference is -0.22, the explained difference which is attributed to the different levels of characteristics between two groups is -0.12, and the unexplained difference is -0.10. That is to say, of the -0.22 earnings difference between permanent migrants from rural to urban and permanent migrants from urban to urban in 2008, 53.4% of the difference can be attributed to the differences in human capital and working sectors, and 46.6%

of the difference is attributed to the effect of unmeasured factors. Comparing the results of 2003 and 2008, the earnings difference between permanent migrants from rural to urban and permanent migrants from urban to urban slightly decreased from -0.23 to -0.22, but the effect of unmeasured factors decreased from 61.4% of the total difference to 46.6% of the total difference. In other words, the earnings difference between temporary migrants from rural to urban and permanent migrants from rural to urban decreased from 2003 to 2008 and the effect of unmeasured factors also decreased.

5.4 Summary

In summary, in 2003, male migrants with urban *Hukou* status (temporary migrants from urban to urban, permanent migrants from rural to urban, and permanent migrants from urban to urban) had higher earnings than male urban non-migrants either before or after variations in other factors were controlled. Earnings of male migrants with rural *Hukou* status were not significantly different from those of male urban non-migrants. In 2008, migrant status was not an important factor in determining income for males; earnings of migrant groups were not significantly different from those of urban non-migrants, except for temporary migrants from urban to urban who had significant higher earnings than urban non-migrants.

For females, those who were from rural areas (temporary migrants from rural to urban and permanent migrants from rural to urban) had lower gross earnings than female urban non-migrants, but those who were from urban areas (temporary migrants from urban to urban and permanent migrants from urban to urban) had higher gross earnings than female urban non-migrants in 2003. After variations in other variables are considered, except for temporary migrants from urban to urban who had higher net earnings than urban non-migrants, there was

little earnings difference between urban non-migrants and other migrant groups. In 2008, migrants who were from urban areas (temporary migrants from urban to urban and permanent migrants from urban to urban) still maintained higher gross and net earnings than female urban non-migrants. The earnings of migrants who were from rural areas (temporary migrants from rural to urban, and permanent migrants from rural to urban) were not significantly different from that of urban non-migrants.

Thus, it can be said in general that male migrants had higher earnings than urban non-migrants in 2003, while in 2008, there was little earnings difference between migrant groups and urban non-migrants; the effect of migrant status was not an important factor in determining male's earnings in 2008. For females, migrants from urban areas had a significant earnings advantage in both 2003 and 2008; female migrants from rural areas had lower gross earnings than urban non-migrants in 2003 but there was little earnings difference between female migrants from rural areas and urban non-migrants in 2008. From 2003 to 2008, the effect of migrant status on earnings decreased.

Results from decomposition analyses indicate that not only earnings difference of migrants from rural area (temporary and permanent migrants from rural to urban) with other groups decreased, but the unexplained difference which is effect of unmeasured factors also decreased from 2003 to 2008.

CHAPTER 6 OCCUPATIONAL ATTAINMENTS OF MIGRANTS AND NON-MIGRANTS

The previous chapter examined economic returns of migrant groups and urban non-migrants in 2003 and 2008. The purpose of this chapter is to examine occupational attainment of migrant groups and urban non-migrants using data from CGSS 2003 and CGSS 2008 and to test whether migrant status affects individual's occupational attainments and whether the effect of migrant status decreases in 2008 compared to in 2003. This is important because differing employment opportunities in certain occupations due to different migrant status, rather than productivity, result in occupational discrimination (Brown *et al.*, 1980). Such discrimination is an artificial barrier and embodies the inequality under *Hukou* system.

The dependent variables are the most recent occupation in 2002 and in 2007. Occupation is classified into two categories: 1) managerial & professional work; 2) ordinary service & sales work. In regression, managerial & professional work was recoded as 0 and ordinary service & sales work was recoded as 1. The explanatory variables are the same as those in the last chapter, include years of schooling, years of work experience, party membership, gender and ownership sectors.

As in the last chapter, the first part of the analysis involves describing differences in occupational attainments of different groups. The second part of the analysis involves developing a logistic regression model to compare the likelihood of migrant groups and urban non-migrants of being in ordinary, service & sales work other than managerial & professional work. The analysis first estimates effects of migrant status, or in other words, differences before other explanatory variables are being considered. Next, occupational differences between migrant

groups and urban non-migrants are examined after controlling variations in human capital variables and ownership sectors. The third part of the analysis involves decomposing the occupational differentials between (1) temporary migrants from rural to urban and urban non-migrants (2) temporary migrants from rural to urban and permanent migrants from rural to urban (3) permanent migrants from rural to urban and urban non-migrants and (4) permanent migrants from rural to urban and permanent migrants from urban to urban in both 2003 and 2008. This is to examine how much of the occupational differentials of these four pair of groups is attributed to discrimination and whether the discrimination decreases from 2003 to 2008.

6.1 Descriptive analysis

Table 6.1 and Table 6.2 present occupational distribution of male and female with different migrant status in 2003 and 2008 respectively. Data from CGSS 2003 and CGSS 2008 both show that occupations were significantly related to migrant status ($X^2=83.724$, $pr=0.00$ for male, $X^2=50.337$, $pr=0.00$ for female in 2003; $X^2=48.248$, $pr=0.00$ for male $X^2=63.449$ $pr=0.00$ for female in 2008).

Comparing occupational distribution pattern for male and female, the pattern of five male groups is different from that of five female groups in both 2003 and 2008. However, occupational distribution pattern of five male groups in 2003 is same with that of five male groups in 2008, meanwhile, occupational distribution of five female groups presents same pattern in 2003 and in 2008.

In both 2003 and 2008, for both male and female, temporary migrants from rural to urban were most likely to be employed in ordinary, service & sales work among five groups. To be specific, 79.7 percentage male temporary migrants from rural to urban and 85.5 percentage female

temporary migrants from rural to urban were employed in ordinary, service & sales works in 2003, 83.0 percentage male temporary migrants from rural to urban and 83.1 percentage female temporary migrants from rural to urban were employed in ordinary & service work in 2008. This finding is consistent with the literature which demonstrates that rural migrants are concentrated in ordinary occupations such as production-line, service and construction work (Meng and Zhang, 2001; Chen, 2010).

On the other hand, in both 2003 and 2008, for both male and female, permanent migrants from urban to urban were least likely to work in ordinary & service jobs among five groups. For example, 50.2 percentage male permanent migrants from urban to urban and 53.0 percentage female permanent migrants from urban to urban were employed in ordinary, service & sales work in 2003. 43.2 percent of male permanent migrants from urban to urban and 37.0 percent of female permanent migrants from urban to urban were employed in ordinary, service & sales work in 2008.

The main differences in occupational attainments between male and female is the different ranking of male and female permanent migrants from rural to urban. Male permanent migrants from rural to urban were second least likely to be employed in ordinary, service & sales work in both 2003 and 2008 among five groups while female permanent migrants from rural to urban were second most likely to be employed in ordinary, service & sales work in both 2003 and 2008 among five groups. To be specific, in two years, the percent of being employed in ordinary, service & sales work for male permanent migrants from rural to urban (51.4 percent in 2003 and 55.3 percent in 2008) was smaller than that for male urban non-migrants (68.2 percent in 2003 and 65.0 percent in 2008) and male temporary migrants from urban to urban (61.8 percent in 2003 and 56.9 percent in 2008). On the contrary, the percent of being employed in ordinary,

service & sales work for female permanent migrants from rural to urban (63.1 percent in 2003 and 58.9 percent in 2008) was larger than that for female urban non-migrants (63.0 percent in 2003 and 58.9 percent in 2008) and female temporary migrants from urban to urban (59.4 percent in 2003 and 51.1 percent in 2008). That is to say, occupational attainments of female migrants from rural area (whether temporary or permanent) are worse off urban non-migrants and migrants from urban area (whether temporary or permanent). However, occupational attainments of male permanent migrants from rural to urban are better than male urban non-migrants and male temporary migrants from urban to urban.

Table 6.1 Occupational differences by migrant status in 2003 for Male and Female

	Professional & Managerial		Ordinary, Service & Sale		N
	Male	Female	Male	Female	
Urban non-migrants	31.8	37.0	68.2	63.0	1199
Temporary Migrants Rural-Urban	20.3	14.5	79.7	85.5	250
Temporary Migrants Urban-Urban	38.2	40.6	61.8	59.4	153
Permanent Migrants Rural-Urban	48.6	36.9	51.4	63.1	1246
Permanent Migrants Urban-Urban	49.8	47.0	50.2	53.0	1387
Total	41.9	39.4	58.1	60.6	
N	943	781	1309	1202	4235
	40.7		59.3		

Table 6.2 Occupational differences by migrant status in 2008 for Male and Female

	Professional & Managerial		Ordinary, Service & Sale		N
	Male	Female	Male	Female	
Urban non-migrants	35.0	41.1	65.0	58.9	1541
Temporary Migrants Rural-Urban	17.0	16.9	83.0	83.1	319
Temporary Migrants Urban-Urban	43.1	48.9	56.9	51.1	265
Permanent Migrants Rural-Urban	44.7	41.1	55.3	58.9	471
Permanent Migrants Urban-Urban	56.8	63.0	43.2	37.0	173
Total	36.8	40.3	63.2	59.7	
N	509	558	875	827	2769
	38.5		61.5		

Meanwhile, there were some differences in characteristics between five groups (as show in Table 5.1 and Table 5.2 in previous chapter). Undoubtedly, differences in background variables affect the occupational attainment, it is possible that occupational differences between five groups can be explained by the variations in human capital and ownership sectors. In order to disentangle the effects of achieved attributes, such as education, work experience from the effects of institutional attributes, I conduct a logistic regression analysis that evaluates the relative contributions two groups of independent variables, migrant status, human capital variables. Two models were included in logistic regression analysis. The first model only includes migrant status variables, the second model estimates the occupational attainment of the groups after taking into account variations in the human capital variables which include years of schooling, years of work experience and party membership, gender and ownership sectors. These results are reported in Table 6.3 for 2003 and Table 6.4 for 2008.

6.2 Logistic Regression analysis

Table 6.3 presents the results of the logistic regression using data from CGSS 2003. The results indicated that migrant status had significant effect on individual's occupational attainments in 2003. In model 1, coefficients of temporary migrants from rural to urban and two permanent migrants groups were significant. Compared to urban non-migrants, temporary migrants from rural to urban were 2.4 times more likely to be employed in ordinary & service, sales works, permanent migrants from rural to urban were 32 percent less to work in ordinary & service, sales works, permanent migrants from urban to urban were 44 percent less likely to work in ordinary, service & sales occupations. In summary, before taking into account the variations of human capital and ownership sectors, permanent migrants had higher chance to be employed

in managerial & professional works relative to ordinary & service, sales works than urban non-migrants; while temporary migrants from rural to urban were more likely to be employed in ordinary & service, sales works than urban non-migrants. In model 2, migrant status still had a significant effect on occupational attainments after taking into variables of human capital and ownership sectors. Coefficients of two permanent migrant groups were still significant and negative, that means compared to urban non-migrants, permanent migrants from rural to urban were 33 percent less likely to work in ordinary & service, sales works, permanent migrants from urban to urban were 19 percent less likely to work in ordinary & service, sales occupations. In contrast to model 1, temporary migrants from rural to urban are revealed in model 2 to have become less likely to be employed in ordinary & service, sales works, although the coefficient was not statistically significant. In other words, migrants had higher chances to be employed in managerial & professional works relative to ordinary & service, sales works than urban non-migrants when differences in other variables were controlled in 2003.

As to the human capital variables, effects of all human capital variables on an individual's occupational attainments were significant. To be specific, each additional year of schooling decreased the odds of being employed in ordinary & service, sales works by 36 percent when other factors were controlled; and each additional year of working decreased the odds of being employed in ordinary & service, sales works by 3 percent when other factors were controlled; those who were a party member were 77 percent less likely to work in ordinary & service, sales positions than those who were not party members; males were 1.4 times more likely to be employed in ordinary & service, sales works than females when other factors were taken into account. Ownership sectors had a statistically significant effect on individuals' occupational attainments. Compared to those who worked in state owned organization, those who worked in

state owned enterprises were 1.6 times more likely to work in ordinary & service, sales positions; those who worked in collective owned enterprises were 1.6 times more likely to work in ordinary & service, sales positions; and those who worked in privately owned enterprises were 3.4 times more likely to work in ordinary & service, sales positions when differences in other variables were controlled. Finally, the statistic measuring the “goodness of fit” (-2LL) indicates a good match between predicted and actual values in the dependent variable, and that the independent variables made a difference in predicting the odds of being employed in ordinary & service, sales works (significant model χ^2).

Table 6.3 Logistic regression showing logits of occupational attainments in 2003, Dependent variable: probability of being employed in ordinary, service and sales works

	<u>Model 1</u>		<u>Model 2</u>		Marginal Effects
	Coefficients	Odds	Coefficients	Odds	
Constant	.653***		6.203***		
<i>Migrant Status (reference: urban non-migrants)</i>					
Temporary Migrants Rural-Urban	.877***	2.403	-.253	.776	-0.06106
Temporary Migrants Urban-Urban	-.210	.811	-.274	.760	-0.06613
Permanent Migrants Rural-Urban	-.381***	.683	-.398***	.672	-0.09606
Permanent Migrants Urban-Urban	-.583***	.558	-.215*	.807	-0.05189
<i>Human Capital</i>					
Years of Schooling			-.446***	.640	-0.10764
Years of Work experience			-.031***	.970	-0.00748
Party Membership (reference: non-party member)			-1.457***	.233	-0.35165
Gender (reference: female)			.317***	1.372	0.07651
<i>Ownership Sectors (reference: state-owned organizations)</i>					
State-Owned Enterprises			.452***	1.572	0.10909
Collective-owned Enterprises			.465**	1.591	0.11223
Private-owned enterprises			1.228***	3.414	0.29638
Foreign invested enterprises			.475	1.608	0.11464
N		4326		4240	
-2 log Likelihood		5722.448		3974.160	
Model Chi Square		122.098***		1756.424***	
R ²		.028 .038		.339 .458	

*** $p \leq 0.05$

Table 6.4 presents the results of the logistic regression using data from CGSS 2008. Migrant status played a significant role in determining individual's occupational attainments in 2008. In model 1, coefficients of three migrant groups were significant, compared to urban non-migrants, temporary migrants from rural to urban were 2.4 times more likely to be employed in ordinary & service, sales works, temporary migrants from urban to urban were 29 percent less likely to work in ordinary & service, sales works, permanent migrants from rural to urban were 32 percent less likely to work in ordinary & service, sales works, and permanent migrants from urban to urban were 44 percent less likely to work in ordinary & service, sales works. In summary, before taking into account the variations of human capital and ownership sectors, permanent migrants and temporary migrants from urban to urban had higher chances than urban non-migrants to be employed in managerial & professional work relative to ordinary & service, sales work; while temporary migrants from rural to urban were more likely to be employed in ordinary & service, sales works than urban non-migrants in 2008. In model 2, after taking into account variations in human capital variables and ownership sectors, migrant status still had a significant effect on occupational attainment. Coefficients of temporary migrants from rural to urban and two permanent migrants groups were significant. Compared to urban non-migrants, permanent migrants from rural to urban were 28 percent less likely to work in ordinary & service, sales works, permanent migrants from urban to urban were 52 percent less likely to work in ordinary & service, sales works; in contrast to results from CGSS 2003, temporary migrants from rural to urban were 1.4 times more likely to be employed in ordinary & service, sales works compared to urban non-migrants in 2008. In other words, permanent migrants had higher chances to be employed in managerial & professional work relative to ordinary & service, sales works than

urban non-migrants, however temporary migrants from rural to urban had higher chances to be employed in ordinary & service, sales works rather than managerial & professional work than urban non-migrants when differences in other variables were controlled in 2008.

Effects of all human capital variables on individual's occupational attainments were significant using CGSS 2008. The odds for the variable "years of schooling" shows that each additional year of schooling decreased the odds of being employed in ordinary & service, sales works by 32 percent when other factors were controlled; and each additional year of working decreased the odds of being employed in ordinary & service, sales works by 2 percent when other factors were controlled; those who were a party member were 68 percent less likely to work in ordinary & service, sales positions than those who were not party members; males were 1.8 times more likely to be employed in ordinary & service, sales works than female when other factors were taken into account. In 2008, ownership sectors didn't have a significant effect on individual's occupational attainment. Compared to those who worked in state owned organization, those who worked in privately owned enterprises were 1.4 times more likely to work in ordinary & service, sales positions when differences in other variables were controlled. The occupational attainment of those who worked in collective enterprises and foreign invested enterprises wasn't significantly different from those who worked in state owned enterprises. Finally, the statistic measuring the "goodness of fit" (-2LL) indicates a good match between predicted and actual values in the dependent variable, and that the independent variables made a difference in predicting the odds of being employed in ordinary & service, sales work (significant model χ^2).

Table 6.4 Logistic regression showing logits of occupational attainments in 2008,
Dependent variable: probability of being employed in ordinary, service and sales works

	Model 1		Model 2		Marginal Effects
	Coefficients	odds	Coefficients	Odds	
Constant	.508***		5.167***		
<i>Migrant Status (reference: urban non-migrants)</i>					
Temporary Migrants Rural-Urban	1.108***	3.029	.352*	1.423	.0833
Temporary Migrants Urban-Urban	-.344*	.709	-.189	.828	-.0448
Permanent Migrants Rural-Urban	-.121	.886	-.329**	.720	-.0779
Permanent Migrants Urban-Urban	-.890***	.411	-.728***	.483	-.1724
<i>Human Capital</i>					
Years of Schooling			-.383***	.682	-.0907
Years of Work experience			-.024***	.976	-.0057
Party Membership (reference: non-party member)			-1.135***	.321	-.2687
Gender (reference: female)			.577***	1.780	.1366
<i>Ownership Sectors (reference: state-owned enterprises)</i>					
Collective-owned Enterprises			.061	1.063	.0144
Private-owned enterprises			.302**	1.353	.0715
Foreign invested enterprises			.078	1.081	.0185
N		2855		2769	
-2 Log Likelihood		3670.735		2871.140	
Model Chi Square		114.244***		820.584***	
R ²		.039 .053		.256 .348	

*** $p \leq 0.05$

Comparing the effect of migrant status on individual's occupational attainments in 2003 and 2008, there was no sign that the effect decreased from 2003 to 2008. Coefficients of migrant status variables were significant after standardization of difference in characteristics in both 2003 and 2008, which revealed that there is occupational inequality between people with different migrant status. In both years, permanent migrants, whether from rural to urban or from urban to urban, were more likely than urban non-migrants to be in professional & managerial work relative to ordinary, service & sales works. The only difference between 2003 and 2008 was in the occupational attainments of temporary migrants from rural to urban. Temporary migrants from rural to urban were less likely to be in ordinary & service, sales jobs than urban non-

migrants after controlling variations in characteristics in 2003, however they were more likely to be in ordinary & service, sales works than urban non-migrants after taking into account variations in characteristics in 2008. This result indicates that the inequality of occupational attainments between temporary migrants from rural to urban and urban non-migrants increased from 2003 to 2008.

6.3 Decomposition Analysis

Logistic regression analyses indicated that there were significant occupational differences between people with different migrant status in both 2003 and 2008, however, it is not clear to what extent such occupational differences are due to discrimination. Using the Blinder and Oaxaca method of decomposition (Blinder, 1973; Oaxaca, 1973), it is possible to decompose the occupational differentials between different groups into components of explained gap (attributed to differences in levels of characteristics between these two groups) and unexplained gap (attributed to effect of unmeasured factors). The tables showing the calculations of the decomposition are in Appendix I to P, and the summary of decomposition is given in Table 6.5 and Table 6.6.

Table 6.5 Decomposing the occupational differentials of Temporary migrants rural-urban with Urban non-migrants and Permanent migrants rural-urban in 2003 and 2008

	Temporary Migrants Rural-Urban VS. Urban Non-Migrants		Temporary Migrants Rural-Urban VS. Permanent Migrants Rural-Urban	
	2003	2008	2003	2008
Total Difference	0.16	0.22	0.27	0.29
Explained difference	0.12 (72%)	0.13 (58%)	0.17(63%)	0.10 (35%)
Unexplained difference	0.04 (28%)	0.09 (42%)	0.10(37%)	0.19 (65%)

Column 1 and column 2 in Table 6.5 present the decomposition of difference in odds of being employed in ordinary & service, sales works between temporary migrants from rural to urban and urban non-migrants in 2003 and 2008. The calculations are provided in Appendices I and J.

In column 1, the decomposition shows that of the original difference in odds of being employed in ordinary & service, sales occupations was 0.16 in 2003, 0.12 can be attributed to differences in levels of characteristics, such as differences in schooling, years of working, party membership, gender and ownership sectors. The unexplained difference is 0.04. In other words, if levels of the characteristics between these two groups were the same, temporary migrants from rural to urban were expected to be 0.12 more likely to work in ordinary & service, sales positions than urban non-migrants, but they were actually 0.16 more likely than urban non-migrants to be employed in ordinary & service, sales works, the unequal returns of other unmeasured factors produce an effect of 0.04. That is to say in 2003, 72 percent of original differentials in occupational attainments between permanent migrants from rural to urban and urban non-migrants can be attributed to differences in levels of characteristics between these two groups, while 28 percent of the original differences are due to the effect of unmeasured factors. In 2008, the original difference is 0.22, the explained difference and unexplained difference are 0.13 and 0.09 respectively. That is to say in 2008, if levels of the characteristics between these two groups are same, temporary migrants from rural to urban are expected 0.13 more likely to work in ordinary & service, sales positions than urban non-migrants, other unmeasured factors make them 0.09 more likely to work in ordinary & service, sales positions than urban non-migrants. 58 percent of original difference between permanent migrants from rural to urban and urban non-migrants can be attributed to differences in levels of characteristics between these two groups, while 42 percent of the original differences are due to the effect of unmeasured factors. Comparing the results of 2003 and 2008, the original difference in odds of being employed in ordinary & service, sales works between temporary migrants from rural to urban and urban non-migrants increased from 0.16 to 0.22, the unexplained difference which is the effect of unmeasured factors increased

from 0.04 to 0.09. That is to say, differentials of occupational attainments between temporary migrants from rural to urban and urban non-migrants increased, and effect of unmeasured factor also increased from 2003 to 2008.

Column 3 and column 4 in Table 6.5 present the decomposition of differences in odds of being employed in ordinary & service, sales works between temporary migrants from rural to urban and permanent migrants from rural to urban in 2003 and 2008. The calculations are provided in Appendices K and L. In 2003, the total difference is 0.27, it is found that 0.17 of the original differences can be attributed to different levels of characteristics between temporary migrants from rural to urban and permanent migrants from rural to urban. Furthermore, unexplained differences produce an effect of 0.10 of temporary migrants from rural to urban. That means, if human capital and working sectors of temporary migrants from rural to urban are same as those of permanent migrants from rural to urban, temporary migrants from rural to urban are expected to be 0.17 more likely to work in ordinary & service, sales works than permanent migrants from rural to urban, but they are actually 0.27 more likely than urban permanent migrants from rural to urban, the unequal effect of other unmeasured factors make temporary migrants from rural to urban 0.10 more likely to work in ordinary & service, sales positions. That is to say in 2003, 63 percent of original difference between permanent migrants from rural to urban and urban non-migrants can be attributed to differences in levels of characteristics between these two groups, while 37 percent of the original differences are due to the effect of unmeasured factors. In 2008, the decomposition of difference in odds of being employed in ordinary & service, sales works between these two groups shows that the total difference is 0.29, the explained difference which is attributed to the different levels of characteristics between two groups is 0.10, and the unexplained difference is 0.19. That is to say, in 2008, if levels of characteristics of these two

groups are same, temporary migrants from rural to urban are expected only 0.10 more likely to be employed in ordinary & service, sales works than permanent migrants from rural to urban, but in fact they are 0.29 more likely to work in ordinary & service, sales works than permanent migrants from rural to urban, the unequal effects of other unmeasured factors produce an effect of 0.19. 65 percent of original difference between permanent migrants from rural to urban and urban non-migrants can be attributed to differences in levels of characteristics between these two groups, while 35 percent of the original differences are due to the effect of unmeasured factors. Comparing the results of 2003 and 2008, the difference in odds of being employed in ordinary & service, sales works between temporary migrants from rural to urban and permanent migrants from rural to urban increased from 0.27 to 0.29, the unexplained difference which is the effect of unmeasured factors increased from 0.10 to 0.19. In other words, compared to permanent migrants from rural to urban, the chance of temporary migrants from rural to urban to be employed in ordinary & service, sales works increased from 2003 to 2008 and the discrimination against temporary migrants from rural to urban also increased. In summary, from 2003 to 2008, temporary migrants from rural to urban had an increased likelihood of being employed in ordinary & service, sales works compared to urban non-migrants and permanent migrants from rural to urban, meanwhile the effect of unmeasured factors on the occupational attainments of temporary migrants from rural to urban also increased significantly.

Table 6.6 Decomposing the occupational differentials of Permanent migrants rural-urban with Urban non-migrants and with Permanent migrants rural-urban in 2003 and 2008

	Permanent Migrants Rural-Urban VS. Urban Non-Migrants		Permanent Migrants Rural-Urban VS. Permanent Migrants Urban-Urban	
	2003	2008	2003	2008
Total Difference	-0.11	-0.0606	0.08	0.22
Explained difference	-0.03 (26%)	-0.0004 (0.6%)	0.14	0.13 (60%)
Unexplained difference	-0.08 (74%)	-0.0602 (99.4%)	-0.06	0.09 (40%)

Columns 1 and 2 in Table 6.6 present decomposition of difference in odds of being employed in ordinary & service, sales works between permanent migrants from rural to urban and urban non-migrants, columns 3 and 4 present decomposition of difference in odds of being employed in ordinary & service, sales works between permanent migrants from rural to urban and permanent migrants from urban to urban. The calculations are provided in Appendix M to P. Column 1 shows that in 2003 the original gap between permanent migrants from rural to urban and urban non-migrants is -0.11, -0.03 can be attributed to differences in levels of characteristics, such as differences in schooling, years of working, party membership, gender and ownership sectors. The unexplained difference is -0.08. In other words, if levels of the characteristics between these two groups are same, permanent migrants from rural to urban are expected 0.03 less likely than urban non-migrants to be employed in ordinary & service, sales works, but the actual result reveals 0.11 less likelihood of being employed in ordinary & service, sales works, the effect of other unmeasured factors make permanent migrants from rural to urban 0.08 less likely to be employed in ordinary & service, sales works than urban non-migrants. In 2003, 26 percent of the original occupational difference between permanent migrants from rural to urban and urban non-migrants can be attributed to differences in levels of characteristics between these two groups, while 74 percent of the original differences are due to the effect of unmeasured factors. In 2008, the original difference in odds of being employed in ordinary & service, sales works is -0.0606, the explained difference and unexplained difference is -0.0004 and -0.0602 respectively. That is to say, permanent migrants from rural to urban are 0.0606 less likely than urban non-migrants to be employed in ordinary & service, sales works; if levels of the characteristics between these two groups are the same, permanent migrants from rural to urban would be only 0.004 less likely to work in ordinary & service, sales positions, and the effect of other unmeasured factors make

permanent migrants from rural to urban 0.0602 less likely to be employed in ordinary & service, sales works than urban non-migrants. In 2008, 0.6 percent of occupational differentials between permanent migrants from rural to urban and urban non-migrants can be attributed to differences in levels of characteristics between these two groups, while 99.4 percent of the original differences are due to the effect of unmeasured factors. In summary, compared to urban non-migrants, the chance of permanent migrants from rural to urban to be employed in ordinary & service, sales works decreased from 2003 to 2008, however the effect of unmeasured factors increased from 2003 to 2008.

Column 3 and column 4 in Table 6 present the decomposition of difference in odds of being employed in ordinary & service, sales works between permanent migrants from rural to urban and permanent migrants from urban to urban in 2003 and 2008. The calculations are provided in Appendix O and P. In 2003, the total difference is 0.08, it is found that 0.14 of the original differences can be attributed to different human capital and working sectors between permanent migrants from rural to urban and permanent migrants from urban to urban, furthermore, unexplained differences produce an effect of -0.06. The decomposition of occupational difference between these two groups in 2008 show that the original difference is 0.22, the explained difference which is attributed to the different levels of characteristics between two groups is 0.13, and the unexplained difference is 0.09. That is to say, if levels of the characteristics between these two groups are the same, permanent migrants from rural to urban are expected to be only 0.13 more likely than permanent migrants from urban to urban to be employed in ordinary & service, sales works, but the actual difference is that they are 0.22 more likely to be employed in ordinary & service, sales works; the effect of other unmeasured factors make permanent migrants from rural to urban 0.09 more likely to be employed in ordinary &

service, sales works than permanent migrants from urban to urban. In 2008, 60 percent of the difference in odds of being employed in ordinary & service, sales works between permanent migrants from rural to urban and permanent migrants from urban to urban can be attributed to the differences in human capital and working sectors, and 40 percent of the difference is attributed to the effect of unmeasured factors. Comparing the results of 2003 and 2008, compared to permanent migrants from urban to urban, the chance of permanent migrants from rural to urban to be employed in ordinary & service, sales works increased from 2003 to 2008.

6.4 Summary

In summary, in 2003, migrant status had a significant effect on individuals' occupational attainment after controlling for education, work experience, party membership, gender, and ownership sectors. Permanent migrants (whether from rural to urban or urban to urban) were less likely to be employed in ordinary & service, sales works than urban non-migrants either before or after variations in human capital variables and ownership sectors were controlled for. Temporary migrants from rural to urban were less likely to be in ordinary & service, sales works after controlling variations in human capital and ownership sectors variables, although the coefficient was not significant. In 2008, migrant status still had a significant effect on people's occupational attainments after controlling for human capital variables and ownership sectors. Two permanent migrant groups were still less likely than urban non-migrants to be employed in ordinary & service, sales works, while temporary migrants from rural to urban were more likely than urban non-migrants to be employed in ordinary & service, sales works either before or after variations in human capital variables and ownership sectors were controlled.

Results from logistic regression analyses indicated that there was no sign that effect of migrant status on individuals' occupational attainments decreased from 2003 to 2008. At the same time, results from decomposition analyses also support this finding. The occupational differentials between temporary migrants from rural to urban and urban non-migrants; between temporary migrants from rural to urban and permanent migrants from rural to urban; and between permanent migrants from rural to urban and urban non-migrants, increased from 2003 to 2008, meanwhile, the proportion of effect of unmeasured factors in total occupational differentials also increased from 2003 to 2008. The results from decomposition analyses indicated that not only did migrant status have a significant effect on individuals' occupational attainments in both 2003 and 2008, but the occupational discrimination against migrants from rural areas increased as well.

Findings from this chapter indicate that migrant status continues to significantly influence individuals' occupations, after controlling for other factors in both 2003 and 2008. Temporary migrants from rural to urban are more likely to be in ordinary, service and sales works than urban non-migrants. At the same time, unexplained occupational gap between migrants from rural area and other groups increased from 2003 to 2008. These findings show evidence of occupational discrimination based on migrant status.

CHAPTER 7 DISCUSSION: ARE URBAN NON-MIGRANTS THE RIGHT REFERENCE GROUP?

To address the effects of the *Hukou* system and labour market discrimination against migrants, most of the existing literature uses local residents as a reference group and compares labour market returns of rural and urban migrants (Chen, 2010) or temporary and permanent migrants (Fan, 2001) to that of local residents. (Knight and Song, 1999b; Meng and Zhang, 2001, Wang *et al.*, 2002; Appleton *et al.*, 2005). In the previous part, I also use local residents which are urban non-migrants in this dissertation as a reference group and compare earnings and occupational attainments of urban non-migrants to that of four migrant groups. In the following part, comparing earnings and occupational attainments separately of four pairs of (1) temporary migrants from rural to urban and permanent migrants from rural to urban (2) Urban non-migrants and Temporary migrants rural-urban (3) Urban non-migrants and Permanent migrants urban-urban (4) Permanent migrants rural-urban and Permanent migrants urban-urban, this thesis is to further investigate the effect of *Hukou* type, migration selection and *Hukou* origin.

7.1 Effect of *Hukou* type: Temporary migrants rural-urban VS. Permanent Migrants rural-urban

By comparing the earnings and occupational attainments between temporary and permanent migrants from rural to urban, the pure *Hukou* type effect can be separated as both groups are migrants from rural origin but differ only by *Hukou* type they hold. Permanent migrants from rural to urban hold urban *Hukou* type while temporary migrants from rural to urban hold rural

Hukou type. The results of the multiple and logistic regression for temporary migrants from rural to urban and permanent migrants from rural to urban are presented in Table 7.1

Columns 1 and 2 in Table 7.1 show the results of multiple regression of net effects of *Hukou* type on log earnings in 2003 and 2008 separately. The coefficients of permanent migrants rural-urban (temporary migrants rural-urban=0) are not statistically significant after controlling for variation in human capital and ownership sectors in both 2003 and 2008. The results indicate that permanent migrants from rural to urban had little net earnings difference with temporary migrants from rural to urban, original log earnings differences can be attributed to different characteristics of two groups and different *Hukou* type had little effect on log earnings in both 2003 and 2008.

Columns 3 and 4 in Table 7.1 show the results of logistic regression of net effects of *Hukou* type on occupational attainments in 2003 and 2008 separately. Coefficients of permanent migrants rural-urban are not statistically significant when variations in human capital and ownership sectors are controlled, which means there was little difference in occupational attainments between permanent migrants from rural to urban and temporary migrants from rural to urban in 2003 and 2008 with other factors being equal. That is to say, different *Hukou* type had little net effect on occupational attainments in 2003 and 2008.

Results from multiple and logistic regression indicate that there was little difference in log earnings and occupational attainments between temporary migrants from rural to urban and permanent migrants from rural to urban in 2003 and 2008 with other factors being equal, in other words, different *Hukou* type had little net effect on individual's labour market returns in both 2003 and 2008.

Table 7.1 Labour Market Returns of Temporary Migrants Rural-Urban V.S. Permanent Migrants Rural-Urban

	<u>Earnings</u>		<u>Occupational Attainments</u>	
	2003	2008	2003	2008
Permanent migrants rural-urban (Ref: Temporary migrants rural-urban)	.072	-.123	-.071	-.471
Years of Schooling	.093***	.095***	-.437***	-.349***
Years of Working	.002	.000	-.028***	-.026*
Party Membership	.180**	.122	-1.501***	-.967**
Gender	.227***	.246***	.189	.541*
Ownership sectors (Reference: State-owned organization)				
State-owned Enterprises	.175**		.381	
Collective-owned Enterprises	-.121	-.195	.355	.719
Privately-owned Enterprises	.096	-.276**	1.417***	.689*
Foreign-invested Enterprises	.563*	.328	.039	-.055
Constant	-.213	.819***	5.831***	4.664***
R Square	.223 .218	.254 .243	.372 .505	.283 .387
N	1373	575	1496	636

Significance level:* 0.05; ** 0.01; ***0.001

7.2 Disadvantage of *Hukou* type and advantage of migration: Urban non-migrants VS.

Temporary migrants rural-urban

Table 7.2 shows results of multiple and logistic regression of earnings and occupational attainments of temporary migrants from rural to urban and urban non-migrants in both 2003 and 2008. Columns 1 and 2 present results of multiple regression of log earnings. The coefficients of temporary migrants rural-urban (urban non-migrants=0) are not statistically significant after controlling for variation in human capital and ownership sectors in both 2003 and 2008. That is to say there was little difference in net log earnings between temporary migrants from rural to urban and urban non-migrants, original log earnings differences can be attributed to different characteristics of two groups.

Columns 3 and 4 in Table 7.2 show results of logistic regression of occupational attainments. In 2003, occupational attainments of temporary migrants from rural to urban and urban non-

migrants were not significantly different from each other after controlling variation in human capital and ownership sectors. In 2008, temporary migrants from rural were 1.5 times² more likely to be ordinary, service and sales works than urban non-migrants with other factors being equal. This reflects occupational discrimination against temporary migrants from rural to urban in 2008.

Urban non-migrants are individuals who were born in the city and hold local urban *Hukou* status, while temporary migrants from rural to urban, without urban *Hukou* type and local *Hukou* registration, are at a disadvantage in terms of *Hukou* status. However, through comparing earnings and occupational attainments between these two groups, little net earnings difference were found in 2003 and 2008 and there was little difference in occupational attainments in 2003 with other factors being equal. Original difference in labour market returns between these two groups can mostly be explained by their difference in human capital and ownership sectors. Compared to urban non-migrants, temporary migrants from rural to urban were not at a significant disadvantage in terms of labour market returns in both 2003 and 2008. It is possible that temporary migrants from rural to urban obtain a premium for migration (due to positive migration selection), but also be discriminated against due to their temporary and rural *Hukou* status. These two opposing effects may produce the results that little difference in labour market returns between these two groups when human capital variables and ownership sectors are controlled.

² $\text{Exp}(.415)=1.5$

Table 7.2 Labour market returns of urban non-migrants and temporary migrants rural-urban

	<u>Earnings</u>		<u>Occupational Attainments</u>	
	2003	2008	2003	2008
Temporary migrants rural-urban (Ref: Urban non-migrants)	-.016	-.027	-.137	.415*
Years of Schooling	.117***	.106***	-.374***	-.342***
Years of Working	.010***	.001	-.023**	-.011
Party Membership	.098	.111	-1.837***	-1.345***
Gender	.089	.184***	.421**	.605***
Ownership sectors (Reference: State-owned organization)				
State-owned Enterprises	-.019		.466*	
Collective-owned Enterprises	-.378**	-.251***	.562	.125
Privately-owned Enterprises	.062	-.032	1.278***	.384*
Foreign-invested Enterprises	.235	.131	1.272**	.241
Constant	-.492**	.572***	5.104***	4.232***
R Square	.151	.145	.289	.406
N	1334	1421	1449	1634

Significance level: * 0.05; ** 0.01; ***0.001

7.3 Effect of Migration Selection: Urban non-migrants VS. Permanent migrants urban-urban

Migration is not a random process. Migrants positively self-select into urban labour markets based on individual human capital characteristics – many of which are unobserved. As such, migrants' labour market returns likely include a premium related to these unobserved characteristics (Gagnon et.al., 2011). To evaluate the true extent of this “migrant premium”, earnings and occupational attainments between urban non-migrants and permanent migrants from urban to urban are compared. Both groups have urban *Hukou* type and are from urban origin but differ on migration experience. Hence if permanent migrants from urban to urban have advantage in earnings and occupational attainments than urban non-migrants and human capital levels do not fully explain this difference, evidence of a migrant premium can be deduced.

The results of the multiple and logistic regression for permanent migrants from urban to urban and urban non-migrants are presented in Table 7.1. Columns 1 and 2 show the results of multiple regression of net log earnings differentials between permanent migrants from urban to urban and urban non-migrants in 2003 and 2008 separately. In 2003, after controlling for variations in human capital and ownership sectors, permanent migrants from urban to urban still earned 0.114 more in log earnings than urban non-migrants, while in 2008, net earnings of permanent migrants from urban to urban was not significantly different from that of urban non-migrants when variations in human capital and ownership sectors are controlled.

Columns 3 and 4 show the results of logistic regression of occupational attainment of permanent migrants from urban to urban and urban non-migrants in 2003 and 2008 separately. In 2003, the odds of being in ordinary, service and sales works for permanent migrants from urban to urban were significantly 19 percent³ less than urban non-migrants with other factors being equal. In 2008, permanent migrants from urban to urban were significantly 55 percent⁴ less likely to be in ordinary, service and sales works than urban non-migrants after controlling variations in other factors.

In summary, compared to urban non-migrants, permanent migrants from urban to urban had net earnings advantage in 2003 and they also have advantage in occupational attainments in both 2003 and 2008 after controlling variations in other factors. Difference in earnings and occupational attainments between these two groups can't be fully explained by the variations in human capital and ownership sectors. Hence, the results support my hypothesis and provide evidence of the existence and significance of effects of migration selection.

³ $\text{Exp}(-.210)=0.81$

⁴ $\text{Exp}(-.791)=0.45$

Table 7.3 Labour market returns of urban non-migrants and permanent migrants urban-urban

	<u>Earnings</u>		<u>Occupational Attainments</u>	
	2003	2008	2003	2008
Permanent migrants urban-urban (Ref: Urban non-migrants)	.114**	.064	-.210*	-.791***
Years of Schooling	.117***	.103***	-.455***	-.339***
Years of Working	.008***	.001	-.032***	-.014*
Party Membership	.144**	.141*	-1.423***	-1.302***
Gender	.102**	.172***	.371***	.653***
Ownership sectors (Reference: State-owned organization)				
State-owned Enterprises	-.130*		.585**	
Collective-owned Enterprises	-.461***	-.265***	.582*	.040
Privately-owned Enterprises	-.177*	-.020	1.324***	.281
Foreign-invested Enterprises	.187	.117	.721	.569
Constant	-.343**	.624***	6.213***	4.248***
R Square	.218	.215	.328	.441
N	2426	1358	2586	1574

Significance level: * 0.05; ** 0.01; ***0.001

7.4 Effect of *Hukou* origin: Permanent migrants rural-urban VS. Permanent migrants urban-urban

The most neglected effect is the effect of *Hukou* origin. By comparing earnings and occupational attainments of permanent migrants from rural to urban and permanent migrants from urban to urban, the effect of *Hukou* origin can be separated from other effect and further elaborate the inequality under *Hukou* system. Both groups have local urban *Hukou* type and migration experience with the only difference their origins.

Table 7.4 presents the multiple and logistic regression results of earnings and occupational attainments of permanent migrants from rural to urban and permanent migrants from urban to urban in 2003 and 2008. Columns 1 and 2 show the results of multiple regression of log earnings. In 2003, after controlling for variations in human capital and ownership sectors, permanent migrants from urban to urban had a net advantage of 0.081 in ln earnings over permanent migrants from rural to urban. In 2008, the coefficient of permanent migrant urban-urban

(permanent migrants rural-urban=0) was not statistically significant, that is to say there was little difference in net Ln earnings between permanent migrants from rural to urban and permanent migrants from rural to urban.

Columns 3 and 4 show the results of logistic regression of occupational attainments. In 2003, the odds of being in ordinary, service and sales works for permanent migrants from urban to urban were significantly 1.25 times⁵ more than permanent migrants from rural to urban with other factors being equal. In 2008, occupational attainments of permanent migrants from urban to urban were not significantly different from that of permanent migrants from rural to urban when variations in other factors were controlled.

In summary, differences in earnings and occupational attainments between these two groups were still statistically significant in 2003 after controlling for other factors, while in 2008 differences in earnings and occupational attainments between these two groups can be fully explained by the difference in human capital and ownership sectors. That is to say, *Hukou* origin was an important factor in determining individuals' labour market returns in 2003, however in 2008 the effect of *Hukou* origin was no longer significant.

To summarize, different *Hukou* type had little net effect on individuals' labour market returns in both 2003 and 2008. Effects of *Hukou* origin on individuals' labour market returns was significant in 2003 but not significant in 2008. Migration selection had significant and positive effects on people's labour market returns in both 2003 and 2008. The little difference in labour market returns between urban non-migrants and temporary migrants from rural to urban may be the outcome of two opposing mechanisms: a premium for migration selection and discrimination against temporary and rural *Hukou* status.

⁵ $\text{Exp}(.223)=1.25$

Table 7.4 Labour market returns of permanent migrants from urban-urban and permanent migrants rural-urban

	<u>Earnings</u>		<u>Occupational Attainments</u>	
	2003	2008	2003	2008
Permanent migrants urban-urban (Ref: Permanent migrants rural-urban)	.081*	.115	.223*	-.365
Years of Schooling	.105***	.086***	-.487***	-.351***
Years of Working	.004*	-.002	-.035***	-.034**
Party Membership	.183***	.177*	-1.300***	-.936***
Gender	.171***	.217**	.244*	.716**
Ownership sectors (Reference: State-owned organization)				
State-owned Enterprises	.016		.500**	
Collective-owned Enterprises	-.273***	-.197	.420*	.351
Privately-owned Enterprises	-.124	-.325***	1.406***	.327
Foreign-invested Enterprises	.431**	.681**	-.326	.582
Constant	-.200	.853***	6.365***	4.385***
R Square	.253	.250	.305	.294
N	2465	512	2633	576

Significance level: * 0.05; ** 0.01; ***0.001

CHAPTER 8 CONCLUSION

8.1 Summary of findings

The massive migration of population, mainly from rural to urban areas and from regions of northwest inland to southeast coast, has been typical feature of the tremendous social and economic transformation in China and important research topic for scholars both in China and western world since the initiation of economic reform in 1978. Numerous studies have been conducted to investigate the consequences of migration, or to be specific the labour market returns of migrants in destination and difference of labour market returns between migrants and urban non-migrants. The literature on migration and urban labour market in China suggests that the Chinese urban labour market was strictly segmented or divided between migrants and local residents in the 1980s and early 1990s because of institutional barriers (Chen,2011). For a long time, labour market returns of migrants without local urban *Hukou* status were believed far behind local residents and *Hukou* system is the major source of hardship. However, along with deepening of research, more and more researchers found migrants is a heterogeneous group, permanent migrants are the most privileged and successful elite, followed by non-migrant native, and finally by temporary migrants (Fan, 2002). At the same time, with the economic reform accelerated in the mid-1990s, reforms of state sector enterprises and redundancies of urban workers, many studies point out that migrants and urban residents become more competitive and that the role of the *Hukou* system is declining (Knight and Yueh, 2009).

To investigate the relationship of *Hukou* system, migration and inequality of labour market returns, this thesis studies whether individuals with different migrant status will end up with

different labor market returns. To be specific, earnings and occupational attainments of urban non-migrants, temporary migrants from rural to urban, temporary migrants from urban to urban, permanent migrants from rural to urban and permanent migrants from urban to urban are examined. To investigate whether effect of *Hukou* system is declining with the development of market economy, earnings and occupational attainments of five groups in 2003 are compared to that in 2008.

In studying earnings of urban non-migrants and four migrants groups, multiple regression analyses were conducted to examine the gross and net earnings difference between urban non-migrants and other four migrants groups in 2003 and 2008. Multiple regression analyses were followed by Oaxaca-Blinder decomposition to decompose the original log earnings gap into components of explained gaps (gaps can be attributed to difference in characteristics) and unexplained gaps (gaps can be attributed to discrimination). In studying occupational attainments of urban non-migrants and migrants groups, logistic regression models were conducted to compare the likelihood of urban non-migrants and four migrants groups of being in ordinary, service and sales works other than managerial & professional work before and after controlling for the effects of human capital variables and ownership sectors in 2003 and 2008. Oaxaca-Blinder decomposition analyses were then conducted to examine how much of the occupational differentials are attributed to discrimination. Decomposition analyses in both empirical chapters include four pair of groups: (1) temporary migrants from rural to urban and urban non-migrants (2) temporary migrants from rural to urban and permanent migrants from rural to urban (3) permanent migrants from rural to urban and urban non-migrants and (4) permanent migrants from rural to urban and permanent migrants from urban to urban.

There are four main findings. First, effects of migrant status on individuals' earnings and occupational attainments are very mixed. On the one hand, migrant status had a significant effect on individuals' occupational attainments after controlling for human capital variables and ownership sectors in both 2003 and 2008. On the other hand, the effects of migrant status on individuals' earnings changed from 2003 to 2008. For males, the effect of migrant status on earnings was significant in 2003 after controlling for other factors, but not significant in 2008 with other factors being equal. For females, on the contrary, migrant status had little effect on earnings in 2003 after controlling for differences in characteristics, while in 2008, being a migrant with urban *Hukou* contributed to significantly higher earnings than for urban non-migrants. In general, the importance of migrant status on individuals' earnings decreased from 2003 to 2008. Second, earnings discrimination against migrants from rural areas (temporary and permanent migrants from rural to urban) decreased from 2003 to 2008, on the contrary, occupational discrimination against migrants from rural areas increased from 2003 to 2008. Decomposition results indicated that the unexplained earnings gap (which is effect of unmeasured factors) between migrants from rural areas (temporary and permanent migrants from rural to urban) and other groups decreased from 2003 to 2008. On the contrary, the unexplained gap in occupational attainments between migrants from rural areas and other groups increased from 2003 to 2008. Third, different *Hukou* type had little effects on individuals' earnings and occupational attainments in both 2003 and 2008; effects of *Hukou* origin on individuals' earnings and occupational attainments was significant in 2003 but not significant in 2008; migration selection had significant and positive effects on individual's earnings and occupational attainments in both 2003 and 2008. Fourth, migrants with urban *Hukou* status have advantage in labour market returns. Urban migrants (temporary and permanent migrants from urban to urban)

had a net earnings advantage over urban non-migrants in two years of 2003 and 2008; permanent migrants (permanent migrants from rural to urban and from urban to urban) had an advantage with regard to occupational attainments over urban non-migrants, in that they were less likely to be employed in ordinary, service & sales works than urban non-migrants either before or after variations in human capital variables and ownership sectors were controlled in both 2003 and 2008.

The first two findings, the mixed findings of decreased effect of migrant status on individuals' earnings from 2003 to 2008 and the increased effect of migrant status on individuals' occupational attainment from 2003 to 2008, indicate that both segmentation and competition exist in urban labour market in China. The effect of migrant status on earnings is declining while effect of migrant status on occupational attainments is still intact and significant. Temporary migrants from rural to urban now can move to the city, make a living and have a good income in urban areas, but the capacity to get a "good job" in the primary segment of the labour market with fringe benefits and job security is still restricted by their temporary and rural *Hukou* status. The continuing labour market segmentation, accompanied by signs of competition, can be explained by the nature of China's transition from a planned to a market economy, where growing market forces co-exist with institutional legacies (Chen, 2011). With economic reforms, the labour market tends to reward individuals' abilities and hard work, thus the effect of migrant status on earnings decreases and becomes not significant. However, institutional legacies continue to protect local residents in getting good and stable jobs, in this sense, labour market segmentation remained intact over time. Many scholars argue China's labour market becomes more competitive and *Hukou* status doesn't matter anymore, they just highlight the apparent decreasing earnings gap between temporary migrants from rural to urban and urban non-migrants

but fail to realize the still intact occupational segmentation which is the deep-rooted segmentation. Temporary migrants from rural to urban are more likely to be trapped in low-skilled work, maintaining themselves at the bottom of the urban labour market. With some signs of competition, the China's urban labour market is still segmented.

The latter two findings, the significant and positive effect of migration selection on individual's earnings and occupational attainments and advantage of migrants with urban *Hukou* status in labour market returns, indicate that migrants in China are positively selected and migration experience contributes positive returns on earnings and occupational attainments. In studying internal migration in China, most studies highlight the essential role of institutional rules in segregating migrants and urban non-migrants, this study not only examines the effects of the *Hukou* system but also points out the important and positive effects of migration experience on labour market returns which has been neglected by most migration studies in China. The advantage of permanent migrants (both from rural and urban areas) in labour market returns indicates that once overcome *Hukou* based separation and get urban *Hukou* status, permanent migrants will have higher returns than urban non-migrants and temporary migrants, after controlling for other factors.

8.2 Significance of the Study

This thesis contributes to the existing literature in several ways. First, instead of comparing only rural migrants and urban residents, this thesis includes five groups with different migrant status into analysis. To classify urban labour based on their different migrant status other than different *Hukou* status, this study takes not only difference in *Hukou* type but also difference in migration experience and *Hukou* origin into consideration. Through comparing labour market

returns of five different migrant groups, this study proves the existence and positive effect of migration selection on labour market returns, highlights the two-track migration system which consists temporary and permanent migration in China and also separates effect of *Hukou* type from that of *Hukou* origin.

The labour market segmentation theory clearly suggests that market segmentation is the result of institutional rules that differ across labour market segments. In urban China, migrants and urban residents with different *Hukou* status belong to different segments, and migrants are placed in the lower tier of the market while urban residents have many advantages over migrants. On the contrary, from the perspective of migration selectivity, migrants in China are positively selected and they have qualities that may offer them some labour market advantages compared to those who are not migrants. They tend to be younger, more educated, have higher skills, and are more motivated, ambitious, and have relatively higher aspirations than non-migrants. Thus, migrants would have higher-level returns than non-migrants in urban China.

The findings in this thesis indicate that both institutional segmentation and positive migration selection exist in urban labour market in China. The interaction of positive migration selection and institutional segmentation leads to a complex relationship between migrants and urban non-migrants in urban labour market. Migrants with urban *Hukou* status have advantage in labour market returns over urban non-migrants, while migrants with rural *Hukou* status still inferior to urban non-migrants in terms of occupational attainments.

Secondly, through examining two aspects of labour market return, earnings and occupational attainments, this study made a comprehensive analysis of effect of migrant status on labour market returns and revealed the transition nature of urban labour market. The declining and weak effect of migrant status on earnings and the intact and significant effect of migrant status on

occupational attainments indicate both segmentation and competition exist in urban labour market. Thirdly, by comparing data from two different years, my analysis reveals changing trends in the effect of migrant status on labour market returns.

8.3 Policy Implications

Findings from this study reflect present conditions of relationships between *Hukou* system, inequality of labour market returns and stratification. On the one hand, migrants status have declining independent effect on earnings, on the other hand, occupational attainments are still segmented by migrant status, to get a “good job” in primary segment and truly become urban residents is still hard for temporary migrants from rural to urban, further, the social stratification in China as a whole remained largely unchanged (Chan, 2009).

Market economy reform has given rise to a variety of ownership sectors and promoted commerce and service. As self-employment and jobs in commerce have become increasingly profitable, temporary migrants, whether from rural or urban, have succeeded in gaining economically by engaging in these sectors. At the same time, government takes measures to guarantee and improve income of labours, Regulations on Minimum Wages and Labour Contract Law, put into effect on April, 1st, 2004 and January 1st, 2008 respectively, contain clear-cut provisions on standardizing the distribution of wages. In this way, earnings gap among five groups is declining, migrant status had little independent effects on earnings in 2008.

Although migrant status has declining independent effects on earnings, the differences between people with different migrant status are far more extensive. My estimates suffer from an inherent downward bias because it reflects only monetary gains. To the extent that there are substantial non-monetary benefits associated with occupations an urban *Hukou*. Findings from

this study indicate there are substantial differences in occupational attainments among five subpopulations, temporary migrants from rural to urban are less likely to be employed in professional and managerial jobs which means they won't enjoy plentiful benefit provided by this kind of occupation. As scholar pointed out, non-*Hukou* residents (temporary migrants) in cities face acute problems caused by the lack of access to education, health care services, social security and housing (Chan, 2009). For example, unlike the "urban poor", temporary migrants from rural to urban are excluded from the urban welfare and social security system, like minimum living allowance and unemployment insurance (see Chan and Buckingham, 2008). In terms of education, Education Law of the People's Republic of China stated that compulsory education is the responsibility of the local government, thus migrant children without residency status in urban are not supposed to receive these educational benefits. According to Xinhua News Agency (2004), China's migrant children drop out of school at a rate of 9.3 per cent and migrant children in China who have never been to school represent 6.85 per cent of the total migrant children population. Besides the distinct differences in education, social security between urban non-migrants and temporary migrants, large disparities in the main opportunity structure remain today and may well have widened (Shue and Wong, 2007). Mostly employed in ordinary, service and sales works, temporary migrants from rural to urban would have smaller chance for upward mobility than other groups with urban *Hukou* status. At the same time, while the majority of population still resides in rural areas, the number of college students recruited from these areas has now dropped to about 18 percent, compared to about 35 percent in 1980 (Nongcun daxuesheng, 2009). Ostensibly, the inadequate and low quality of education received by children of rural migrant laborers has become a major social issue in China. (Chan, 2009).

The *hukou* system, directly and indirectly, continues to be a major barrier in preventing China's rural population from settling in the city and in maintaining the rural-urban "apartheid." As Wang's (2005b) earlier evaluation of the system as "adapted and adjusted" but "alive and well" remains true today. Despite the good intentions of the central Government, it is questionable that local Governments are ready to implement any sweeping change to the *hukou* system. China cannot abolish the system without a significant change of the rural-urban politics and economics (Chan, 2008).

The findings of the dissertation have implications for policy makers. First, lack of urban *Hukou* is and having difficulty in accessing education, health and social security are significant constraint that prevent temporary migrants from settling down in the city. Greater strides on implementing the *Hukou* reform, and ultimately abolishing the system, are needed. This is especially urgent as more women and children from the countryside participate in migration to cities and are staying for increasingly long periods of time. Second, while continuing *Hukou* reforms, city governments should address temporary migrants' special needs and develop appropriate strategies to meet those needs.

8.4 Limitations and suggestions for future studies

While being revealing, the findings in this dissertation have limitations in three aspects: First, using nationally representative data, the findings in this study reflect overall and national trend of labour market returns of urban non-migrants and migrants groups. This study treats China as a homogeneous entity and neglects the regional variations. However, China is a county with large regional disparity. The pace of economic reforms and development has been regionally uneven, for example, per capita GDP in the inland regions averaged 13,513 Yuan, or less than half of that

in the coastal regions in 2008. At the provincial level, the difference is even larger, per capita GDP in Shanghai is 10 times as large as in Guizhou province. (China National Statistical Bureau, 2008). Meanwhile, management of *Hukou* system has been moved from central control to local governments with the trend of devolution of fiscal and administrative powers to lower-level governments (Chan, 2009). Local governments implemented different *Hukou* policy to their respective administrative jurisdictions and their needs for economic development. For example, some provinces have eliminated the distinction between agricultural (rural) and non-agricultural (urban) *Hukou* (Congressional-Executive Commission on China 2005; Chan and Buckingham, 2008; Wang, 2004). In recent years, some cities in China have started to issue “residence card” to qualified migrants. The criteria of “residence card” are generally lower than that of *Hukou*. Migrants with “residence card” can enjoy some resources in the city as local residents. Other measures put into effect include easing *hukou* conversions to small towns where state-provided welfare is minimal (in 1997 and 2001) (Chan, 2009). The large regional disparity and localization of *Hukou* management would generate diversified *Hukou* effects and relationship between non-migrants and migrants. Impact of migrant status and *Hukou* system on labour market returns would vary among different regions and cities. In this study, however, regional variations in inequality of labour market returns between urban non-migrants and migrants were not examined.

Second, this study covers only two major dimensions of labour market returns, which are earnings and occupational attainments. However, welfare and benefit are important components of labour market returns in China. In the planned economy era, urbanites received plentiful benefits including housing, education and health care from state as a compensation for their low wage. In reform era, benefits continue to be important measures of labour market returns in

China (Fan, 2001). The relationship between migrant status and access to welfare and benefits was not examined in this study.

Third, the study does not address changes since 2010. Using data from CGSS 2003 and 2008, this study can't reflect the latest changes in labour market and role of *Hukou* system in China. Another limitation in data is the small sample size for some groups. For example, using CGSS2008, only 364 temporary migrants from rural to urban and 183 permanent migrants from urban to urban are included in analysis. The small sample size for some groups may cause un-coverage bias and finally affect the accuracy of the results.

This preliminary analysis suggests a number of pathways for future research. First, the interaction of regional disparity and non-migrants-migrants gap should be examined. To be specific, regional variations in impact of *Hukou* on labour market returns and regional variations in relationship between migrants and non-migrants could be investigated in the future research. Through comparing inequality in labour market returns between migrants and non-migrants in regions with different reform pace, we can better understand whether economic reforms increase or reduce inequality between non-migrants and migrants and inequality under *Hukou* system. Second, in measuring labour market returns, benefits and welfare should be taken into consideration. Wang and Zuo (1999) argued that what distinguishes the Chinese disparity between rural migrants and urban employees from that observed in other societies is not the wage difference, but the difference in state-subsidized benefits. Even with erosion in the disparity in recent years, urban employees still hold advantage. Migrants who work as contractor or self-employed can have fairly good earnings but they do not have access to welfare and benefits, such as health care, unemployment insurance, pension and education benefits. Therefore, to examine further the gap between non-migrants and migrants in getting welfare and

benefits, inequality between non-migrants and migrants and the role of *Hukou* system on labour market returns can be better revealed. Third, Chinese society is complex and rapidly changing, thus more recent trends since 2010 should be examined. It is important to examine further how the *Hukou* system has changed since 2010 and what role of *Hukou* system in determining individuals' labour market returns since 2010.

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Appendix A. Decomposing the Ln hourly earnings difference between temporary migrants from rural to urban and urban non-migrants in 2003

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Difference s in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplaine d Gap ⑤*③
	Non-Migrants ①	TMRU ②	Non-Migrants ③	TMRU ④				
Constant	-1.044	1.008	1	1	2.052	0	0	2.052
Years of Schooling	.169	.015	11.5042	9.5833	-0.154	-1.9209	-.0288135	-1.7716468
Years of Working	.022	-.029	24.6579	23.1726	-0.051	-1.4853	.0430737	-1.2575529
Party Membership	-.123	.170	.1648	.0893	0.293	-0.0755	-.012835	.0482864
Gender	.126	.280	.6011	.6071	0.154	0.006	.00168	.0925694
State-owned Enterprises	-.191	.194	.5817	.1607	0.385	-0.421	-.081674	.2239545
Collective-owned Enterprises	-.441	.338	.0900	.0417	0.779	-0.0483	-.0163254	.07011
Privately-owned Enterprises	-.200	.429	.2078	.6429	0.629	0.4351	.1866579	.1307062
Foreign invested Enterprises	-.153	1.291	.0235	.0238	1.444	0.0003	.0003873	.033934
			1.3022016	1.0167136			.092151	-.3776392
Total Gap				-.2854882				-.2854882

$$2003 \text{ Ln}W^{\text{TMRU}} - \text{Ln}W^{\text{N-M}} = \beta^{\text{TMRU}}(X^{\text{TMRU}} - X^{\text{N-M}}) + (\beta^{\text{TMRU}} - \beta^{\text{N-M}})X^{\text{N-M}} = 0.092151 - 0.3776392 = -0.2854882$$

Appendix B. Decomposing the Ln hourly earnings difference between temporary migrants from rural to urban and urban non-migrants in 2008

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Difference s in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplaine d Gap ⑤*③
	Non-Migrants ①	TMRU ②	Non-Migrants ③	TMRU ④				
Constant	.515	.656	1	1	0.141	0	0	.141
Years of Schooling	.109	.089	11.02	9.97	-0.02	-1.05	-.09345	-.2204
Years of Working	.002	-.004	27.1040	16.3381	-0.006	-10.7659	.0430636	-.162624
Party Membership	.123	-.139	.1650	.0381	-0.262	-0.1269	.0176391	-.04323
Gender	.193	.182	.5281	.5667	-0.011	0.0386	.0070252	-.0058091
Collective-owned Enterprises	-.292	.295	.1205	.0714	0.587	-0.0491	-.0144845	.0707335
Privately-owned Enterprises	-.010	.080	.2855	.7810	0.09	0.4955	.03964	.025695
Foreign invested Enterprises	.068	.443	.0338	.0714	0.375	0.0376	.0166568	.012675
			1.8568637	1.6909943			.0160902	-.1819596
Total Gap				-.1658694				-.1658694

Appendix C. Decomposing the Ln hourly earnings difference between temporary migrants from rural to urban and permanent migrants from rural to urban in 2003

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Difference s in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplaine d Gap ⑤*③
	PMRU ①	TMRU ②	PMRU ③	TMRU ④				
Constant	-.433	1.008	1	1	1.441	0	0	1.441
Years of Schooling	.113	.015	11.7211	9.5833	-0.098	-2.1378	-.032067	-1.1486678
Years of Working	.008	-.029	24.7803	23.1726	-0.037	-1.6077	.0466233	-.9168711
Party Membership	.099	.170	.2987	.0893	0.071	-0.2094	-.035598	.0212077
Gender	.251	.280	.6263	.6071	0.029	-0.0192	-.005376	.0181627
State-owned Enterprises	.087	.194	.5605	.1607	0.107	-0.3998	-.0775612	.0599735
Collective-owned Enterprises	-.142	.338	.0947	.0417	0.48	-0.053	-.017914	.045456
Privately-owned Enterprises	-.064	.429	.1789	.6429	0.493	0.464	.199056	.0881977
Foreign invested Enterprises	.253	1.291	.0066	.0238	1.038	0.0172	.0222052	.0068508
			1.3020356	1.0167134			.0993683	-.3846905
Total Gap				-.2853222				-.2853222

Appendix D. Decomposing the Ln hourly earnings difference between temporary migrants from rural to urban and permanent migrants from rural to urban in 2008

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Difference s in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplaine d Gap ⑤*③
	PMRU ①	TMRU ②	PMRU ③	TMRU ④				
Constant	.681	.656	1	1	-.025	0	0	-.025
Years of Schooling	.094	.089	10.31	9.97	-0.005	-0.34	-.03026	-.05155
Years of Working	2.355E-5	-.004	32.0683	16.3381	-.00402355	-15.7302	.0629208	-.1290284
Party Membership	.127	-.139	.2842	.0381	-0.266	-.2461	.0342079	-.0755972
Gender	.299	.182	.5519	.5667	-0.117	0.0148	.0026936	-.0645723
Collective-owned Enterprises	-.300	.295	.0847	.0714	0.595	-.0133	-.0039235	.0503965
Privately-owned Enterprises	-.354	.080	.2459	.7810	0.434	.5351	0.042808	.1067206
Foreign invested Enterprises	.686	.443	.0191	.0714	-0.243	.0523	0.0231689	-.0046413
			1.752651	1.690994			.1316157	-.1932721
Total Gap				-.061657				-.0616564

Appendix E. Decomposing the Ln hourly earnings difference between permanent migrants from rural to urban and urban non-migrants in 2003

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Differences in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplained Gap ⑤*③
	Non-Migrants ①	PMRU ②	Non-Migrants ③	PMRU ④				
Constant	-1.044	-.433	1	1	0.611	0	0	.611
Years of Schooling	.169	.113	11.5042	11.7211	-.056	.2169	.0245097	-.6442352
Years of Working	.022	.008	24.6579	24.7803	-.014	.1224	.0009792	-.3452106
Party Membership	-.123	.099	.1648	.2987	.222	.1339	.0132561	.0365856
Gender	.126	.251	.6011	.6263	.125	.0252	.0063252	.0751375
State-owned Enterprises	-.191	.087	.5817	.5605	.278	-.0212	-.0018444	.1617126
Collective-owned Enterprises	-.441	-.142	.0900	.0947	.299	.0047	-.0006674	.02691
Privately-owned Enterprises	-.200	-.064	.2078	.1789	.136	-.0289	.0018496	.0282608
Foreign invested Enterprises	-.153	.253	.0235	.0066	.406	-.0169	-.0042757	.009541
			1.3022016	1.3020356			.0401323	-.0402983
Total Gap				-.000166				-.000166

Appendix F. Decomposing the Ln hourly earnings difference between permanent migrants from rural to urban and urban non-migrants in 2008

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Differences in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplained Gap ⑤*③
	Non-Migrants ①	PMRU ②	Non-Migrants ③	PMRU ④				
Constant	.515	.681	1	1	0.166	0	0	0.166
Years of Schooling	.109	.094	11.02	10.31	-0.015	-0.71	-0.06674	-0.1653
Years of Working	.002	2.355E-5	27.1040	32.0683	-0.0019765	4.9643	.00011691	-.0535697
Party Membership	.123	.127	.1650	.2842	0.004	0.1192	0.0151384	0.00066
Gender	.193	.299	.5281	.5519	0.106	0.0238	0.0071162	0.0559786
Collective-owned Enterprises	-.292	-.300	.1205	.0847	-0.008	-0.0358	0.01074	-0.000964
Privately-owned Enterprises	-.010	-.354	.2855	.2459	-0.344	-0.0396	0.0140184	-0.098212
Foreign invested Enterprises	.068	.686	.0338	.0191	0.618	-0.0147	-.0100842	0.0208884
			1.8568637	1.752651			-.0296943 (28.5%)	-.0745187 (71.5%)
Total Gap				-.104213				-.104213

Appendix G. Decomposing the Ln hourly earnings difference between permanent migrants from rural to urban and permanent migrants from urban to urban in 2003

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Difference s in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplaine d Gap ⑤*③
	PMUU ①	PMRU ②	PMUU ③	PMRU ④				
Constant	-.961	-.433	1	1	0.528	0	0	0.528
Years of Schooling	.166	.113	12.5689	11.7211	-0.053	-0.8478	-0.0958	-0.66615
Years of Working	.009	.008	24.6892	24.7803	-0.001	0.0911	0.000729	-0.02469
Party Membership	.090	.099	.2514	.2987	0.009	0.0473	0.004683	0.002263
Gender	.124	.251	.5257	.6263	0.127	0.1006	0.025251	0.066764
State-owned Enterprises	.122	.087	.6662	.5605	-0.035	-0.1057	-0.0092	-0.02332
Collective-owned Enterprises	-.080	-.142	.0703	.0947	-0.062	0.0244	-0.00346	-0.00436
Privately-owned Enterprises	.020	-.064	.1149	.1789	-0.084	0.064	-0.0041	-0.00965
Foreign invested Enterprises	.494	.253	.0216	.0066	-0.241	-0.015	-0.0038	-0.00521
			1.5240	1.3020356			-0.08569 (38.6%)	-.13635 (61.4%)
Total Gap				-.222				-.22204

Appendix H. Decomposing the Ln hourly earnings difference between permanent migrants from rural to urban and permanent migrants from urban to urban in 2008

	Coefficients		Mean		Differences in Coefficients ⑤=②-①	Difference s in Mean ⑥=④-③	Explained Gap ②*⑥	Unexplaine d Gap ⑤*③
	PMUU ①	PMRU ②	PMUU ③	PMRU ④				
Constant	1.396	.681	1	1	-.715	0	0	-0.715
Years of Schooling	.067	.094	11.30	10.31	.027	-0.99	-.09306	0.3051
Years of Working	-.007	2.355E-5	35.667	32.0683	.00702355	-3.5987	-8.47494E-05	.250508958
Party Membership	.251	.127	.2517	.2842	-.124	.0325	.0041275	-.0312108
Gender	.032	.299	.4966	.5519	.267	.0553	.0165347	.1325922
Collective-owned Enterprises	-.025	-.300	.0952	.0847	-.275	-.0105	0.00315	-.02618
Privately-owned Enterprises	-.209	-.354	.1293	.2459	-.145	.1166	-.0412764	-.0187485
Foreign invested Enterprises	.631	.686	.0272	.0191	.055	-.0081	-.0055566	0.001496
			1.970258	1.752651			-.116165549 (53.4%)	-.10144214 (46.6%)
Total Gap				-217607				-2176077

Appendix I Decomposing occupational differentials between temporary migrants rural-urban and urban non-migrants in 2003

	Coefficients		Mean		①*③	②*③	②*④
	Non-Migrants ①	TMRU ②	Non-Migrants ③	TMRU ④	A	B	C
Constant	5.199	3.406	1	1	5.199	3.406	3.406
Years of Schooling	-.392	-.268	10.8032	8.9240	-4.23485	-2.89526	-2.39163
Years of Working	-.027	.020	30.1176	25.3600	-0.81318	0.602352	0.5072
Party Membership	-1.707	-2.708	.1743	.0840	-0.29753	-0.472	-0.22747
Gender	.454	.195	.5563	.5320	0.25256	0.108479	0.10374
State-owned Enterprises	.677	.496	.6113	.1360	0.41385	0.303205	0.067456
Collective-owned Enterprises	.854	-.750	.1009	.0440	0.086169	-0.07568	-0.033
Privately-owned Enterprises	1.610	.885	.1776	.5920	0.285936	0.157176	0.52392
Foreign invested Enterprises	1.426	1.114	.0209	.0160	0.029803	0.023283	0.017824
$\sum \hat{\beta} \bar{X}$					0.921759	1.157557	1.974036
$EXP(\sum \hat{\beta} \bar{X})$					2.513708	3.182150	7.199675 82
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.7154	0.760889	0.878044

Total Gap=C-A=0.878044-0.7154=0.16264

Explained Gap=C-B=0.878044-0.760889=0.11716=72%

Unexplained Gap=B-A=0.760889-0.7154=0.04549=28%

Appendix J. Decomposing occupational differentials between temporary migrants rural-urban and permanent migrants rural-urban in 2003

	Coefficients		Mean		①*③	②*③	②*④
	PMRU ①	TMRU ②	PMRU ③	TMRU ④	A	B	C
Constant	6.166	3.406	1	1	6.166	3.406	3.406
Years of Schooling	-.469	-.268	10.5602	8.9240	-4.95273	-2.83013	-2.39163
Years of Working	-.035	.020	31.1196	25.3600	-1.08919	0.622392	0.5072
Party Membership	-1.368	-2.708	.2841	.0840	-0.38865	-0.76934	-0.22747
Gender	.166	.195	.5602	.5320	0.092993	0.109239	0.10374
State-owned Enterprises	.498	.496	.5658	.1360	0.281768	0.280637	0.067456
Collective-owned Enterprises	.508	-.750	.1156	.0440	0.058725	-0.0867	-0.033
Privately-owned Enterprises	1.766	.885	.1549	.5920	0.273553	0.137087	0.52392
Foreign invested Enterprises	-.434	1.114	.0088	.0160	-0.00382	0.009803	0.017824
$\sum \hat{\beta} \bar{X}$					0.438652	0.878981	1.974036
$EXP(\sum \hat{\beta} \bar{X})$					1.550616	2.408444	7.1996758
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.607938	0.706611	0.878044

Total Gap=C-A=0.878044-0.607938=0.27011

Explained Gap=C-B=0.878044-0.706611=0.17143=63%

Unexplained Gap=B-A=0.706611-0.607938=0.09867=37%

Appendix K. Decomposing occupational differentials between Permanent Migrants Rural-Urban and Urban non-Migrants in 2003

	Coefficients		Mean		①*③	②*③	②*④
	Non-Migrants ①	PMRU ②	Non-Migrants ③	PMRU ④	A	B	C
Constant	5.199	6.166	1	1	5.199	6.166	6.166
Years of Schooling	-.392	-.469	10.8032	10.5602	-4.23485	-5.0667	-4.95273
Years of Working	-.027	-.035	30.1176	31.1196	-0.81318	-1.05412	-1.08919
Party Membership	-1.707	-1.368	.1743	.2841	-0.29753	-0.23844	-0.38865
Gender	.454	.166	.5563	.5602	0.25256	0.092346	0.092993
State-owned Enterprises	.677	.498	.6113	.5658	0.41385	0.304427	0.281768
Collective-owned Enterprises	.854	.508	.1009	.1156	0.086169	0.051257	0.058725
Privately-owned Enterprises	1.610	1.766	.1776	.1549	0.285936	0.313642	0.273553
Foreign invested Enterprises	1.426	-.434	.0209	.0088	0.029803	-0.00907	-0.00382
$\sum \hat{\beta} \bar{X}$					0.921759	0.559342	0.438652
$EXP(\sum \hat{\beta} \bar{X})$					2.513708	1.749521	1.550616
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.7154	0.6363	0.607938

Total Gap=C-A=0.607938-0.7154=-0.107462

Explained Gap=C-B=0.607938-0.6363=-0.028362=26%

Unexplained Gap=B-A=0.6363-0.7154=-0.0791=74%

Appendix L. Decomposing occupational differentials between Permanent Migrants Rural-Urban and Permanent Migrants Urban-Urban in 2003

	Coefficients		Mean		①*③	②*③	②*④
	PMUU ①	PMRU ②	PMUU ③	PMRU ④	A	B	C
Constant	6.807	6.166	1	1	6.807	6.166	6.166
Years of Schooling	-.502	-.469	11.6352	10.5602	-5.84087	-5.45691	-4.95273
Years of Working	-.035	-.035	32.0800	31.1196	-1.1228	-1.1228	-1.08919
Party Membership	-1.238	-1.368	.2538	.2841	-0.3142	-0.3472	-0.38865
Gender	.297	.166	.4795	.5602	0.142412	0.079597	0.092993
State-owned Enterprises	.452	.498	.7044	.5658	0.318389	0.350791	0.281768
Collective-owned Enterprises	.299	.508	.0880	.1156	0.026312	0.044704	0.058725
Privately-owned Enterprises	1.009	1.766	.0865	.1549	0.087279	0.152759	0.273553
Foreign invested Enterprises	-.276	-.434	.0137	.0088	-0.00378	-0.00595	-0.00382
$\sum \hat{\beta} \bar{X}$					0.099735	-0.139	0.438652
$EXP(\sum \hat{\beta} \bar{X})$					1.104878	0.870226	1.550616
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.524913	0.465305	0.607938

Total Gap=C-A=0.607938-0.524913=0.08303

Explained Gap=C-B=0.607938-0.465305=0.14263

Unexplained Gap=B-A=0.465305-0.524913=-0.059608

Appendix M. Decomposing occupational differentials between Temporary Migrants Rural-Urban and Urban non-Migrants in2008

	Coefficients		Mean		①*③	②*③	②*④
	Non-Migrants ①	TMRU ②	Non-Migrants ③	TMRU ④	A	B	C
Constant	4.997	5.619	1	1	4.997	5.619	5.619
Years of Schooling	-.374	-.393	10.80	9.47	-4.0392	-4.2444	-3.72171
Years of Working	-.019	-.023	27.0571	17.8966	-0.51408	-0.62231	-0.41162
Party Membership	-1.429	-.070	.1447	.0282	-0.20678	-0.01013	-0.00197
Gender	.570	.254	.5133	.4608	0.292581	0.130378	0.117043
Collective-owned Enterprises	.004	.379	.1246	.0533	0.000498	0.047223	0.020201
Privately-owned Enterprises	.236	.573	.2680	.6238	0.063248	0.153564	0.357437
Foreign invested Enterprises	.304	-.777	.0299	.0596	0.00909	-0.02323	-0.04631
$\sum \hat{\beta} \bar{X}$					0.602356	1.050091	1.932066
$EXP(\sum \hat{\beta} \bar{X})$					1.826417	2.857911	6.903759
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.646195	0.740792	0.873478

Total Gap=C-A=0.873478-0.646195=0.22728

Explained Gap=C-B=0.873478-0.740792=0.13269=58%

Unexplained Gap=B-A=0.740792-0.646195=0.0946=42%

Appendix N. Decomposing occupational differentials between Temporary Migrants Rural-Urban and Permanent Migrants Rural-Urban in 2008

	Coefficients		Mean		①*③	②*③	②*④
	PMRU ①	TMRU ②	PMRU ③	TMRU ④	A	B	C
Constant	4.579	5.619	1	1	4.579	5.619	5.619
Years of Schooling	-.364	-.393	9.95	9.47	-3.6218	-3.91035	-3.72171
Years of Working	-.028	-.023	32.1083	17.8966	-0.89903	-0.73849	-0.41162
Party Membership	-1.057	-.070	.2442	.0282	-0.25812	-0.01709	-0.00197
Gender	.715	.254	.4989	.4608	0.356714	0.126721	0.117043
Collective-owned Enterprises	.741	.379	.0828	.0533	0.061355	0.031381	0.020201
Privately-owned Enterprises	.503	.573	.2335	.6238	0.117451	0.133796	0.357437
Foreign invested Enterprises	.533	-.777	.0191	.0596	0.01018	-0.01484	-0.04631
$\sum \hat{\beta} \bar{X}$					0.345747	1.230122	1.932066
$EXP(\sum \hat{\beta} \bar{X})$					1.413045	3.421647	6.903759
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.585586	0.77384	0.873478

Total Gap=C-A=0.873478-0.585586=0.28789

Explained Gap=C-B=0.873478-0.77384=0.09964=35%

Unexplained Gap=B-A=0.77384-0.585586=0.18825=65%

Appendix O. Decomposing occupational differentials between Permanent Migrants Rural-Urban and Urban Non-Migrants in 2008

	Coefficients		Mean		①*③	②*③	②*④
	Non-Migrants ①	PMRU ②	Non-migrants ③	PMRU ④	A	B	C
Constant	4.997	4.579	1	1	4.997	4.579	4.579
Years of Schooling	-.374	-.364	10.80	9.95	-4.0392	-3.9312	-3.6218
Years of Working	-.019	-.028	27.0571	32.1083	-0.51408	-0.7576	-0.89903
Party Membership	-1.429	-1.057	.1447	.2442	-0.20678	-0.15295	-0.25812
Gender	.570	.715	.5133	.4989	0.292581	0.36701	0.356714
Collective-owned Enterprises	.004	.741	.1246	.0828	0.000498	0.092329	0.061355
Privately-owned Enterprises	.236	.503	.2680	.2335	0.063248	0.134804	0.117451
Foreign invested Enterprises	.304	.533	.0299	.0191	0.00909	0.015937	0.01018
$\sum \hat{\beta} \bar{X}$					0.602356	0.347332	0.345747
$EXP(\sum \hat{\beta} \bar{X})$					1.826417	1.415287	1.413045
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.646195	0.585971	0.585586

Total Gap=C-A=0.585586-0.646195=-0.060609

Explained Gap=C-B=0.585586-0.585971=-0.000385=0.6%

Unexplained Gap=B-A=0.585971-0.646195=-0.060224=99.4%

Appendix P. Decomposing occupational differentials between Permanent Migrants Rural-Urban and Permanent Migrants Urban-Urban in 2008

	Coefficients		Mean		①*③	②*③	②*④
	PMUU ①	PMRU ②	PMUU ③	PMRU ④	A	B	C
Constant	5.137	4.579	1	1	5.137	4.579	4.579
Years of Schooling	-.430	-.364	11.10	9.95	-4.773	-4.0404	-3.6218
Years of Working	-.037	-.028	34.8902	32.1083	-1.29094	-0.97693	-0.89903
Party Membership	-.197	-1.057	.2428	.2442	-0.04783	-0.25664	-0.25812
Gender	.804	.715	.4682	.4989	0.376433	0.334763	0.356714
Collective-owned Enterprises	-.438	.741	.0925	.0828	-0.04052	0.068543	0.061355
Privately-owned Enterprises	.333	.503	.1734	.2335	0.057742	0.08722	0.117451
Foreign invested Enterprises	.708	.533	.0289	.0191	0.020461	0.015404	0.01018
$\sum \hat{\beta} \bar{X}$					-0.56065	-0.18904	0.345747
$EXP(\sum \hat{\beta} \bar{X})$					0.570838	0.827753	1.413045
$\frac{EXP(\sum \hat{\beta} \bar{X})}{1 + EXP(\sum \hat{\beta} \bar{X})}$					0.363397	0.45288	0.585586

Total Gap=C-A=0.585586-0.363397=0.22219

Explained Gap=C-B=0.585586-0.45288=0.13271=60%

Unexplained Gap=B-A=0.45288-0.363397=0.08948=40%