

Migration and Discrimination in China's Urban Labour Market

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Declaration

I certify that the work in this thesis entitled “Migration and Discrimination in China’s Urban Labour Market” has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree to any other university or institution other than Macquarie University and Nankai University under a cotutelle agreement.

I also certify that the thesis is an original piece of research and it has been written by me. Any help and assistance that I have received in my research work and the preparation of the thesis itself have been appropriately acknowledged.

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Abstract

The massive population migration since the 1980s has been one of the most significant socio-economic transformations in the history of People's Republic of China. The floating population¹, especially those moving from countryside to cities, has contributed considerably to China's social and economic development over the past three decades. However, in China's urban labour market, migrants have been treated differently from urban local residents in various aspects because of their rural or non-local household registration (*hukou*) status². The migration process and labour market differentials between urban locals and migrant workers have drawn considerable attention from both Chinese and international research communities. Nevertheless, the understanding of migrants' destination selectivity and the discrimination against migrants in employment, earnings and welfare entitlements and benefits has remained far from adequate. This thesis aims to investigate the effect of regional divergence in socio-economic development on migrants' destination selectivity and the contribution of discrimination against migrant workers to the occupational attainment differentials, wage distribution differentials and welfare entitlements and benefits differentials.

Based on an integrated theory of migration that synthesises the relevant elements from the neoclassical approach, the new economics of labour migration and the structural approach, this research investigates the effect of regional divergence in socio-economic development on migrants' choice of destination to developed coastal cities, such as

¹ The floating population is defined as individuals who have left their original *hukou* registration for at least six months but who have continued to hold their original *hukou* registration.

² The household registration system, or *hukou*, is an identification system in which every Chinese citizen is classified as either a rural *hukou* resident or an urban *hukou* resident.

Beijing, Tianjin and Shanghai rather than other cities. The results show that migrants' destination selectivity is affected by both the regional divergence in socio-economic development and the institutional barriers that generated the segmented labour market. The *hukou* system and the resulting segmented urban labour market continue to function in social and labour stratifications, which may render ineffective some push-pull factors in migration process or may run contrary to the conventional wisdom. Migration has accelerated rather than reduced regional inequality.

The *hukou* system and segmented urban labour market not only have a significant effect on China's internal migration but also result in severe discrimination against migrant workers in the urban labour market. Based on an extended analytical framework that considers both the segregation between urban locals and rural migrants and the segregation between locals and non-locals, this study examines the extent to which the discrimination against migrants contributes to occupational attainment differentials, wage distribution differentials and welfare entitlements and benefits differentials between urban locals and migrant workers. The decomposition results indicate that the discrimination against migrant workers contributes to a large proportion of labour market differentials not only in earnings but also in access to employment and welfare entitlements and benefits. The extent of discrimination against urban migrants compared with urban locals is generally greater than the extent of discrimination against rural migrants compared with urban migrants, which suggests that the segmentation of the urban labour market is currently dominated by the segregation between locals and non-locals rather than the segregation between urban locals and rural migrants which was the case in the era of the planned economic system.

The contribution of this thesis is to empirically extend the application of migration theory,

discrimination theory and segmented labour market theory to urban migrants in a transitional society. The results of this study contribute a better understanding of China's internal migration and a clear characterization of the labour market experience of migrant workers, which could provide evidences and recommendations for the reform of *hukou* system and urban labour market.

I dedicate this thesis to my family...

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List of Abbreviations

Hukou: Household Registration System in China

NBSC: National Bureau of Statistics of China

NPFPC: Department of Floating Population Service and Management of National
Population and Family Planning Commission of China

U.S.: The United States of America

U.K.: The United Kingdom

Juweihui: Neighborhood Committees

BMBS: Beijing Municipal Bureau of Statistics

SMBS: Shanghai Municipal Bureau of Statistics

MPL: Marginal Productivity of Labour

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List of Self-contained Papers

This thesis is comprised of the following four self-contained papers:

Paper I: “The impact of regional divergence in socio-economic development on destination selectivity of China’s internal migrants”, Manuscript.

Paper II: “Employment Discrimination against Migrant Workers in the Urban Labour Market: Findings from a Four-city Study in China”, submitted to *Population Research and Policy Review*.

Paper III: “A Distributional Analysis of Wage Discrimination against Migrant Workers in China’s Urban Labour Market”, submitted to *Habitat International*.

Paper IV: “Discrimination in Migrant Workers’ Welfare Entitlements and Benefits in the Urban Labour Market: Findings from a Four-city Study in China”, submitted to *Population Space and Place* and in the second round review.

Chapter 1 Introduction

1.1 Background and Aims

The size and distribution of floating population

In the world's industrialization and urbanization, no country has experienced such large and sustained population migration or flow as China in such a short period of time (Fan 2005b). Since the 1980s, economic reforms have widened regional inequality, as measured by income and job opportunities (Guo and Cheng 2010). For instance, the urban-rural income gap widened from 2.57-to-1 in 1978 to 3.23-to-1 in 2010 (NBSC 2011c). Moreover, the household registration (*hukou*)³ system that impeded the free flow of the population has been loosened considerably to meet the demand for cheap labour in the cities (Chan 2009). As a result, the floating population—defined as individuals who have left their original *hukou* registration for at least six months but who have continued to hold their original *hukou* registration—has increased dramatically from nearly 7 million in 1982 to more than 221 million in 2010 (NBSC 1982, NBSC 2011a).

The distribution of the rapidly increasing growth of the floating population has tended to concentrate in a few developed coastal cities because of imbalanced regional development. Table 1.1 presents the distribution of the top 50 cities in which the floating population is concentrated and the corresponding proportions of the floating population. In 1982, there were 21 cities located in the eastern region and 20 cities in the central region. The proportions of the floating population attracted by these two regions were nearly the same at approximately 18%. In the reform era, the Chinese government shifted the national development priority from inland to coastal regions. The establishment of

³ The household registration system, or *hukou*, is an identification system in which every Chinese citizen is classified as either a rural *hukou* resident or an urban *hukou* resident.

special economic zones in coastal regions and a series of spatially biased policies have increased regional inequalities in terms of growth rates, income levels and employment opportunities (Kanbur and Zhang 2005). The widening gap in regional socio-economic development has motivated more population to move from less developed hinterland to more advanced coastal areas. In 2005, 36 of the top 50 cities were located in the eastern region and the floating population they attracted accounted for 51.26%. By contrast, only 7 cities were in the central region and the proportion of the floating population located in that region decreased from 18.02% to 3.56% between 1982 and 2010.

Table 1. 1 Distribution of Top 50 Cities and Proportion of the Floating Population from 1982 to 2005

	1982		1990		2000		2005	
	Number of cities	Floating population (%)	Number of cities	Floating population (%)	Number of cities	Floating population (%)	Number of cities	Floating population (%)
Eastern	21	18.81	25	32.74	37	43.71	36	51.26
Central	20	18.02	16	10.90	6	3.67	7	3.56
Western	9	6.02	9	7.54	7	5.83	7	5.25
Total	50	42.85	50	51.18	50	53.21	50	60.07

Source: Population Censuses of China in 1982, 1990 and 2000; China 1% Population Sample Survey in 2005

Notes: These figures are likely to under-represent the percentages of floating population in each region due to the nature of migrants, many of whom are mobile and undocumented (Lavelly 2001).

Differentials in employment, wages and welfare entitlement between urban locals and migrants workers⁴

⁴ In this study, migrant workers include both urban-to-urban migrants ('urban migrants') and rural-to-urban migrants ('rural migrants'). Urban migrants work in a surveyed city but hold urban

The floating population has contributed approximately 21% of GDP growth and 75% of urbanization growth between 1978 and 1999 (Zhang and Song 2003, Cai and Wang 1999). However, due to their non-local *hukou* status, the majority of migrant workers are treated differently from urban locals in society in general (Keung Wong, Li and Song 2007, Wang 2010).

Many studies show that in the urban labour market migrant workers are more likely to end up on the bottom rungs of occupational structure and engage in “3-D” jobs (dirty, dangerous and demeaning) that are rejected by urban locals (Guo and Zhang 2007, Smyth, Zhai and Li 2009). A survey in 2011 indicated that rural migrants were highly represented in manufacturing, construction and service industries, accounting for more than 50% (NBSC 2011b). In addition, the employment of migrant workers relied mainly on individual and private economies, which accounted for 65%, much higher than the corresponding proportion of urban locals (21%) (NBSC 2001).

Migrant workers tend to earn a lower wage than their urban counterparts, even doing exactly the same work (Sylvie et al. 2008, Meng, Shen and Xue 2013). In 2004, the average monthly wage of urban locals was 2.48 times that of migrant workers (Yao, Xu and Xue 2008). The wage gap has further widened in recent years along with socio-economic development. A survey in 2009 showed that the monthly wage of urban locals was 6,394 *yuan*, which was 4.51 times higher than that of rural migrants (NBSC 2009). Wage differentials are also significant between urban migrants and rural migrants. The income of urban migrants was 1.54 times that of rural migrants in 2009 (NPFPC 2010).

hukou from another city. Rural migrants work in a surveyed city but hold rural *hukou* from the countryside.

There are also growing problems of working overload and wage arrears for migrant workers. According to the China Urban Labour Survey in 2010, migrant workers worked 27% more hours per week than did urban local workers (Cai and Du 2011). Migrant workers usually worked 26 days a month and 58.4 hours per week on average; 89.8% of these migrant workers exceeded the 44 working hours per week regulated by *The Labour Law* (NBSC 2010). This implies that the wage inequality between urban locals and migrant workers might be even larger after adjusting for the difference in working hours. Moreover, most migrants cannot draw their wages on time. One survey conducted by the National Bureau of Statistics found that migrants in the construction sector suffered the highest proportion of wage arrears, at 32.4%, and the corresponding proportion in manufacturing sector was the lowest, at 12.5% (Cai, Du and Wang 2009). The payment delay time varied from one month to eight years. The wage arrears of all migrant workers had reached 100 billion *yuan* by 2004 (Lan 2009).

Several studies have shown that migrant workers have much lower participation rates than urban locals in social insurance schemes (Akay, Bargain and Zimmermann 2012, Fan 2008). The *1% Population Sample Survey* in 2005 showed that only 7% of migrant workers had participated in the unemployment insurance scheme, 15% in the pension insurance scheme and 18% in medical insurance schemes. Approximately 62% of migrant workers did not participate in any social insurance schemes (NBSC 2007). The *Investigation on Life Quality of Rural Migrants* in 2006 suggested that only 12% and 20% of migrant workers were entitled to enjoy weekend leave and paid personal leave, respectively (NBSC 2006).

Housing difficulties, absence of labour contracts and high injury rates have also been severe problems for migrant workers for many years (Guo and Zhang 2007). Due to their

low wages and lack of urban/local *hukou*, migrant workers tend to live in inferior or deprived housing areas, such as factory dormitories and urban villages (Song, Zenou and Chengri Ding 2008). These places are characterized by small living spaces, poor surrounding environment and safety hazards (Wang, Wang and Wu 2009). As a consequence, many migrants are socially and/or residentially segregated from urban locals (Li and Huang 2006). In terms of migrants' working conditions, nearly 60% of migrant workers do not sign labour contracts (National Bureau of Statistics of China, 2010). Even for workers with a labour contract, one-third suggest that their labour contracts do not specify conditions such as the length of working hours, the employer's contribution to social insurance premiums, or the renewal and termination of contracts (Wang *et al.*, 2009). In addition, migrant workers face high work-related health risks and some of them suffer from severe occupational injuries and diseases (Tan 2004). Each year in Guangdong province, a number of migrant workers who are not properly trained in operating machines lose their fingers, hands or arms, and become physically disabled (Chan 2001). A significant number of benzene poisoning and pneumoconiosis cases have been reported in the construction and manufacturing sectors in which migrants are concentrated, and most of these affected workers are no longer able to work (Xiang 2004).

Literature review

Large scale migration in China and the resulting inequalities between urban locals and migrant workers are not the exception in the process of industrialization and urbanization. Many developed economies, such as the U.S, Canada and Australia, have also shown a similar migration pattern and significant inequalities in labour market outcomes between

immigrant workers and native workers and between racial groups (Green 1999, Forrest and Johnston 1999). Many theories have been proposed to explain the causes and effects of migration, such as the neoclassical migration theory (Sjaastad 1962), the new economics of labour migration (Stark and Bloom 1985, Stark and Taylor 1991) and the structural theory (Cain 1976). Studies have shown that migration is a complex process affected by personal characteristics, job opportunities, socio-economic development, culture and institutions (Buckley 1995, Schultz 1961). Migration also has the potential to transform individuals and societies in terms of both origins and destinations (Borts and Stein 1964).

In terms of discrimination⁵ in the labour market, many empirical studies find that even in the well-developed labour markets the discrimination against immigrants and minorities remains widespread and contributes to a large proportion of labour market differentials in access to employment, earnings and employee benefits (Guenther 2000, Juan and César 2008, Arabsheibani and Wang 2008, Blackaby et al. 2002). For instance, the occupational prestige for black Americans in a social-skills-oriented labour segment was still negatively affected by their racial status even if this effect had weakened sharply since the 1970s (Kim and Tamborini 2006). Research on the Australian labour market also implied that indigenous and Asian men suffered racial discrimination in obtaining skilled manual/non-manual occupations and professional, managerial or technical occupations compared with their white counterparts (Borooah and Mangan 2002). Many studies on income inequalities in developed countries show that 10-60% of wage differentials both

⁵ Discrimination in this study refers to the system/practice/culture/institution in which workers who have the same capacity, education, training and experience and demonstrate the same productivity are treated differently in terms of labour benefits, due to otherwise irrelevant personal characteristics (such as place of birth).

between native and immigrant workers, on the one hand, and among racial groups, on the other, might be attributed to discrimination, and the extent of discrimination is more intense at lower income levels (Guenter 2000, Juan and César 2008, Arabsheibani and Wang 2008). Although only a few studies have been devoted to documenting discrimination in employee benefits, they all suggest that minorities and female workers are less likely to be offered fringe benefits, such as pensions and health insurance (Currie 1993, Okunade 1995). All these studies suggest that racial or residential status usually induce mistreatment and discrimination in the labour market.

Although China's urban labour market has gone through tremendous changes over the last thirty years' economic reform, it is still under developed and relatively informal (Knight and Yueh 2009). China's unique *hukou* system, which links directly to the employment, social security, public services and other interests, confines the free flow of population and results in the disadvantaged social status of migrant workers (Fan 2008, Naughton 2007).

Many existing studies on China's internal migration suggest that, as with many other countries, migration is selective of those people whose labour is demanded by the destinations, such as young, skilled and educated migrants (Willmore, Cao and Xin 2011, Lin, Wang and Zhao 2004). The socio-economic development divergence between regions might affect the propensity and direction of migration (Shi and Bao 2007, Fan 2005a). However, researchers have also observed that, different from many capitalist countries, the *hukou* system acts as a passport or visa in China's internal migration (Luo 2012). It not only has a general effect on the push-pull factors, but also makes some of these factors ineffective or even contrary to the conventional wisdom (Li 2003). There is increasing evidence that the *hukou* system and the resulting segmented urban labour

market have brought about the heterogeneity in migration types and destinations (Lu and Song 2006, Froissart 2008).

The institutional segmentation and discrimination caused by the *hukou* system are also generally believed to be some of the most important explanations for labour market differentials between urban locals and migrants (Lu and Song 2006, Zhao 2002). The *hukou* status has a negative effect on migrants' access to prestigious jobs in the formal sectors, wage earnings and entitlement to state-provided social services (Keung Wong et al. 2007, Knight and Gunatilaka 2010, Démurger et al. 2009). The decomposition of wage differentials between urban locals and migrant workers indicates that approximately 25-50% of the earnings gap is the result of discrimination (Meng and Zhang 2001, Maurer-Fazio and Dinh 2004). Migrant workers could be treated even worse after taking into account urban locals' non-wage bonus and non-financial benefits (Lee 2012).

The migration process and labour market differentials among urban locals and migrant workers have drawn considerable attention from both the Chinese and the international research communities. However, migrants' destination selectivity and the discrimination against migrants in employment, earnings and welfare entitlements and benefits have remained far beyond the outcomes of the research. For instance, the socio-economic development has increased the regional imbalance, which has resulted in a massive population migration from the interior to coastal cities. Despite the proliferation of research on migration in China at a macro level, the effect of regional development divergence on migrants' choice of destination to a few developed coastal cities at the individual level remains under-explored. Moreover, although the labour market differentials between urban locals and rural migrants have drawn considerable attention from research communities, the extent of discrimination against rural/urban migrants

across the distribution of wages, in access to employment and welfare entitlements and benefits has not been empirically quantified. This thesis aims to investigate the effect of regional divergence in socio-economic development on migrants' destination selectivity and the contribution of discrimination against migrant workers to occupational attainment differentials, wage distribution differentials and welfare entitlements and benefits differentials. This study aims to empirically extend the application of migration theory, discrimination theory and segmented labour market theory to urban migrants in a transitional society. The research on migrants' destination selectivity and discrimination in the urban labour market could contribute to a better understanding of China's internal migration and provide a full assessment of labour market inequality among workers with different residential statuses.

1.2 Research Questions

From reviewing the existing literature, the following aspects in relation to the migration process and the discrimination against migrant workers in employment, earnings and welfare entitlement are identified and will be extensively investigated. The overarching research question of the thesis is to examine the effect of regional divergence in socio-economic development on migrants' destination selectivity and the extent to which the discrimination contributes to the labour market inequalities between urban locals and migrant workers.

Most of the existing literature has examined the interprovincial migration in China at a macro level and its effect on population distribution and regional development, but how the regional development divergence affects migrants' destination choice at the individual level remains unknown. For potential migrants, there are 30 provincial cities or

municipalities that serve as the available destination choices before migration. Many migrants, however, only choose the most-developed cities, such as Beijing, Tianjin and Shanghai, as their destinations instead of other cities. This study will fill this gap by examining the way in which the divergence in socio-economic development between regions affects migrants' choice of destination to developed coastal cities.

The previous studies usually adopt the analytical framework of the urban-rural dichotomy to investigate the labour market differentials between urban locals and rural migrants. Urban migrants are simply either categorized as rural migrants or excluded in the analysis. However, this framework fails to adapt to the changing composition of migrants, which is more diversified than it was in the 1980s and early 1990s. In fact, the proportion of urban migrants has gradually increased to approximately 24% of the floating population in 2000 (Zhang 2007b), and current estimates are even higher. Urban migrants have some advantages compared with rural migrants due to their urban *hukou*, but some disadvantages compared with urban locals due to their non-local *hukou*. Thus, they should be considered as an important group in studying the discrimination against migrant workers. Nonetheless, little research has been conducted to study the labour market differentials among the three groups, i.e., urban locals, urban migrants and rural migrants. This thesis will adopt an extended research framework⁶, under which urban migrants are included in a three-group analytical approach, to investigate the labour market inequalities among the three groups.

Many previous studies only focus on the mean wage gap between urban locals and migrants in China's urban labour market (Démurger et al. 2009, Maurer-Fazio and Dinh 2004). Little research has been conducted to estimate the extent of discrimination against

⁶ The extended research framework will be discussed in the section of research framework.

migrant workers in wage distribution. Some scholars have suggested that rural migrants are more qualified than urban locals and more desired by employers to undertake low-wage jobs that are labour-intensive, low-skilled and dangerous (Meng and Zhang 2001). Theoretically, migrant workers may face less or even no discrimination compared to urban locals with low income levels in the urban labour market. Nevertheless, this theoretical perspective has not been tested empirically in prior studies. The present study will extend the literature to estimate the extent of discrimination against migrants across the distribution of wages by adopting quantile-based regression and decomposition methods.

In contrast to the vast literature discussing the differentials and determinants in occupational attainment and in access to a few social insurance schemes between urban locals and migrant workers (Knight and Yueh 2004, Lin and Zhu 2009), little research has been done to estimate the extent of discrimination against rural migrants and urban migrants with respect to access to employment and welfare entitlements and benefits, such as the total number and individual items of employee benefits. This study will provide the first empirical research to estimate the extent of discrimination against migrant workers in occupational attainment and in welfare entitlements and benefits.

The present study aims to fill these literature gaps by investigating the following questions:

- How does the regional divergence in socio-economic development affect the destination selectivity of migrants?
- In what ways do personal characteristics, employment status and socio-economic development affect the occupational attainment, wage earnings and welfare

entitlements and benefits of urban locals, urban migrants and rural migrants?

- To what extent does discrimination against urban migrants and rural migrants contribute to occupational attainment differentials, wage distribution differentials and welfare entitlements and benefits differentials between urban locals and migrant workers?

1.3 Research Significance

This research has both theoretical and practical significance. From a theoretical perspective, this study empirically extends the application of migration theory, discrimination theory and segmented labour market theory to urban migrants and to a transitional society. Unlike that of the developed economies, China's experience of industrialization and urbanization bears some unique characteristics due to its transitional stage. China's urban labour market has been undertaking great reforms over the last three decades, but remains under developed. On the one hand, the *hukou* system continues to function like a passport or visa in China's internal migration that defines the constraints and opportunities for migration. On the other hand, this system has fostered a multi-segmented urban labour market. The institutional segmentation, such as the urban-rural dichotomy and the segregation between locals and non-locals, has resulted in the disadvantaged labour market status of migrants and severe discrimination against them.

This research contributes to a better understanding of the migration process and the labour market experience of migrant workers in China. This is the first empirical study that investigates migrants' destination selectivity at the individual level and systematically examines the role of discrimination played in migrants'

integration/segregation in China's urban labour market. Based on an integrated theory of migration that synthesizes the relevant elements from the neoclassical approach, the new economics of labour migration and the structural approach, this study investigates the effect of regional divergence in socio-economic development on migrants' choice of destination to developed coastal cities, such as Beijing, Tianjin and Shanghai rather than other cities.

Based on an extended analytical framework, this study provides a full assessment of labour market inequality among workers with different residential statuses and investigates the role of *hukou* status in employment, wages and welfare entitlement determination in the urban labour market. This research framework extends the widely used urban-rural dichotomy by considering both the segregation between urban locals and rural migrants and the segregation between locals and non-locals. Due to urban migrants' unique socio-economic status and increasing proportion among the population of migrant workers, they are included in a three-group analytical approach under this general research framework. By adopting this extended research framework, this study provides the first empirical research to quantify the extent of discrimination against urban migrants and rural migrants in occupational attainment, wages and welfare entitlements and benefits. In addition, this study extends the literature to estimate the extent of discrimination against migrants across the distribution of wages by adopting quantile-based regression and decomposition methods, which contributes a clearer characterization of migrant workers' labour market experience.

As will be readily apparent, this study is not simply an issue of academic interest but one of considerable practical significance as well, especially with regards to the reform of the *hukou* system and the urban labour market. The problems of population migration and

migrant workers' living conditions and working status have always been issues of focus, which have attracted the great concern of policymakers and the academic community. The Chinese government has committed itself to formulating policies and regulations to guide population migration and improve migrants' socio-economic status since the 1990s; however, these attempts have met with limited success (Meng and Zhang 2010). Due to the institutional constraints in access to well-paid and secure jobs and public services, the migrant labour shortage in urban areas and the labour surplus in rural areas are likely to co-exist today and in the future (Knight, Deng and Li 2011). The social status of migrant workers is moving from bad to worse as the labour market differentials widen between urban locals and migrant workers (Démurger et al. 2009).

On the one hand, the institutional barriers and resulting discrimination against migrant workers have brought about an increasing number of conflicts between employers and migrant workers and between local residents and migrant workers, which could threaten social stability (Chen 2010, Chan 2012). On the other hand, they have resulted in a significant reduction of labour productivity and a waste of social resources as workers may have been located in a position mismatching their capacity and urban locals may receive a wage higher than their marginal productivity of labour (MPL) while migrant workers may gain a wage lower than their MPL. Unless there is a fundamental reform of the *hukou* system and the urban labour market, the problems caused by the institutional barriers and discrimination may damage the sustainability of China's socio-economic development and the process of urbanization. Furthermore, the world's economic development would also be negatively affected because China has become an increasingly important player on the world's stage; by 2009, China had become the world's second-largest economy and the top contributor to global GDP growth by

producing 8.6% of global GDP (Lin 2011). The labour shortage in the migrant-dominated export manufacturing sector would slow down Chinese and global economic growth.

This research contributes to the public debate about how to continually attract and retain migrants in large cities in the context of an emerging shortage of labour. For instance, there is a need for further reform of the *hukou* system and the urban labour market to promote equal pay and equal access to employment. As suggested by some scholars, the reform should be directed to disconnect the *hukou* status from job opportunities and the distribution of employee benefits and public services (Cai 2011, Cheng et al. 2013) and to eliminate institutional constraints on movements between segments in the urban labour market (Meng and Zhang 2001). Efforts also need to be made to change the economic and employment structures in both origins and destinations to realize the optimal allocation of human capital and other resources to reduce regional inequality. Moreover, this study also contributes to the public debate about how to establish effective anti-discrimination labour policies to eliminate the mistreatment for migrant workers. The results suggest that there has been a profound transformation from a *hukou*-dominated urban-rural dichotomy in China's urban labour market in the early stages of the economic reforms to a new present dichotomy characterized by the segregation between locals and non-locals. Therefore, the anti-discrimination policy in China's urban labour market should be more oriented to eliminate the segregation between locals and non-locals rather than only the segregation between rural migrants and urban locals. Furthermore, urban migrants should be considered when these policies and regulations are formulated because of their unique socio-economic status. The findings and recommendations provided by this study could contribute significantly to socio-economic development in China and the rest of the world.

1.4 Research Framework

Figure 1.1 presents the framework for research in migrants' destination selectivity. Many theories have been proposed to investigate the migration process and its role in population distribution and regional development. The neoclassical migration theory argues that migration is a response to spatial disparities in socio-economic development and the result of individuals' rational estimation of the expected income and long-term returns (Lee 1966, Todaro 1976). The new economics of labour migration has widened the narrow focus of the neoclassical migration theory on labour markets and wages (Stark and Bloom 1985, Stark and Taylor 1991). It assumes that some key markets besides the labour market, such as futures, capital, and insurance, are imperfect, inaccessible, or nonexistent (Massey and Espinosa 1997). People migrate to manage risk and obtain access to capital which could lessen production and investment constraints (Taylor 1999). However, both the neoclassical migration theory and the new economics of labour migration ignore the institutional factors that could shape migration and the opportunity structure in the labour market in many socialist countries, particularly in China. The structural approach provides a valuable theoretical supplement by emphasizing the wider institutional and market processes. It examines the interaction between labour market segmentation and migration.

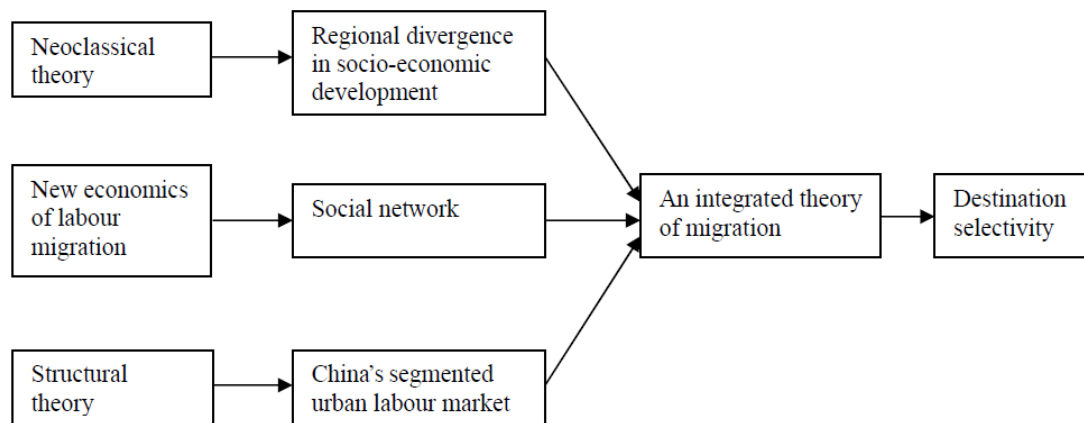


Figure 1. 1 Research Framework for Destination Selectivity

Some scholars suggest that no single migration theory can fully explain the phenomenon of Chinese internal migration (Chan, Liu and Yang 1999). This research therefore adopts an integrated theory of migration by synthesizing the relevant elements from the neoclassical approach, the new economics of labour migration and the structural approach to investigate the migration flow and migrants' choice of destination to Beijing, Tianjin and Shanghai. For instance, the neoclassical perspective is adopted to examine the effect of regional divergence in socio-economic development on migrants' destination selectivity and the effect of migration on regional inequalities. The structural perspective is adopted to investigate the effect of the *hukou* system and the resulting segmented urban labour market on push-pull factors in destination selection. The institutional barriers might nullify certain push-pull factors in destination selectivity or even cause them to run contrary to conventional wisdom. The new economics of labour migration is adopted to analyze the effect of social networks on migrants' choice of destination.

Figure 1.2 shows the research framework for investigating the discrimination against

migrant workers in China's urban labour market. The segmented labour market theory suggests that the labour market is segmented into primary and secondary sectors by the institutional constraints, such as the regulations on migration, ethnicity and residential status (Doeringer and Piore 1985). The primary sector is organized in an internal labour market and characterized by good pay, well-defined career ladders, favorable working conditions and job security, whereas the secondary sector is characterized by low pay, poor working conditions and a high rate of mobility (Sakamoto and Chen 1991). The movement between the two sectors is strictly restricted (Smith 2003), which results in a disadvantageous status of certain groups who are largely confined to the secondary labour market (McDonald and Solow 1981). The bulk of research has found sustained discrimination against minorities based on the segmented labour market theory (Sakamoto and Chen 1991, Thomas and Vallée 1996, Xu, Tan and Wang 2006).

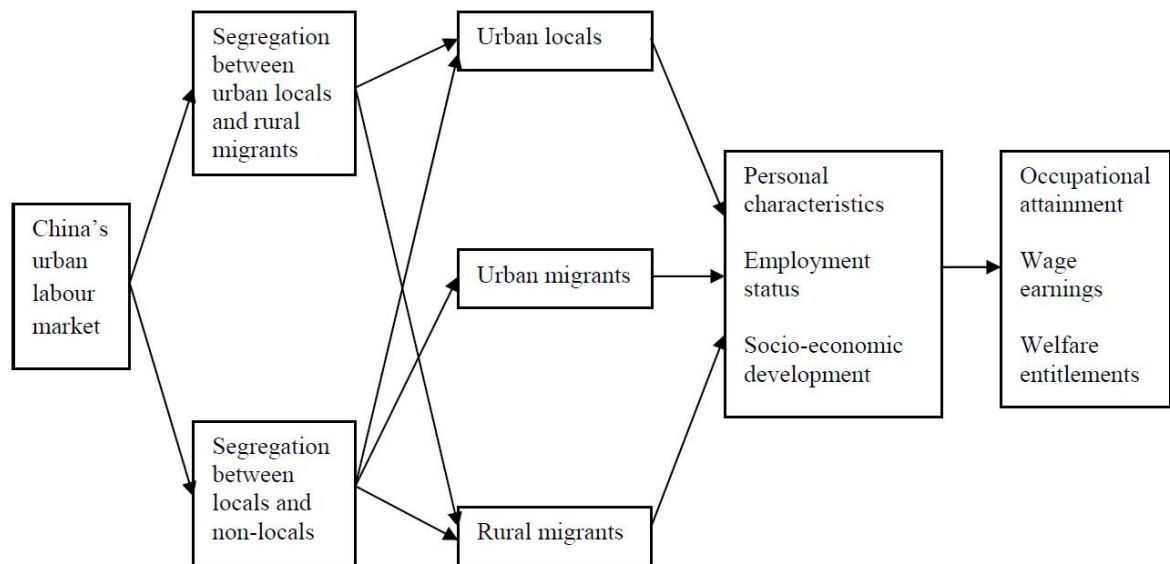


Figure 1. 2 Research Framework for Discrimination in the Urban Labour Market

A segmented urban labour market resulting from the *hukou* system has also been observed in China (Knight and Yueh 2009, Appleton et al. 2004). The *hukou* system functions as an “invisible wall” between urban locals and migrant workers and has resulted in the segregation between urban locals and rural migrants and the segregation between locals and non-locals in the urban labour market (Maurer-Fazio and Dinh 2004, Zhang 2007a). Because of their non-local *hukou* status, migrants are socially and economically separated from—and considered inferior to local residents (Laurence 2002). Typically, migrants are not allowed access to most permanent positions that are characterized by better pay, better work environment and benefits in the formal sectors. They are confined to private and informal sectors and engage in labour-intensive, low-skilled and hazardous jobs that are rejected by urban locals (Knight and Song 1995, Fan 2003). In addition, migrants have limited access to the urban social security system and they are socially and/or residentially segregated from local residents by living in low-income, inferior or deprived housing areas (Li and Huang 2006, Song et al. 2008).

The present study adopts an extended research framework to examine the differentials in labour market outcomes, such as occupational attainment, wage earnings and welfare entitlement, among the three groups. This research framework considers both the segregation between urban locals and rural migrants and the segregation between locals and non-locals (Guo and Zhang 2012). It argues that, on the one hand, the urban-rural dichotomy in the urban labour market has been weakening as a result of the loosened restrictions on rural-urban migration and rural migrants’ employment in urban cities. On the other hand, the segregation between locals and non-locals has become increasingly more dominant in the segmentation of China’s urban labour market because of the growing local protectionism in favour of urban locals.

Under this general analytical framework, urban migrants are included in a three-group analytical approach. This approach investigates the labour market differentials among the three groups, i.e., between urban locals and urban migrants, between urban locals and rural migrants, and between urban migrants and rural migrants. This approach could better reflect the reality of the two types of segregation in China's urban labour market and their interactions. The segregation between urban locals and rural migrants continues to affect rural migrants, while the segregation between locals and non-locals affects both rural migrants and urban migrants who are non-locals in their destination.

As indicated by many previous studies, the labour market differentials between the two groups are the results of heterogeneity in productivity-related characteristics, such as personal characteristics, employment status and socio-economic development, and the difference in returns to these productivity-related characteristics, which is often attributed to discrimination that is based on residential status or gender (Brown, Moon and Zoloth 1980, Solinger 1999, Sylvie et al. 2008, Borjas 1995). This study investigates the discrimination against migrant workers in occupational attainment, wages and welfare entitlement based on the extended research framework.

To examine which form of segregation dominates the current segmentation of the urban labour market, we set up three hypotheses:

H1: If the labour market outcomes of urban migrants are similar to those of urban residents, but significantly better than those of rural migrants, the segregation between urban locals and rural migrants dominates in the segmentation of the urban labour market.

H2: If the labour market outcomes of urban migrants are similar to those of rural migrants, but significantly worse than those of urban locals, the segmentation of the urban labour

market is mainly determined by the segregation between locals and non-locals.

H3: Discrimination contributes significantly to the labour market outcome differentials between urban residents and rural migrants but less significantly between urban residents and urban migrants.

1.5 Data and Methodology

Data source

The data used in this thesis comes from the Rural Migrant Labour in Large Chinese Cities Survey, a Discovery Project funded by the Australian Research Council. It was conducted by Macquarie University and Nankai University in Beijing, Shanghai, Tianjin and Guangzhou in 2008. The survey adopted a multi-stage stratified random sampling method. All districts in the four cities were taken as a sample frame. In each city, one urban and one suburban district were randomly selected, and two neighborhood committees (*juweihui*) were randomly chosen from each district; finally, one hundred randomly selected households in each selected neighbourhood committee (including both local households and migrant households) were interviewed with the aid of questionnaires to collect both individual and household data. The information collected in this survey includes individuals' personal characteristics, wages, employment status, migration time, places of origin and destination. The survey finally received 1,797 valid questionnaire responses, with a 99.6% effective rate. Among them 1,017 were rural migrants (57%), 378 were urban migrants (21%) and 397 were local residents (22%)

The research adopts a series of econometric models, including the conditional logit model, the multinomial logit model, the quantile regression and decomposition model, the negative binomial distribution model and the Oaxaca-Blinder decomposition method, to

investigate migrants' destination selectivity and the discrimination against urban migrants and rural migrants in employment, wage earnings and welfare entitlement in the urban labour market.

Destination selectivity

Many previous studies have employed the pull-push model to investigate the determinants of China's internal migration (Chen and Coulson 2002, Wang, Yang and Zhang 2011). However, these studies only focus on the effect of pull and push factors in migration decision making. They neglect how the regional divergence in socio-economic development affects migrants' choice of destination to a few developed coastal cities instead of other destinations. The conditional logit model is therefore adopted to examine migrants' destination selectivity. The conditional logit model is developed from the multi-category logit model and is appropriate when the choice among alternatives is modeled as a function of the characteristics of the alternatives, rather than (or in addition to) the characteristics of the individual making the choice (Hoffman and Duncan 1988). The multinomial logit model considers the impact of personal characteristics on the alternatives, whereas the conditional logit model pays much more attention to the impact of characteristics of the alternatives themselves (Liang and White 1997).

The factors determining the migration are found to be intuitively complex, multifaceted and interactive (Wang et al. 2011, Fan 2008). A sector of socio-economic development indicators, such as wage levels, job opportunities, industrial structure, road area per capita, social network, distance and so on, is included in this study to investigate the divergence of socio-economic development between regions on migrants' destination selectivity. In addition, research on migration mostly assumes that destination attributes do not vary across origins and that potential migrants can equally access destinations in terms of

transportation and information (Liang and White 1997). However, this assumption may overestimate migrants' responses to destination factors and ignore the relative impact of origin factors (Chan et al. 1999). Some studies indicate that the effects of socio-economic development in origins and destinations on the migration propensity are asymmetrical. The pull factors usually play a more important role in migration decision-making (Fields 1982). In light of this, most variables in this study take the form of ratios.

Discrimination in occupational attainment

In this study, occupations in the urban labour market are divided into four categories after considering the official statistics and categorizations in previous studies (Yang and Guo 1996, Sun and Fan 2010). The four occupational categories are white-collar jobs (including administrative and managerial jobs, professional and technical jobs), office clerical jobs, production-related jobs (including agricultural jobs, industrial production and transportation jobs), and service jobs (including business and service jobs, retail and restaurant service jobs and other jobs). The rationale of classifying occupations into these four categories is that occupations in the same category share many similarities and receive similar treatment in China's urban labour market.

Because the occupations are unordered categorical dependent variables with more than two possible outcomes, the multinomial logit model is an often-used strategy to estimate the probability that a worker is employed in one of four broadly defined categories. This model is a straightforward extension of the logistic model and allows the effects of independent variables to vary for different outcomes without following the multivariate normal distribution (Press and Wilson 1978). It is appropriate for analysing the relationships between a number of covariates and a dependent variable with more than two possible unordered outcomes (Yang and Guo 1996, Agresti 2002).

Based on the estimated coefficients of the three groups' occupational attainment, the Oaxaca-Blinder decomposition approach is employed to evaluate the extent of discrimination against migrant workers. This method decomposes the occupational attainment differentials into two components. The explained portion measures the employment gap due to the difference in mean productivity-related characteristics between two groups, and the unexplained portion measures the employment gap due to the difference in returns to productivity-related characteristics between the members of two groups. This unexplained portion of the employment gap is often attributed to discrimination.

The decomposition results may differ according to which group's occupational attainment is chosen as the non-discriminatory norm. For instance, the extent of discrimination might be estimated based on urban locals' occupational attainment determination rule or based on migrant workers' occupational determination rule. The results will not be identical and will be sensitive to the chosen path. To ensure the robustness of results, this study addresses this index number problem or path-dependence by reporting the average of both possible Oaxaca-Blinder decomposition results.

Discrimination in wage earnings

The distributional analysis of wage differentials has attracted much attention in labour economics over the last decade due to the increasing wage inequalities in many countries. Similar to other countries, severe inequalities were found among urban migrants and urban locals in China who had Gini coefficients of 0.54 and 0.52 in 2008, respectively; the Gini coefficient among rural migrants was lower but still considerable (0.43) (Guo and Cheng 2010). The quantile-based regression and decomposition approaches are employed to untangle the sources of wage distribution differentials between urban locals

and migrant workers. These approaches are able to reveal details of discrimination against migrant workers across the distribution of wage, in particular at the tails of the distribution. As suggested by some scholars that migrant workers in China are more qualified than urban locals in low-tier jobs (Meng and Zhang 2001), the quantile approaches are more appropriate to analyze whether migrants with low income levels are being discriminated against.

The previous research indicates that urban locals typically enjoy more in-kind income, welfare entitlements and employee benefits than migrant workers in the urban labour market (Fan 2008). However, the non-cash income is not included in this study as a result of the lack of information in this survey. Thus, the extent of discrimination reported in this study is likely to underestimate the actual discrimination suffered by migrant workers. To solve this problem, we employ the method used by Yue, *et al* (2010) in decomposing wage differentials between monopolistic and competitive industries. This method assumes that the undervalued percentages of urban locals' wages are identical across the distribution of wages, while the absolute number increases with the rise of actual wages. This assumption is reasonable because bonuses and employee benefits are also determined by the human capital and employment status of workers.

This method multiplies the wages of urban locals by an adjustment factor larger than 1, whereas it holds that of migrant workers constant and then decomposes the wage differentials. Three adjustment factors are selected in this study to represent that the real income of urban locals is undervalued by different percentages. These adjustment factors are estimated based on information about urban locals and migrants' earnings collected in previous surveys, such as China General Social Survey (2008), China Urban Labour Survey (2005) and Rural Migrant Workers in Urban Pearl River Delta Survey (2008).

Discrimination in welfare entitlements and benefits

The welfare entitlements and benefits in this study include public holidays, weekend leave, medical insurance scheme, pension insurance scheme, unemployment insurance scheme, and industrial injury insurance scheme. Since the total number of employment benefits and individual items of benefits are count data and dichotomous variables, the present study adopts the negative binomial distribution model and the logit model, respectively to analyze the determinants of welfare entitlements and benefits of the three groups. Based on the regression results, the Oaxaca-Blinder decomposition method is adopted to decompose the disparities in the total number of employment benefits and individual items of benefits between urban locals and migrant workers into the explained part of the benefit gap caused by the difference in productivity-related characteristics and the unexplained part of the benefit gap that is caused by discrimination.

To examine the discrimination in more detail, this study adopts the Cotton decomposition approach, which assumes that the non-discriminatory wage/benefit structure is the simple weighted average of the observed structures for the two groups, i.e., urban locals and migrant workers. Unlike the Oaxaca-Blinder decomposition, the Cotton decomposition further divides the unexplained portion of the benefit gap resulting from the group differences in estimated coefficients into two parts. One part captures the amount by which the productivity-related characteristics of urban locals are overvalued (the ‘benefit’ of being urban locals), which indicates that urban locals are considered to be “superior” to migrant workers. The other part measures the amount by which the productivity-related characteristics of migrant workers are undervalued (the ‘cost’ of being migrant workers), which indicates that migrant workers are considered to be “inferior” to local residents.

In summary, the results from the analysis using these approaches could enhance our understanding of migration processes and the discrimination against migrants in China's urban labour market. This extends the migration and discrimination literature and also provides evidence and recommendations for the reform of the *hukou* system, the urban labour market and policy making.

1.6 Research Limitations

It should be noted that there are three limitations in investigating the discrimination against migrant workers. Two potential selectivity issues cannot be addressed in this study due to the lack of information in the survey. One is the non-random occurrence of labour market participation, which indicates that not all people who can work are willing to find a job in the labour market. The selectivity problem would be prominent in populations in which the labour force participation rate is low, as was the case in Australia and Germany in the 1980s where such rate was approximately 60% (Blau and Kahn 2003, Miller and Rummery 1991). Since the participation rates of urban locals and migrant workers in China are all higher than 80% (Park and Wang 2010), this selection issue should not be too problematic. One recent study on China, which adopts the standard Heckman selectivity correction to control for the factors potentially correlated with the selection of working has also indicated that the participation process had no significant effect on earnings (Lee 2012).

The other selectivity issue is that migrant workers are not random samples drawn from a rural population. This may bias the estimation of the extent of discrimination. Rural migrants usually have better human capital and are more motivated, resilient and have more ambition than non-migrants in the countryside. Therefore, the extent of

discrimination might be even greater if rural migrants were randomly drawn into rural areas. However, neither this nor any other studies on China has sufficient information to address this particular selection issue.

Like many studies of discrimination in the labour market, the unexplained portion of labour market differentials between urban locals and migrant workers cannot be fully attributed to discrimination. Some unobservable factors, such as workers' ability to obtain information, adaptation to urban environments and other productivity-related factors could not be identified and included in this study. As a result, their contribution to the labour market differentials may be represented in the unexplained component, which may bias the estimation of the extent of discrimination. However, it is generally accepted that a large proportion of unexplained labour market differentials should be attributed to the different treatment for migrant workers (Meng and Zhang 2001).

1.7 Thesis Structure

This thesis has six chapters that are structured as follows.

Chapter 2 investigates the effects of regional development divergence on migrants' choice of destination to migrate to the developed coastal cities, such as Beijing, Tianjin and Shanghai. It firstly introduces the scale of the floating population and its distribution since the 1980s. Following this, the study reviews migration theories and introduces an integrated theory of migration by synthesizing the relevant elements from the neoclassical approach, the new economics of labour migration and the structural approach. Then, based on data from the Rural Migrant Labour in Large Chinese Cities Survey, this thesis examines the demographic and socio-economic characteristics of migrants who migrated between 2003 and 2005. In the remainder of this chapter, the

conditional logit model is adopted to analyze how the divergence in socio-economic development among regions affects migrants' choice of destination to Beijing, Tianjin and Shanghai as destinations instead of other cities and the effect of migration on regional inequality by using the data from Rural Migrant Labour in Large Chinese Cities Survey and the macro data from provincial and municipal *Statistical Yearbook*.

Chapters 3 to 5 examine the discrimination against urban migrants and rural migrants in occupational attainment, wage earnings and welfare entitlements and benefits through an extended analytical framework that considers the segregation between urban locals and rural migrants and the segregation between locals and non-locals. The data used in these three chapters is from Rural Migrant Labour in Large Chinese Cities Survey. The first two sections in each of the three chapters are an introduction of labour market differentials in the three aspects and the extended research framework. And then, different econometric methods are adopted to investigate the determinants of occupational attainment, wages and welfare entitlements of the three groups and to estimate the extent of discrimination against migrant workers.

In Chapter 3, this study investigates the discrimination against migrant workers in occupational attainment. The multinomial logit model is employed to examine the determinants of these four occupational categories for urban locals, urban migrants and rural migrants. Based on the estimated coefficients, the Oaxaca-Blinder decomposition method is then employed to estimate the extent of discrimination against migrant workers in obtaining the four occupational categories. To address the index number problem or path-dependence, this research reports the means from both possible Oaxaca-Blinder decomposition results.

In Chapter 4, this research analyzes the discrimination against migrant workers across the

distribution of wage. Since some scholars suggest that migrant workers, particularly rural migrants, are more qualified than urban locals in doing labour-intensive and dangerous jobs (Meng and Zhang 2001). The quantile-based regression and decomposition approaches are adopted to untangle the sources of wage distribution differentials. These approaches are able to reveal details of discrimination against migrant workers across the distribution of wage, in particular at the tails of the distribution.

In Chapter 5, this study examines the discrimination against migrant workers in access to the total number of benefits and the individual items of benefits. The negative binomial distribution model and logit model are used to examine whether discrimination exists against migrant workers and rural migrants in obtaining the total number of benefits and individual items of benefits. Based on the determinants of welfare entitlements and benefits for the three groups, the Oaxaca-Blinder decomposition method is employed to estimate the extent of discrimination against urban migrants and rural migrants. To ensure the robustness of the results, this study reports both the Oaxaca-Blinder decomposition results and Cotton decomposition results.

Chapter 6 presents the main conclusions of the thesis. It summarizes the key findings and implications. The results of the destination selectivity study indicate that the features of China's internal migration reflect the co-existence of China's capitalist and socialist systems in the decades after the reforms. The destination selectivity is affected not only by the regional divergence in socio-economic development but also by the institutional barriers that generated the segmented labour market. The decomposition of labour market differentials shows that both urban migrants and rural migrants face discrimination in occupational attainments, wages and welfare entitlements. The comparison of the extent of discrimination against urban migrants and rural migrants confirms that the

segmentation of the urban labour market is currently dominated by the segregation between locals and non-locals instead of the segregation between urban locals and rural migrants that predominated in the first 20 years or so after the economic reforms. In the next section, the study suggests the research topics in the future. A number of areas that are related to the present study need further research, such as the new-generation migrants who were born in 1980 or thereafter, the social and residential segregation as well as compensating wage differentials for migrant workers undertaking risky jobs.

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**Chapter 2 The impact of regional divergence in
socio-economic development on destination selectivity of
China's internal migrants**

Abstract: Since the 1980s in China, an increasing number of migrants have flooded into a few developed coastal cities, although they have been treated differently from urban locals in various aspects because of their non-local household registration (*hukou*) status. Many studies have examined interprovincial migration in China and its role in population distribution and regional development at a macro level, however, the existing literature provides little understanding about migrants' selective choices of destinations at the individual level. This study investigates the effect of regional development divergence on migrants' choices of destinations with respect to these developed coastal cities such as Beijing, Tianjin and Shanghai. The results show that there are significant differences in demographic and socio-economic characteristics among migrants in the three cities. Destination selectivity is affected not only by the regional divergence in socio-economic development but also by the institutional barriers that generated the segmented labour market. The *hukou* system and the resulting segmented urban labour market continue to function in social and labour stratifications, which may make some push-pull factors in migration ineffective or run contrary to the conventional wisdom. In addition, migration has accelerated rather than reduced regional inequality, especially the imbalance between urban and rural areas.

Keywords: destination selectivity, *hukou* system, migrant workers, urban labour market, China

2.1. Introduction

The massive population migration that began in the 1980s has been one of the most significant socio-economic transformations in the history of China (Fan 2005b). In the past three decades, the so-called floating population, who have left their origin of household registration (*hukou*)⁷ for six months or more, has increased from 7 million in 1982 to 221 million in 2010 (NBSC 1982, NBSC 2011a). As an integral part of China's economic growth, the floating population has contributed to approximately 21% of GDP growth and 75% of the urbanization growth between 1978–1999 (Cai and Wang 1999, Zhang and Song 2003).

Under the planned economy regime, the *hukou* system assigned every Chinese citizen either a rural or urban *hukou* status and precluded rural residents from grain rations, education, employment, housing and state-provided social services in the cities (Sun and Fan 2011). As a consequence, rural residents were confined in the countryside and it was almost impossible for them to migrate between urban and rural areas and across regions. The size of the floating population was thus kept at a minimum (Wu 1994).

During the reform era, the economic reforms have widened the regional inequality in income and job opportunities (Guo and Cheng 2010). For instance, the urban-rural income gap widened from 2.57-to-1 in 1978 to 3.23-to-1 in 2010 (NBSC 2011b). Moreover, the rapid development of Special Economic Zones and the booming urban private and informal sectors has increased the demand for cheap rural labour in urban areas (Fan 2003). In order to propel the high rate of socio-economic development, the

⁷ The household registration system, or *hukou*, is an identification system in which every Chinese citizen is classified as either a rural *hukou* resident or an urban *hukou* resident.

hukou system has been subject to reforms to allow surplus labour from rural areas to seek higher income by migrating and working in urban industries (Chan 2009). Figure 2.1 shows that the floating population increased from nearly 7 million in 1982 to more than 221 million in 2010.

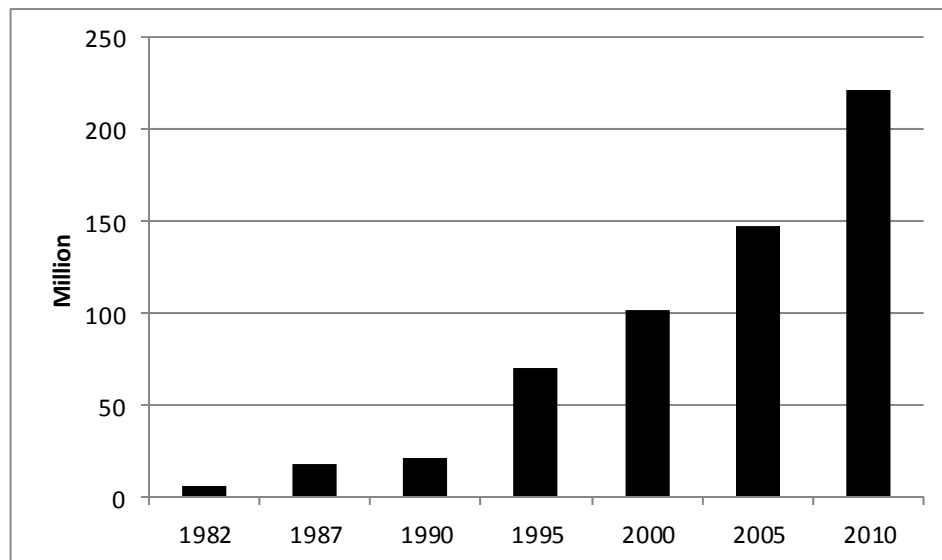


Figure 2. 1 Scale of Floating Population from 1982 to 2010

Sources: Population Census of China in 1982, 1990, 2000 and 2010; China 1% Population Sample Survey in 1987, 1995 and 2005.

With the rapid increase in the size of the floating population, its distribution shows a trend of concentrating in a few developed coastal cities because of imbalanced regional development. Table 2.1 presents the distribution of the top 50 cities in which the floating population is concentrated and the corresponding proportions of the floating population. In 1982, 21 cities located in the eastern region and 20 cities in the central region. The proportions of floating population attracted by these two regions were nearly the same, accounting for 18%.

In the reform era, the coastal development strategy shifted the national development

priority from inland to the coastal regions. The region-biased policies and institutions are generally believed to be the main causes of rising regional inequality in China (Yang 2002, Fan 2005b). For instance, since the 1980s, China has established various special economic zones in coastal region in order to attract foreign direct investment and trade. These open zones enjoy special treatments, including considerable autonomy, superior tax treatment and preferential resource allocations. In addition, a series of spatially biased policies, such as investment policies, financial policies and price policies were issued to promote the coastal socio-economic development. As a result, the income levels and growth rates among the interior and coastal regions have diverged dramatically (Kanbur and Zhang 2005). The widening gap in regional socio-economic development has motivated more population to move from the less developed hinterland to the more advanced coastal areas. In 2005, 36 of the top 50 cities located in the eastern region and the floating population they attracted accounted for 51.26%. In Shanghai and Beijing, the share of the floating population in the local usual residents amounted to 34% and 23%, respectively (BMBS 2006, SMBS 2006). In contrast, only 7 of the top 50 cities were in the central region in 2005, and the proportion of floating population in this region decreased from 18.02% to 3.56% between 1982 and 2010.

Table 2. 1 Distribution of Top 50 Cities and the Proportion of Floating Population from 1982 to 2005

	1982		1990		2000		2005	
	Number of cities	Floating population (%)	Number of cities	Floating population (%)	Number of cities	Floating population (%)	Number of cities	Floating population (%)
Eastern	21	18.81	25	32.74	37	43.71	36	51.26
Central	20	18.02	16	10.90	6	3.67	7	3.56
Western	9	6.02	9	7.54	7	5.83	7	5.25
Total	50	42.85	50	51.18	50	53.21	50	60.07

Source: Population Census of China in 1982, 1990 and 2000; China 1% Population Sample

Survey in 2005.

Notes: these figures are more likely to under-present the percentages of floating population in each region since the nature of migrants, many of whom are mobile and undocumented (Lively 2001).

The massive population migration caused by the transformation of cities' industrial functions has been observed not only in China but also in many developed economies, such as the U.S. and the U.K. (Massey et al. 1994a, Zhou and Logan 1989). Various theories have been proposed to explain the causes and effects of migration. Studies show that migration is a complex process affected by personal characteristics, job opportunities, socio-economic development, culture and institutions (Buckley 1995, Schultz 1961). The migration, in turn, also has the potential to transform individuals and societies in both origins and destinations (Borts and Stein 1964).

Unlike developed economies, China's experience of industrialization and urbanization bears some unique characteristics due to its transitional stage (Fan 2003). China's unique socialist market economy has been marked by an uneasy blend of state control and market mechanisms (Fan 2002). It differs from both socialist economies and capitalist economies by only adopting those market practices which could promote the socio-economic development while depending heavily on the state control (Smart 2000). One of the effective instruments of state control is the *hukou* system, which was created to monitor and control population movements. Although the *hukou* system has been loosened considerably in order to meet the demand for cheap labour in the cities, it continues to act as a sort of passport or visa system in China's internal migration, which causes this internal migration more to resemble an international migration from a less-developed to a

more-developed country (Luo 2012).

The *hukou* system not only defines the constraints and opportunities for migration, but also fosters a segmented urban labour market (Zhang 2004). The institutional segmentation, such as the urban-rural dichotomy and the segregation between locals and non-locals, has resulted in the disadvantaged socio-economic status of migrants. There is increasing evidence that migrant workers are restricted in private and informal sectors and that they experience discrimination in employment and wages compared to urban locals in the segmented urban labour market (Meng and Zhang 2001, Keung Wong, Li and Song 2007). This discrimination could have a significant effect on migration propensity and destination selectivity (Fan 2008).

While a significant body of literature has examined the interprovincial migration in China and its role in population distribution and regional development at a macro level, there has been inadequate research on migrants' destination choices at the individual level. More specifically, there are 30 provincial capitals or municipalities that are available as choices of destination for the potential migrants. The majority of them, however, choose only the well-developed cities, such as Beijing, Tianjin and Shanghai, as their destinations. In what way does the socio-economic development in these cities relative to that of other cities affect migrants' destination choices? In addition, to what extent can population migration facilitate an equal redistribution of human resources and reduce the extent of regional inequality? To better understand the migration process, this study utilizes survey data from 2008 to investigate the effect of regional development divergence on migrants' destination selectivity. This study intends to improve the explanations of migratory processes in a transitional society and to contribute to the discussion of how to guide population migration and plan China's continuing

socio-economic development.

The rest of this paper is organized as follows. The next section reviews the migration theories and introduces the research framework. Following this, we introduce the data and explain the econometric method, and then we examine the effect of differences in socio-economic development between regions on migrants' destination selectivity. The last section summarizes the key findings and offers some concluding comments.

2.2. Research Framework

A variety of theoretical approaches, such as the neoclassical approach, the new economics of labour migration and the structural approach, have been proposed to investigate the migration process and its role in population distribution and regional development. The neoclassical migration theory regards migration as a response to spatial disparities in labour market and socio-economic development (Lee 1966, Sjaastad 1962). It can adjust the inter-regional allocation of resources and even out the labour market differentials. At the individual level, migration is understood as a process of human capital investment and is the result of individuals' rational estimation of costs and benefits (or of expected income and long-term returns in later theoretical extensions) (Schultz 1961, Todaro 1976).

The new economics of labour migration, in contrast, has widened the narrow focus of the neoclassical migration theory on labour markets and wages (Stark and Bloom 1985, Stark and Taylor 1991). This theory incorporates risk, diversification of income resources, remittances and cumulative causation of through social networks in explaining migration process (Taylor 1984, Taylor 1986). The new economics of labour migration assumes that some key markets besides the labour market, such as futures, capital, and insurance, are

imperfect, inaccessible, or nonexistent (Massey and Espinosa 1997). The aim of migration is not only to gain a higher stream of lifetime earnings but also to manage risk and obtain access to capital which could lessen production and investment constraints. Several studies suggest that remittances from migrants have positive effect on incomes of migrant sending households, easing credit and risk constraints on local production (Taylor 1999, Taylor, Rozelle and Brauw 2003). Many households have gain access to labour markets in destinations through the growth and elaboration of social networks (Massey, Goldring and Durand 1994b). However, finding jobs through relatives or friends actually restricts certain groups in the secondary sectors, which further reinforces the labour sorting and occupation segregation (Fan 2003).

Both the neoclassical approach and the new economics of labour migration assume that the free-individual migration is the norm rather than the exception, which downplays the role of institutional factors in shaping migration and the opportunity structure in the labour market (Fan 2002). In China, migrants, who possess non-local *hukou* and have no affiliations with states, usually have limited labour mobility and limited access to job information and opportunities in the urban labour market. They are most likely to end up in the bottom rungs of occupational structure and engage in “3-D” jobs (dirty, dangerous and demeaning) that are shunned by urban locals (Guo and Zhang 2007). In addition, the high levels of mobility of migrants mean that their rational calculations of costs and returns are based on short term monetary gains instead of the long-term returns that are assumed in the neoclassical theory. Therefore, the investigation on migration is inadequate solely based on the neoclassical approach and the new economics of labour migration. The structural approach, which emphasizes the wider institutional and market process, could provide a valuable theoretical supplement to better understand China’s

internal migration.

The structural approach examines the interaction between labour market segmentation and migration. The segmented labour market theory argues that the labour market is segmented into primary and secondary sectors (Doeringer and Piore 1985). The primary sector is organized in an internal labour market and characterized by good pay, well-defined career ladders, favourable working conditions and job security, while the secondary sector is characterized by low pay, poor working conditions and high mobility rates (Sakamoto and Chen 1991). The institutional constraints, such as the regulations on migration, industry- and occupation-wide internal labour market and residential status, restrict the movement between the two sectors (Smith 2003). This results in a disadvantageous status for certain groups who are denied access to many desirable jobs and are more likely confined to the secondary labour market (McDonald and Solow 1981). The bulk of research has found that the segmented labour market has a significant effect on individuals' decisions and migration processes (Démurger et al. 2006, Kelly and Lusia 2006).

Research on China also reveals a segmented urban labour market caused by the *hukou* system (Knight and Yueh 2009, Appleton et al. 2004). Although the strict restrictions on rural-urban migration have been relaxed considerably to meet the demand for cheap labour in the cities, the *hukou* system continues to function as an “invisible wall” between urban locals and rural migrants, which results in the segregation between urban locals and rural migrants in the urban labour market (Maurer-Fazio and Dinh 2004). Many studies have found that the urban-rural dichotomy has resulted in socio-economic disadvantages for rural migrants, who are treated differently from urban locals in society in general (Laurence 2002, Meng and Zhang 2001). For example, rural migrants are not allowed

access to most permanent positions in the state sector, which offers a better work environment and benefits, and they are disproportionately concentrated in the private and informal sectors and engage in labour-intensive, low-skilled and sometimes hazardous jobs (Fan 2003). In addition, rural migrants have limited access to the urban social security system and they are socially and/or residentially segregated from and considered to be 'inferior' to local residents (Wang and Zuo 1999).

The urban-rural dichotomy has been eradicated since the early 2000s, after the central government's policies concerning migrant workers were transformed from restriction to social integration. Almost all laws and regulations that restricted rural-urban migration and rural migrants' employment in certain occupations were abolished after the substantial reforms in the *hukou* system. Nevertheless, the depth, scope and pace of the *hukou* reform have not lived up to expectations (Liu 2005), because radical reform might involve changes in many established systems and arrangements, such as the pension, health care and employment systems (Cheng et al. 2013), which seems impossible at present. Therefore, the segregation between urban locals and rural migrants is likely linger and continue to play a role in shaping urban inequality and social stratification (Wang, Zuo and Ruan 2002).

During the past twenty years, as the urban-rural dichotomy gradually weakened, another type of segmentation, the segregation between locals and non-locals has become increasingly dominant in the segmentation of China's urban labour market because of the growing local protectionism. The restructure of state-owned enterprises after 1997 laid off millions of urban workers, resulting in serious unemployment and fiercer competition in the urban labour market. As a consequence, both local governments and urban locals regarded migrant workers as competitors to urban residents and troublemakers who

brought instability to Chinese cities. In order to maintain socio-economic stability and in response to the unemployment problem, local officials implemented discriminatory policies against migrants (Appleton et al. 2004). Some cities prohibited the employment of migrant workers in certain occupations and even forced enterprises to lay off migrant workers in favour of urban locals (Cai, Du and Wang 2001). These regulations were removed officially in the early 2000s after a series of laws and regulations issued by the central government that explicitly require local governments to enforce equal pay and equal job opportunities for migrant workers. However, the function of segregation between locals and non-locals shifted accordingly from protecting the employment to ensuring the welfare benefit levels and supply of public goods for urban locals.

Researchers have consistently observed that the *hukou* system, the resulting segmented urban labour market and the urban-biased economic policy have combined to bring about heterogeneity in migration types and destinations (Lu and Song 2006, Froissart 2008). Most existing studies adopt the pull-push model to investigate the determinants of China's internal migration (Chen and Coulson 2002, Wang, Yang and Zhang 2011). The general findings are that labour market differentials and differences in socio-economic development among regions, such as wages, job opportunities, industrial structure and so on, could directly or indirectly affect the propensity and direction of migration (Shi and Bao 2007, Fan 2005a). However, results from other study suggest that the *hukou* system not only has a general effect on the push-pull factors, but also makes some of them ineffective (Li 2003). Several studies also indicate that migration is selective of those people whose labour is demanded by the destinations, such as young, skilled and educated migrants (Willmore, Cao and Xin 2011, Lin, Wang and Zhao 2004). In addition, the migration propensity is adversely related and sensitive to the distance (Zhang and

Song 2003).

As suggested by some scholars, no single existing migration theory could fully explain the special Chinese internal migration (Chan, Liu and Yang 1999). This paper therefore adopts an integrated theory of migration by synthesizing the relevant elements from the neoclassical approach, the new economics of labour migration and the structural approach to investigate the migration flow and migrants' destination choices. For instance, the neoclassical approach is adopted to examine the effect of socio-economic development divergence between regions on destination selectivity and the effect of migration on regional inequalities, especially on the urban-rural disparity. The structural approach is adopted to investigate the effects of the *hukou* system and the segmented urban labour market on push-pull factors in destination selection. The institutional barriers might make some push-pull factors ineffective in the destination selectivity or even make them run contrary to the conventional wisdom. The new economics of labour migration is adopted to analyze the effect of social network on migrants' choice of destination.

2.3. Data and Descriptive Analysis

The data used in this research is from the Rural Migrant Labour in Large Chinese Cities Survey, a Discovery Project funded by the Australian Research Council. It was conducted by Macquarie University and Nankai University in Beijing, Shanghai, Tianjin and Guangzhou in 2008. The survey adopted a multi-stage stratified random sampling method. The overall administrative regions in the four cities were taken as a sample frame. In each city, one urban and one suburban district were randomly selected; then two neighbourhood committees (*juweihui*) were randomly chosen from each district; finally

one hundred randomly selected households in each selected neighbourhood committee, including both local households and migrant households, were interviewed with the aid of questionnaires to collect both individual and household data. The information collected in this survey includes personal characteristics, migration time, origins and destinations and so on. The ensuring valid sample size comprises 1,797 respondents, among which the numbers of migrants in Beijing, Tianjin and Shanghai are 384 (25%), 437 (31%) and 326 (23%), respectively (see Table 2.2). The macro data used in this study is from provincial and municipal *Statistical Yearbook*.

Table 2. 2 Survey Sample Distribution in Cities and by Groups

	Urban locals	Urban migrants	Rural migrants	Subtotal (%)
Beijing	112	151	197	460 (25.67%)
Guangzhou	158	120	164	442 (24.67%)
Shanghai	68	45	281	394 (21.99%)
Tianjin	59	62	375	496 (27.68%)
Subtotal (%)	397 (22.15%)	378 (21.09%)	1017 (56.75%)	1792 (100%)

Source: Rural Migrant Labour in Large Chinese Cities Survey.

In this study, we focus on the effect of socio-economic development divergence between destinations and origins on migrants' choice of destination to Beijing, Tianjin and Shanghai between 2003 and 2007. The personal characteristics of migrants are traced back to the year the migration occurred. Eligibility is limited to respondents 15 years of age or older. Table 2.3 presents the demographic and the socio-economic characteristics of migrants in the three cities. The conventional wisdom suggests that being male, being young, being unmarried and having better human capital are generally correlated with greater migration propensity (Lundholm 2009, Fan 2005a). Migrants in Beijing and Shanghai are more gender-selective, while those in Tianjin and Shanghai tend to be more

selected in terms of marital status. The migrants in the three cities are relatively young, averaging 28 years old. Because of its location and socio-economic resource advantages, Beijing is more attractive to those highly qualified migrants than the other two cities. Of the migrants, 39% have received a university education or above and 54% have attended training, which are significantly higher proportions than in Tianjin and Shanghai. The migration to Tianjin and Shanghai is primarily rural-urban migration (80%), whereas the migration to Beijing is primarily urban-urban migration (54%).

Table 2. 3 Demographic and Socio-economic Characteristics of Migrant Workers in Beijing, Tianjin and Shanghai

	Beijing		Tianjin		Shanghai	
	Mean	S.D	Mean	S.D	Mean	S.D
Gender (Reference: Female)	0.55	0.50	0.50	0.50	0.67	0.47
Age	28.68	9.09	28.15	8.44	27.91	8.05
Marital status (Reference: married)	0.50	0.50	0.31	0.46	0.34	0.48
Education						
College or above	0.39	0.49	0.08	0.27	0.13	0.33
Senior high school	0.27	0.44	0.10	0.30	0.17	0.38
Junior high school	0.31	0.46	0.64	0.48	0.62	0.49
Primary school and below	0.03	0.18	0.18	0.39	0.08	0.28
Training (Reference: no)	0.54	0.50	0.44	0.50	0.32	0.47
Hukou (Reference: non-agriculture)	0.46	0.50	0.82	0.38	0.83	0.38
Migration reason						
Employment in industry and business	0.82	0.39	0.74	0.44	0.90	0.30
Job transfer	0.03	0.18	0.02	0.14	0.01	0.10
Job assignment	0.01	0.11	0.03	0.18	0.02	0.14
Study or training	0.06	0.23	0.01	0.11	0.01	0.07
Marriage	0.01	0.08	0.01	0.11	0.01	0.10
Joining family, friends or relatives	0.06	0.24	0.16	0.37	0.04	0.20
Other	0.01	0.11	0.02	0.14	0.01	0.07
Job searching methods						
Friend/relative's recommendation	0.27	0.44	0.47	0.50	0.47	0.50
Job searching on one's own	0.59	0.49	0.42	0.49	0.42	0.50
Employment agency	0.13	0.33	0.09	0.29	0.10	0.30
Occupation (Reference: blue-collar)	0.23	0.42	0.10	0.30	0.08	0.28

Source: Rural Migrant Labour in Large Chinese Cities Survey.

Notes: The job searching on one's own includes searching the jobs on their own, response to the job advertisement, employer's job fair/recruitment and others; employment agency includes government assignment and private/government employment agency.

In response to the widening regional inequalities in economic development, the vast majority of migrants are motivated by pursuing employment opportunities. Labour migration indicated by the employment in industrial and business sectors accounts for more than 70% of all types of migration. The job searches for migrants fall into two main channels: on their own or through informal social network such as friends and relatives. Beijing has a higher proportion of migrants who are able to get jobs on their own, 59%, whereas those in Tianjin and Shanghai depend more on their personal relationships, 47%. This discrepancy could be due to the fact that migrants in Beijing have better human capital and tend to obtain more employment opportunities. More than 90% of migrant workers in Tianjin and Shanghai engage in blue-collar occupations, the corresponding proportion of migrants in Beijing is lower—but considerable—at 77%. This follows the findings in previous studies that migrants are more likely to be trapped at the lower end of the occupational stratum (Chen 2011).

The evidence presented above indicates that substantial contrasts in terms of demographic and socio-economic characteristics exist among the migrants in the three cities, particularly between those in Beijing and Tianjin. This may imply that the socio-economic development in the three cities have different effects on the destination selectivity of migrants with different personal and social endowments. To better understand the role of regional development divergence in destination selectivity, we employ the econometric models to quantify the effect of socio-economic development divergence between origins and destinations on migrants' choice of destination in the

next section.

2.4. Model

The conditional logit model provides an effective and efficient method to analyze the effect of socio-economic development divergence among regions on migrants' destination selectivity. This model has been developed from the multi-category logit model and is appropriate when the choice among alternatives is modeled as a function of the characteristics of the alternatives, rather than (or in addition to) the characteristics of the individual making the choice (Hoffman and Duncan 1988). The multinomial logit model considers the impact of personal characteristics on the alternatives, while the conditional logit model focuses on the impact of characteristics of the alternatives themselves (Liang and White 1997).

The Conditional Logit model takes the following function form:

$$\log\left(\frac{p_{ij}}{p'_{ij}}\right) = \alpha + \sum_{k=1}^k \beta_k X_k + \sum_{h=1}^h \gamma_h Z_h + \mu$$

where the dependent variable is the log odds that individuals i migrate to destination j rather than other destinations⁸. X_k is a sector of socio-economic development indicators. In addition, other variables (Z_h), such as the number of migrants in the last year in destinations, the railway distance between two provincial capitals and the stock of human capital at origins, are included in the regression to investigate the effects of social network and distance on destination selectivity and the effect of migration on regional

⁸ For example, in the Beijing model, the dependent variable is the log odds that individuals i migrate to Beijing instead of other cities, such as Tianjin, Shanghai, Guangzhou, Jinan (Shandong province), and so on.

inequality. β_k and γ_h are sectors of estimated coefficients. μ is the error term.

The data used in this study is processed as follows. First, every observation is duplicated thirty times. These thirty duplications have the same origin but different choices of destinations (excluding Tibet), and those who have the same origin and destination are screened out. Second, the variables representing the socio-economic development in origins and destinations are then added behind corresponding duplications. Third, the dependent variable is added. For instance, in the Beijing model, the dependent variable is coded 1 for people migrating to Beijing and 0 for people migrating to other provincial cities.

Definitions of the variables are given in Table 2.4. The previous research on migration mainly assumes that destinations attributes do not vary across origins, and potential migrants could equally access to destinations in terms of transportation and information (Liang and White 1997). However, this assumption may overestimate migrants' responses to destination factors and may ignore the relative impact of origin factors (Chan et al. 1999). Some studies have indicated that the impacts of socio-economic development in origins and destinations on the migration propensity are asymmetrical and that the pull factors typically play a more important role in migration decision-making (Fields 1982); thus, most variables in this study take the form of ratios.

Table 2. 4 Definition and Descriptive Analysis of the Variables

Variable	Definition	Beijing	Tianjin	Shanghai
Wage	The ratio of average wage growth rate in the destination to that in the origin.	1.01 (0.31)	0.98 (0.26)	1.11 (0.41)
Employment	The ratio of the growth rate of total number of employees in the destination to that in the origin.	2.16 (3.40)	2.10 (4.20)	1.68 (4.04)
Consumption	The ratio of per capita consumption expenditure growth rate in the urban destination to that in the rural origin ¹ .	0.47 (4.93)	0.29 (8.28)	0.78 (0.91)
State-owned enterprises	The ratio of investment by state-owned enterprises in the destination to that in the origin ² .	0.95 (0.81)	0.81 (0.64)	0.80 (0.70)
Collective enterprises	The ratio of investment by collective enterprises in the destination to that in the origin.	2.54 (3.22)	2.78 (3.50)	1.72 (3.26)
Joint-stock enterprises	The ratio of investment by joint-stock enterprises in the destination to that in the origin.	1.07 (1.27)	0.73 (0.98)	0.89 (1.09)
HMT-funded enterprises	The ratio of investment by Hong Kong, Macao, and Taiwan funded enterprises in the destination to that in the origin.	2.81 (3.06)	2.35 (2.73)	1.64 (3.71)
Foreign funded enterprises	The ratio of investment by foreign funded enterprises in the destination to that in the origin.	2.58 (2.32)	2.27 (2.34)	1.82 (3.98)
Industrial structure	The ratio of the proportion of non-agricultural value in GDP in the destination to that in the origin.	1.01 (0.10)	1.00 (0.09)	0.98 (0.10)
The import export volume	The ratio of total import-export volume in the destination to that in the origin.	1.15 (0.94)	1.13 (0.68)	1.01 (0.79)
Road	The ratio of the road area per capita in the destination to that in the origin.	0.98 (0.34)	0.91 (0.38)	0.85 (0.37)
Human capital	The logarithm of human capital stock in the origin ³ .	2.09 (0.03)	2.10 (0.02)	2.06 (0.03)
Social network	The logarithm of number of migrants in the last year in the destination.	14.79 (0.06)	14.76 (0.06)	14.80 (0.06)
Distance	The logarithm of railway distance between two provincial capitals.	7.22 (0.09)	7.19 (0.09)	7.20 (0.09)

Source: Author's calculation based on data of *China Statistical Yearbook* 2004-2008

1. The per capita consumption expenditure represents the cost of living in a locale.
2. The investment here is the investment in fixed assets.
3. The human capital stock is the accumulated years of schooling present in all working age population.

2.5. Results and Analysis

Although migrants cannot be treated in the same way as urban residents due to their non-local *hukou* status, they continue to migrate to developed coastal cities in large volume. In this section, we adopt the conditional logit model to estimate the effect of regional divergence in socio-economic development on migrants' destination selectivity. Table 2.5 presents the parameter estimates of the impact of independent variables on the log odds of migrating to Beijing, Shanghai or Tianjin instead of other destinations⁹.

⁹ We did not run the model on each type of migrants separately (including urban migrants and rural migrants), although the factors that affect urban migrants in choice of destination might be very different from that rural migrants. The reason is that the sample sizes of urban migrants are relatively small in Shanghai (45) and Tianjin (62) (see Table 2.2), which may considerably bias the regression results.

Table 2. 5 Conditional Logit Regression on Migration Destination

	Destinations		
	Beijing	Tianjin	Shanghai
Wage	2.9769*** (0.4733)	1.9009*** (0.6229)	2.1943*** (0.3382)
Employment	-0.0061 (0.0136)	-0.0791*** (0.0196)	0.0433*** (0.0110)
Consumption	-0.4034*** (0.0753)	-0.2441*** (0.0803)	0.1853 (0.2646)
Investment by ownership			
State-owned enterprises	-9.1968*** (0.9503)	-1.9264* (1.0884)	-0.9451** (0.4672)
Collective enterprises	-0.3946*** (0.0936)	0.2103*** (0.0283)	-0.0975 (0.0999)
Joint-stock enterprises	3.0344*** (0.3067)	-5.5289*** (0.9272)	-1.2631*** (0.2827)
HMT-funded enterprises	0.0799*** (0.0196)	-0.0138 (0.1756)	-0.0088 (0.0463)
Foreign-funded enterprises	-0.0971** (0.0464)	0.0263*** (0.0326)	0.0327*** (0.0101)
Industrial structure	48.9476*** (4.3646)	73.5582*** (7.1700)	37.0638*** (2.5423)
The import export volume	0.1621 (0.1816)	-1.0837*** (0.1921)	-0.4213* (0.2172)
Road	-1.1503** (0.5856)	2.0841*** (0.6504)	1.0523** (0.4169)
Human capital	29.6260*** (4.0154)	26.8929*** (4.2701)	11.7269*** (2.3352)
Social network	3.7304*** (0.3610)	-1.7681*** (0.3453)	1.1983*** (0.2302)
Distance	-0.8377*** (0.2455)	-3.5082*** (0.3654)	-2.5693*** (0.1920)
Constant	-167.5115*** (15.3308)	-90.0205*** (13.5203)	-69.6937*** (7.7428)
Observations	4495	4466	5423
Rho2	0.7475	0.7446	0.6402

Source: Rural Migrant Labour in Large Chinese Cities Survey.

Notes: * P < 0.1, ** P < 0.05, *** P<0.01

Because pursuing employment opportunities is an important motivation for most migrants, the rise of wages in destinations could increase the incentive to migrate, while the rise of wages in origins may decrease the migration propensity. However, the latter might also increase the migration probability as an effective alternative, particularly for potential migrants who could not afford a high migration cost before. Our results indicate

that the two positive effects play a dominant role in migrants' choice of destination to the three cities. Holding other independent variables constant, an increase in the ratio of average wage growth rate between destinations and origins could increase the odds of migrating to Shanghai by 1.45%, the odds of migrating to Beijing by 0.44% and the odds of migrating to Tianjin by 0.13%.

Nevertheless, it is worthwhile to discuss the mechanism of wage differentials on migration. As discussed above, China's urban labour market is highly segmented in the transitional stage. Due to the non-local *hukou* status, migrant workers are highly represented in private and informal sectors in which the economic activities are poorly recorded (Roberts 1997). Consequently, the wage and employment information collected in statistical yearbooks may be a more reflection of urban locals' labour market outcomes. In addition, results from other studies suggest that the growth rate of migrants' wages is significantly lower than urban locals and the wage gap between them has widened further in recent years (Yao, Xu and Xue 2008). Therefore, it might be the increased demand, such as greater need for commodities and services, caused by the rise of urban residents' wages—instead of the actual rise of migrants' wages—that has had a greater effect on migrants' destination selectivity.

Moreover, in the segmented urban labour market, the increase in job opportunities in formal sectors may not exert a significant effect on migration. In extreme cases, it could increase the cost of enterprises and institutions, which might crowd out the demand for migrant workers and make the effect on migration become negative. This point of view is confirmed by the estimated results for employment growth in this study. An increase in the ratio of employment growth rate between destinations and origins only increases the odds of migrating to Shanghai by 3.39%, but decreases the odds of

migrating to Tianjin by 0.13%, and has no significant effect on the odds of migrating to Beijing.

The urban-rural consumption differentials have a strong deterrent effect on migrants' choice of destination to Beijing and Tianjin, whereas the effect on their choice of destination to Shanghai is not significant. This could be because migrants in Beijing and Tianjin in this study are mainly from the central part of China in which the consumption levels and patterns are much lower than that in urban Beijing and Tianjin. Therefore, they are more sensitive to the relative increment of the urban consumption level. An increase in the ratio of urban-rural consumption expenditure growth rate tends to decrease the odds of migrating to Beijing by 1.53% and the odds of migrating to Tianjin by 0.01%. In contrast, migrants to Shanghai mainly come from the developed eastern region. The urban-rural consumption gap is smaller than that in Beijing and Tianjin, which dramatically declines its negative effect on the odds of migrating to Shanghai.

The investment in state-owned enterprises could significantly decrease the odds of migrating to all three cities. This implies that the jobs created in state-owned enterprises are more likely to be institutionally controlled by central or local governments. It is difficult for individuals without local *hukou* to gain these types of occupations. Other types of investment have different effects on migrants' choice of destination to the three cities. For instance, the odds of migrating to Beijing are positively affected by the investment by joint-stock enterprises and Hong Kong, Macao and Taiwan-funded enterprises, but negatively affected by the investment by collective enterprises and foreign funded enterprises. By contrast, the odds of migrating to Tianjin and Shanghai are positively affected by the investment by foreign-funded enterprises, but negatively affected by the investment by joint-stock enterprises. In addition, the odds of

migrating to Tianjin are also positively affected by the investment by collective enterprises.

In addition to the different institutional barriers in the three cities, a plausible explanation is the different aims of investment in the different types of enterprises. For instance, the investment by joint-stock enterprises mainly aims to introduce high technology and improve the labour productivity, which could greatly reduce the demand for workers with low human capital. In contrast, the investment by foreign-funded enterprises attracted by China's cheap labour mostly aims to expand the production, which might significantly increase the incentive to migrate. In addition, the conflicting signs on the coefficients of investment by joint-stock enterprises and foreign-funded enterprises in the three models further indicate that the investment has a significant selective effect on migrants' human capital in the three cities because migrants in Beijing have a better human capital.

The odds of migrating to the three cities are all positively affected by the development of secondary and tertiary industries in destinations relative to origins. This may imply that many industries in the three cities, especially the manufacturing, production and service industries, remain labour-intensive and low-technology. The expansion of industry could accelerate the demand for cheap labour. The difference in total export-import volume between destinations and origins has a negative effect on the odds of migrating to Tianjin and Shanghai, while the effect on the odds of migrating to Beijing is not significant. One plausible explanation is that the imports and exports in Tianjin and Shanghai are characterized by high-tech products, which does not absorb many manual workers.

The road area per capita¹⁰ in this study is taken as a proxy for urban infrastructure.

¹⁰ The information on road length per capita and road quality is not collected in the Statistical Yearbooks of some provinces.

Usually, the construction of urban infrastructure affects people's migration through three channels. First, the improvement of infrastructure in destinations may increase urban living standards and enlarge the regional benefit gap, which might give impetus to migration. Second, the infrastructure construction requires a large volume of workers and the quality requirements of these workers are not strict, which is more attractive to migrant workers and to rural migrants, in particular. Third, studies consistently demonstrate that the public infrastructure construction might significantly promote the productivity, which decreases the demand for workers (Au and Henderson 2006, Cohen and Paul 2004). Our results indicate that the regional infrastructure construction divergence increases the odds of migrating to Tianjin and Shanghai, which suggests that the first two forces dominate the destination selectivity. In contrast, infrastructure construction decreases the odds of migrating to Beijing, which suggests that the third force might take a leading role in destination selectivity.

People in the provinces with higher human capital stock are more likely to migrate to the three cities relative to other destinations. This reaffirms the results from previous studies that the considerable brain drain from rural to urban areas and from the hinterland to coastal areas will widen the regional inequality gap and accelerate polarization (Hu 2002). Although the regional inequality gap can be reduced by remittances from migrants that enable households in origins to overcome the credit constraints and invest in more advanced agricultural technologies or other sideline production (Taylor and Martin 2001), this effect cannot be completely eliminated (Taylor et al. 2003). In addition, the migration will further enlarge regional disparity in the future, especially the urban-rural disparity—because the new generation will account for an increasing share of migrants. Compared to first-generation migrants, new-generation migrants are better educated and

more socially connected (Ngai and Lu Huilin 2010). They have stronger aspirations to settle in the cities, which is different from their predecessors for whom return migration was the norm (Jacka 2006). The accumulated human capital of new-generation migrants is mainly invested in destinations, while the origins do not benefit too much. Even if they eventually move back to origins, these migrants will exploit skills learned in destinations to find jobs or start their own businesses in local towns rather than engaging in agricultural production.

This study suggests that the social network could significantly increase the odds of migrating to Beijing and Shanghai. This result is consistent with the literature that many rural migrants find their jobs before migration through the informal social network (such as friends and relatives), which can provide valuable information and reduce the risk in the urban labour market (Bian et al. 2005). However, the results of the Tianjin model show that the impact of social network on destination selectivity is significantly negative. A more plausible explanation is that the measure of social network is usually based upon relatives, friends and the acquaintances from their place of origin (*tongxiang* or *laoxiang*) (Mobrand 2007, Wang et al. 2002). The total number of migrants in the three cities used in this study, however, may not represent a reasonable proxy to calculate a general measure of social network. Another possible explanation is that the information gain from early migrants in Tianjin, such as wage level and employment opportunities in labour market, might not meet the expectations of potential migrants and motivate them to migrate to other cities.

As expected, the distance has a consistent and negative effect on the odds of migrating to each of the three cities. The increment in distance between origins and destinations could increase the physical cost of migration and reduce the quality and amount of information,

which makes job searches more difficult (Du, Park and Wang 2005). In addition, the distance also reduces the size of social networks of contacts and the support from family and friends, while increasing the differentials in culture, society and language, which aggravates the psychological burden of migrants and decreases their incentive to migrate (Poncet 2006). The limitation of distance as an indicator is that it neglects the source of information. If potential migrants can only obtain the information about employment opportunities in destinations that are far away from their origins, they have no choice but to migrate there.

The results of F-test suggest that there are significant differences in the determinants of migrants' choice of destination among the three cities¹¹. The regression results indicate that features of China's internal migration reflect the co-existence of China's capitalist and socialist systems in the decades after the reforms. On the one hand, as with most capitalist countries, the socio-economic development divergence between origins and destinations has a significant effect on destination selectivity. On the other hand, as in socialist countries, the *hukou* system, a legacy of planned economy, remains effective in the segmentation of China's urban labour market and in social stratification, which determines the wages and the eligibility to access to employment and to state-provided social services. This nullifies certain push-pull factors in China's internal migration and may even reverse the effects of certain of these factors compared to theoretical expectations. In addition, the migration in China has aggravated rather than reduced the regional inequality, especially the imbalance between urban and rural areas.

¹¹ Beijing versus Tianjin: $F=241.85$ ($p<0.0001$); Beijing versus Shanghai: $F=203.25$ ($p<0.0001$); Tianjin versus Shanghai: $F=149.88$ ($p<0.0001$).

2.6. Conclusion

As a response to the widening income and job opportunity gap among regions and the remarkable relaxation of the *hukou* system, there has been a growing population moving to a few developed coastal cities since the 1980s. This study investigates the effects of regional divergence in socio-economic development on migrants' destination selectivity. The research improves explanations about the migration process in a transitional society and contributes to the discussion about how to guide population migration and plan China's socio-economic development.

The study suggests that the differences in demographic and socio-economic characteristics are significant among migrants in Beijing, Tianjin and Shanghai. Migrants in Beijing and Shanghai are especially gender-selective, while those in Tianjin and Shanghai tend to be more selective about marital status. Due to the advantages in location and resources, Beijing is more attractive to highly qualified migrants. Most migrants in Beijing find jobs on their own, while those in Tianjin and Shanghai depend more on informal social network. The migration to Beijing is dominated by urban-urban migration, while the migration to Tianjin and Shanghai is dominated by rural-urban migration. However, due to their non-local *hukou*, migrant workers in the three cities are usually restricted to the informal sectors and engage in blue-collar occupations.

The regression results indicate that there are significant differences in the determinants of migrants' choice of destination to the three cities. The rise in the ratio of average wage growth rate between destinations and origins could significantly increase the probability of migrating to the three cities. However, in view of the segmented urban labour market, it is most likely the increased demand caused by a rise in urban residents' wages rather than the actual rise of the wages of migrants that has a greater effect on destination

selectivity. In extreme cases, the rise of job opportunities in formal sectors in destinations may even crowd out the demand for migrant workers. This is evidenced by the negative effect of employment growth on the probability of migrating to Tianjin. Because of migrants come from different regions with varied levels and patterns of consumption, migrants in Beijing and Tianjin are more sensitive to the relative increment of urban consumption level, while migrant workers in Shanghai are not.

The investment by enterprise types have different effects on the probability of migrating to the three cities due to the differences in institutional barriers and investment objectives, such as aiming to improve the labour productivity or to expand the production. In addition, the conflicting signs on the coefficients of investment by joint-stock enterprises and foreign-funded enterprises in the three models further suggest that the investment has a significant selective effect on the human capital of migrants. The secondary and tertiary industries in the three cities remain characterized by labour-intensive and low-technology industries. The expansion of industry demands more cheap labour, which could significantly increase the probability of migrating to the three cities. The difference in total export-import volume between destinations and origins only has a negative effect on the probability of migrating to Tianjin and Shanghai. One plausible explanation is that the import and export in these two cities is characterized by high-tech products, which cannot absorb many manual workers.

The infrastructure construction might increase the incentive to migrate by enlarging the welfare gap and increasing the demand for labour, while decrease the incentive to migrate by promoting the productivity. The results show that the first two forces play a dominant role in migrants' choice of destination to Tianjin and Shanghai, while the third force takes a leading role in their choice of destination to Beijing. People in the provinces with

higher human capital stock are more likely to migrate to the three cities relative to other destinations. The considerable brain drain will further accelerate the regional disparity, especially the urban-rural inequality.

In line with neoclassical predictions, the distance could increase the physical and psychological costs that have a negative effect on the choice of destination to the three cities. The social network in Beijing and Shanghai could increase the migration probability. However, the total number of migrants in the three cities may not represent a reasonable proxy to calculate a general measure of social network, which results in the negative effect of social network on the odds of migrating to Tianjin.

The results imply that the features of China's internal migration reflect the co-existence of China's capitalist and socialist systems in the decades after the reforms. The destination selectivity is affected not only by the regional divergence in socio-economic development but also by the institutional barriers that generated segmented labour market. The regional divergence in socio-economic development has both consistent and inconsistent effects on the probability of migrating to the developed coastal cities. Moreover, the *hukou* system and the resulting segmented urban labour market continue to determine the eligibility of access to employment and state-provided social services. This nullifies the push-pull factors or reverses them with respect to the conventional wisdom.

This study implies the need for more thorough reforms to the *hukou* system and urban labour market to continually attract and retain migrants in the coastal cities. For instance, in the context of an emerging shortage of labour, there is a need for policies that disconnect the *hukou* status from job opportunities and state-provided social services to promote equal pay and equal access to employment. The reform in labour market need be oriented to eliminate the institutional constraints, such as the segregation between locals

and non-locals and the segregation between rural migrants and urban locals, on movement between segments. In addition, since the regional divergence in socio-economic development has a significant effect on migrants' destination selectivity, efforts need to be made to change the economic and employment structures in origins and destinations to realize optimal allocation of human capital and other resources so as to reduce the regional inequality.

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Chapter 3 Employment Discrimination against Migrant Workers in the Urban Labour Market

Abstract: China's urban labour market has been institutionally segmented by the household registration (*hukou*) system, in which migrant workers cannot be treated equally to urban locals due to their rural or non-local *hukou* status. Many studies have examined various aspects of migrants' occupational attainment, but a number of critical issues related to the role of discrimination, institutional or otherwise, have not been examined comprehensively in China's urban labour market. This study investigates to what extent discrimination contributes to occupational inequalities among urban locals, urban migrants and rural migrants based on an extended analytical framework that considers the segregation between urban locals and rural migrants and the segregation between locals and non-locals. The results show that urban locals have better occupational attainment than urban migrants and rural migrants. Compared with urban locals, both urban migrants and rural migrants are subject to discrimination in obtaining the four jobs. This implies that the *hukou* system continues to play a role in segmenting China's urban labour market. In general, the extent of discrimination against urban migrants relative to urban locals is greater than that against rural migrants relative to urban migrants, which suggests that the segmentation of the urban labour market is currently determined by the segregation between locals and non-locals rather than the segregation between urban locals and rural migrants that was observed in the earlier stage of reforms.

Keywords: occupational attainment, discrimination, migrant workers, urban labour market, China

3.1. Introduction

The thirty years' reform and opening up has witnessed the massive population migration and its significant effect on socio-economic transformations in the history of China. By the end of 2010, more than 221 million floating population—defined as individuals who have left their original *hukou* registration for at least six months but who have continued to hold their original *hukou* registration—have lived and worked in towns and cities (NBSC 2011). As an integral part of China's economic growth, the floating population have provided the cheap labour that has propelled the high rate of socio-economic development for over three decades, accounting for approximately 21% of GDP growth and 75% of the urbanization growth between 1978–1999 (Zhang and Song 2003, Cai and Wang 1999).

After decades of remarkable reforms, however, China's urban labour market remains relatively informal and segmented caused by the *hukou* system (Warner 2002). The segmented labour market has resulted in socio-economic disadvantages for migrant workers¹², who are treated differently from urban locals in society in general (Fan 2008, Keung Wong, Li and Song 2007). Many studies suggest that migrant workers are highly skewed in non-state-owned economic sectors or informal sectors, such as manufacturing, construction and service industries (Chan, Liu and Yang 1999, Fan 2002). They are more likely to end up on the bottom rungs of occupational structures and engage in the “3-D” jobs (dirty, dangerous and demeaning) that are shunned by urban locals (Guo and Zhang

¹² In this study, migrant workers include both urban-to-urban migrants ('urban migrants') and rural-to-urban migrants ('rural migrants'). Urban migrants work in a surveyed city but hold urban *hukou* from another city. Rural migrants work in a surveyed city but hold rural *hukou* from the countryside.

2007, Fan 2003, Knight and Song 1995). Moreover, migrant workers are not entitled to state-provided housing, minimum living allowances and unemployment compensation in urban cities (Sun and Fan 2011).

China is not the only country that has experienced large scale population migration in the process of industrialization and urbanization, leading to inequalities between urban locals and migrant workers. Many developed economies, such as the U.S, Canada and Australia, have also shown similar migration patterns and significant inequalities in occupational attainment and wages between immigrant workers and native workers and among racial groups (Massey et al. 1994, Green 1999, Forrest and Johnston 1999). Based on human-capital theory, the labour market differentials between the two groups are assumed to be closely associated with heterogeneity in productivity-related characteristics (Schultz 1961). However, there is a growing literature suggests that some differentials remain even after controlling for these productivity characteristics. A more plausible explanation is that the remaining differentials are the product of discrimination (Brown, Moon and Zoloth 1980, Solinger 1999, Sylvie et al. 2008, Borjas 1995).

Many empirical studies find that discrimination in occupational attainment against immigrants and minorities remains widespread even in well-developed labour markets. For instance, in the U.S labour market, the occupational distributions of young blacks, whites, and Hispanics would improve greatly if all were adjusted to the white occupational structure (Gabriel, Williams and Schmitz 1990). Although the effect of race on occupational prestige has declined sharply in the technique-oriented and social-skills-oriented segments since the 1970s, racial status continues to have a persistent negative effect on occupational prestige for black Americans within a social-skills-oriented labour segment (Kim and Tamborini 2006). The research on the

Australian labour market also indicated that compared with their white counterparts, indigenous and Asian men faced racial discrimination in having both skilled manual/non-manual occupations and professional, managerial or technical occupations (Borooah and Mangan 2002). These studies suggest that racial or residential status usually induces mistreatment and discrimination in the labour market.

In China's transitional economy, however, the factors contributing to the labour market inequalities show certain distinctive features from those in the developed economy (Fan 2003, Chan et al. 1999). Although China's urban labour market has undergone tremendous changes over the last thirty years' economic reform, it remains underdeveloped and relatively informal (Knight and Song 1995). The *hukou* system has played an important and unique role in the segmentation of the urban labour market and has resulted in the disadvantaged socio-economic status and identity of migrant workers (Knight and Song 1999, Goldstein and Goldstein 1991). Studies consistently demonstrate that the institutional segmentation and the discrimination imposed by the *hukou* system are some of the most important explanations for the labour market differentials between urban locals and migrant workers (Lu and Song 2006, Dong and Bowles 2002, Zhao 2002, Zhang 2006).

A number of studies on the occupational attainment differentials between urban locals and rural migrants have been conducted in China (Solinger 1999, Roberts 2001, Li 2006). Nevertheless, some issues with respect to the discrimination in employment against migrant workers are still very poorly researched.

The analytical framework of the urban-rural dichotomy in the urban labour market has inherent drawbacks when used to examine current labour market segmentation. This framework does not distinguish urban migrants and rural migrants but simply either

categorizes all of them as migrants or excludes urban migrants from the analysis. Thus the changing composition of migrants is not addressed, although that composition is more diversified now than it was in the 1980s and early 1990s. In fact, the proportion of urban migrants has gradually increased to approximately 24% of the floating population in 2000 (Zhang 2007), and current estimates are even higher. Generally speaking, urban migrants have some advantages compared with rural migrants due to their urban *hukou*, but some disadvantages compared with urban locals due to their non-local *hukou*. Thus, they should be considered as an important group in studying discrimination against migrant workers. Nevertheless, very few empirical studies have been done to investigate the occupational attainment differentials among urban locals, urban migrants and rural migrants.

Despite the proliferation of research on the determinants of occupational attainment, job mobility and occupational segregation and its effect on earnings (Meng and Zhang 2001, Yang and Guo 1996, Knight and Yueh 2004), little research has been conducted to estimate the extent of discrimination in employment against migrant workers in China's urban labour market.

The present study aims to fill these gaps in the literature by investigating to what extent the discrimination against migrant workers contributes to the occupational attainment differentials. This research provides a full assessment of occupational inequality among workers with different residential statuses in the urban labour market, and investigates the role of *hukou* status in occupational determination. From a theoretical perspective, this study empirically extends the application of discrimination theory and segmented labour market theory to urban migrants and to a transitional society. From a policy perspective, this study contributes to the discussion of anti-discrimination policy in China's urban

labour market such as whether the policy should be oriented to eliminate the segregation between locals and non-locals rather than only the segregation between rural migrants and urban locals.

The rest of the paper is structured as follows. The next section reviews the changes of China's urban labour market and provides an extended research framework for empirical analysis. Following this, we present the data, explain the econometric method and examine the determinants of occupational attainment for the three groups and estimate the extent of discrimination. The final section summarizes the main findings and offers concluding comments.

3.2. Research Framework

Over the last 50 years, economists have developed several theoretical approaches to study discrimination in the labour market, such as segmented labour market theory and discrimination theory. They have provided a theoretical basis for research on discrimination against migrant workers in China's urban labour market. The segmented labour market theory argues that the source of labour market discrimination is a lack of competition due to broad social structures and institutional arrangements (Cain 1976). It suggests that the labour market is segmented into primary and secondary sectors (Doeringer and Piore 1985). The primary sector is organized in an internal labour market and characterized by good pay, well-defined career ladders, favourable working conditions and job security, while the secondary sector is characterized by low pay, poor working conditions and a high rate of mobility. The employers exert themselves to minimize their commitments and responsibilities to workers (Sakamoto and Chen 1991). The institutional constraints, such as the regulations on migration, ethnicity, class

relationships and residential status, restrict the movement between the two sectors (Smith 2003). This results in a disadvantaged status for certain groups who are largely confined to the secondary labour market (McDonald and Solow 1981). The bulk of the research has found sustained discrimination against minorities based on the segmented labour market theory (Sakamoto and Chen 1991, Thomas and Vallée 1996, Xu, Tan and Wang 2006).

Research on China also reveals a segmented urban labour market (Knight and Yueh 2009, Appleton et al. 2004). The research framework of the urban-rural dichotomy has been widely adopted in investigating the mechanism of economic exclusion and discrimination against rural migrants in China's urban labour market. In this framework, urban workers are comprised of both urban locals and rural migrants. The segregation between urban locals and rural migrants is thought to be the source of discrimination against rural migrants (Maurer-Fazio and Dinh 2004, Lu and Song 2006).

In the post-reform era, the strict restrictions on rural-urban migration have been relaxed considerably in order to meet the demand for cheap labour in the cities. However, the *hukou* system continues to function as an "invisible wall" between urban locals and rural migrants, and has resulted in an urban-rural dichotomy in the urban labour market (Appleton et al. 2004, Maurer-Fazio and Dinh 2004). Typically, without urban *hukou*, rural migrants are socially and economically separated from, and considered to be inferior to, local residents (Laurence 2002). Many studies have found that rural migrants are treated differently from urban locals in the urban labour market, even if they have been working in cities for many years (Roberts 1997, Guo and Iredale 2004). Rural migrants are not allowed access to most permanent positions in the state sector, which is the sector that provides better pay, work environment and benefits. Rural migrants are

disproportionately concentrated in private and informal sectors, and engage in labour-intensive, low-skilled and even hazardous jobs that are rejected by urban locals (Fan 2003, Knight and Song 1995). In addition, rural migrants have limited access to the urban social security system and they are socially and/or residentially segregated from local residents by living in low-income, inferior or deprived housing areas (Li and Huang 2006, Song, Zenou and Chengri Ding 2008).

This analytical framework, however, tends to overlook another type of segmentation in the urban labour market, the segregation between locals and non-locals, which is based on the *hukou* location and has local government as a driver. The fiscal decentralization in the 1980s endowed local governments with the right to administer local finances and the responsibility to maintain a good momentum of socio-economic development and social stability. The restructure of state-owned enterprises that began in 1997 laid off millions of urban workers, resulting in a severe unemployment problem and fierce competition in the urban labour market. As a consequence, both local governments and urban locals began to consider migrant workers as competitors to urban residents and troublemakers who brought instability to Chinese cities. To maintain socio-economic stability and in response to rampant unemployment, local officials implemented discriminatory policies against migrants (Appleton et al. 2004). Some cities prohibited the employment of migrant workers in certain occupations and even forced some enterprises to lay off migrant workers in favour of urban locals (Cai, Du and Wang 2001). These regulations on migrants' job restrictions were eradicated officially in the early 2000s after a series of laws and regulations issued by the central government that explicitly required local governments to enforce equal pay and equal job opportunities for migrant workers. However, the impacts of these job restrictions are likely to continue in companies'

recruitment practices (Chen 2011). Several studies show that the segregation between locals and non-locals continues to negatively influence migrant workers' employment, earnings and their access to social insurance schemes in destinations (Zhang, Gao and Hou 2007, Wang and Chen 2010).

In view of the changing urban labour market, an extended research framework that considers both the segregation between urban locals and rural migrants and the segregation between locals and non-locals has been developed to study the socio-economic status of migrant workers (Guo and Zhang 2012). This framework argues that the urban-rural dichotomy in the urban labour market largely came to an end since the early 2000s, after the central government's policies concerning migrant workers were transformed from restriction to social integration. For instance, after the *hukou* system reforms, almost all laws and regulations that restricted rural-urban migration and rural migrants' employment in certain occupations have been abolished. Nevertheless, many scholars argue that the depth, scope and pace of the *hukou* reform do not meet expectations (Liu 2005). Because the reform does not involve the radical changes of many established systems and arrangements, such as the pension system, health care system, employment system and education system (Cheng et al. 2013). Therefore, it appears that the segregation between urban locals and rural migrants will linger and continue to play a role in shaping urban inequality and social stratification (Wang, Zuo and Ruan 2002). Moreover, along with the gradual weakening of the segregation between urban locals and rural migrants over the past twenty years, the segregation between locals and non-locals has become increasingly more dominant in the segmentation of China's urban labour market because of the growing local protectionism in favour of urban locals.

Under this general analytical framework, urban migrants are also included in a

three-group analytical approach. This approach investigates the labour market differentials among the three groups, i.e., between urban locals and urban migrants, between urban locals and rural migrants, and between urban migrants and rural migrants. This approach better reflects the reality of the two types of segregation in China's urban labour market and their interactions. The segregation between urban locals and rural migrants continues to affect rural migrants, while the segregation between locals and non-locals affects both rural migrants and urban migrants who are non-locals in their destination.

To better understand how the segregation between urban locals and rural migrants and the segregation between locals and non-locals affect the urban labour market and their interactions, this study adopts this extended analytical framework to investigate to what extent the discrimination against migrant workers, including those from rural areas and urban areas, contributes to the occupational attainment differentials. To examine which segregation plays a leading role in the current segmentation of the urban labour market, three hypotheses are posited:

H1: If the labour market outcomes of urban migrants are similar to those of urban residents, but significantly better than those of rural migrants, the segregation between urban locals and rural migrants dominates in the segmentation of the urban labour market.

H2: If the labour market outcomes of urban migrants are similar to those of rural migrants, but significantly worse than those of urban locals, the segmentation of the urban labour market is mainly determined by the segregation between locals and non-locals.

H3: Discrimination contributes significantly to the labour market outcome differentials between urban residents and rural migrants but less significantly between urban residents

and urban migrants.

3.3. Data and Descriptive Analysis

The data used in this study comes from the Rural Migrant Labour in Large Chinese Cities Survey, a Discovery Project funded by the Australian Research Council. It was conducted by Macquarie University and Nankai University in Beijing, Shanghai, Tianjin and Guangzhou in 2008¹³. The survey adopted a multi-stage stratified random sampling method. All districts in the four cities were taken as a sample frame. In each city, one urban and one suburban district were randomly selected; then two neighbourhood committees (*juweihui*) were randomly chosen from each district; finally one hundred randomly selected households in each selected neighbourhood committee—including both local households and migrant households—were interviewed with the aid of questionnaires to collect both individual and household data. The information collected in this survey includes individual members' personal characteristics, wage earnings, employment status and so on. The survey finally received 1,797 valid questionnaire responses, with a 99.6% effective rate. Among them 1,017 were rural migrants (57%), 378 were urban migrants (21%), and 397 were local residents (22%) (See Table 3.1).

¹³ This is one of a series of papers based on the data collected in this survey. Please refer to Guo, F. & Z. Cheng (2010) Labour market disparity, poverty, and inequality in urban China. *China Perspectives*, 16-31. and Cheng, Z., F. Guo, G. Hugo & X. Yuan (2013) Employment and wage discrimination in the Chinese cities: A comparative study of migrants and locals. *Habitat*

Table 3. 1 Survey Sample Distribution by Cities and Groups.

	Urban locals	Urban migrants	Rural migrants	Subtotal (%)
Beijing	112	151	197	460 (25.67%)
Guangzhou	158	120	164	442 (24.67%)
Shanghai	68	45	281	394 (21.99%)
Tianjin	59	62	375	496 (27.68%)
Subtotal (%)	397 (22.15%)	378 (21.09%)	1017 (56.75%)	1792 (100%)

After considering the official statistics and the categorizations in previous studies (Yang and Guo 1996, Sun and Fan 2011), the occupations in the urban labour market in this study are divided into four categories: white-collar jobs (including administrative, managerial, professional and technical jobs); office clerical jobs; production-related jobs (including agricultural jobs, industrial production and transportation jobs); and service jobs (including business and service jobs, retails, restaurant service jobs and other jobs). The rationale of classifying occupations into these four categories is that the occupations in same category share many similarities and receive similar treatment in China's urban labour market.

Table 3.2 shows the percentage distribution of occupational attainment of urban locals, urban migrants and rural migrants. Workers in the three groups are all highly represented in service jobs. The proportions for urban migrants and rural migrants were 50.75% and 60.82%, respectively, while the corresponding proportion for urban locals was only 40.18%. This high presence could be the result of the privatization and marketization of previously state-controlled industries. In addition, urban locals and urban migrants were more concentrated in high-wage occupations, such as white-collar jobs and office clerical jobs, which accounted for 50.59% and 40.29%, respectively, compared with only 14.54%

International, 39, 246-255.for details.

of rural migrants. However, more rural migrants were found to be in production-related jobs, accounting for 24.65%. The Wilcoxon rank-sum test further indicated that a significant difference existed in occupational attainment between urban locals and rural migrants and between urban migrants and rural migrants; however, there was no significant difference between urban locals and urban migrants.

Table 3. 2 Percentage Distribution of Occupational Attainment of Urban Locals and Migrant Workers (%)

	White-collar jobs	Office clerical jobs	Production-related jobs	Service jobs
Urban locals	22.32	28.27	9.23	40.18
Urban migrants	27.16	13.13	8.96	50.75
Rural migrants	8.40	6.14	24.65	60.82
Wilcoxon rank-sum test	A: $z = -9.250$, $\text{Prob}> z = 0.0000$; B: $z = -5.882$, $\text{Prob}> z = 0.0000$ C: $z = -1.584$, $\text{Prob}> z = 0.1133$			

Notes: A is the Wilcoxon rank sum test between rural migrants and urban locals, B is the test between rural migrants and urban migrants, and C is the test between urban migrants and urban locals.

The occupational difference between urban locals and migrant workers may indicate that migrant workers, especially rural migrants, are not treated equally to their urban counterparts in the urban labour market. The unfair labour market conditions support the notions of the segregation between urban locals and rural migrants and the segregation between locals and non-locals. Nevertheless, results from other studies suggest that some human capital variables and other factors (such as socio-economic development and job search methods) are important in influencing occupations and may result in occupational attainment differentials between two groups (Zhao 2003, Gabriel and Schmitz 2006, Dickerson 2008). In Tables 3.3 and 3.4, the summary statistics and the T-test for productivity-related characteristics of the three groups show that, at the 5% significance

level, rural migrants' personal characteristics and employment environment were significantly different from those of urban locals and urban migrants. Nevertheless, between urban locals and urban migrants, only the differences in occupational training, job search methods and work experience were significant. Indeed, the differentials in productivity-related characteristics between the two groups might affect their occupational attainment. However, it remains difficult to identify to what extent the productivity-related characteristics differentials and the discrimination contribute to the employment differentials. To disentangle these two components, we employ the multinomial regression and decomposition approaches.

Table 3. 3 Descriptive Statistics for Productivity-related Characteristics of the Three Groups

	Urban locals		Urban migrants		Rural migrants	
	Mean	S.D	Mean	S.D	Mean	S.D
Gender (Reference: female)	0.49	0.50	0.51	0.50	0.59	0.49
Education*	13.08	2.87	13.25	3.15	9.54	2.91
Working experience**	96.45	104.98	39.73	37.93	52.84	54.24
Training (Reference: No)***	0.74	0.44	0.56	0.50	0.40	0.49
Job search						
Employment agency	0.27	0.45	0.08	0.28	0.08	0.27
Relatives/friends	0.21	0.41	0.27	0.45	0.41	0.49
On one's own	0.51	0.50	0.65	0.48	0.50	0.50
City						
Beijing	0.28	0.45	0.40	0.49	0.19	0.40
Tianjin	0.15	0.36	0.16	0.37	0.37	0.48
Shanghai	0.17	0.38	0.12	0.32	0.28	0.45
Guangzhou	0.40	0.49	0.32	0.47	0.16	0.37

Notes: * Education is the number of years of formal education of the respondents.

** Working experience is the number of months respondents have been working in cities.

*** Training is whether the respondents have attended a job-related formal training.

Table 3. 4 T-test on the Differences in Productivity-related Characteristics among the Three Groups

	Rural migrants vs Urban locals		Urban migrants vs Urban locals		Rural migrants vs Urban migrants	
	t	Pr(T > t)	t	Pr(T > t)	t	Pr(T > t)
Gender	-2.7702	0.0059	-0.5830	0.5603	2.0263	0.0434
Education	-10.5556	0.0000	0.0492	0.9608	9.9749	0.0000
Training	9.4402	0.0000	5.0803	0.0000	-3.4511	0.0006
Experience	7.0792	0.0000	9.7509	0.0000	4.1172	0.0000
Job search	-4.2870	0.0000	-5.8064	0.0000	3.5763	0.0004
City	-9.7692	0.0000	1.8467	0.0652	-11.4824	0.0000

3.4. Models

The occupations in the present study are categorical-dependent variables with more than two possible outcomes. The multinomial logit model is therefore adopted to estimate the probability that a worker is employed in one of four broadly defined categories. This model is a straightforward extension of the logistic model and allows the effects of independent variables to vary for different outcomes without following a multivariate normal distribution (Press and Wilson 1978). It is appropriate for analyzing the relationships between a number of covariates and a dependent variable with more than two possible unordered outcomes (Yang and Guo 1996, Agresti 2002). The multinomial logit model takes the following function form:

$$\ln \left[\frac{P(Y=i|x)}{P(Y=r|x)} \right] = \alpha_i + \sum_{n=1}^n \beta_{in} x_n + \mu_i \quad (1)$$

$i = 1, 2, \dots, n, i \neq r$

where i represents the occupational category, r is denoted as the base or the reference occupation. The dependant is the log odds that an individual works in occupation i relative to the reference occupation. X is a sector of productivity-related characteristics. β

is a vector of coefficients estimated associated with occupation i that shows the impact of X variables on the odds of being in a specific occupation rather than the reference occupation. μ_i is the error term.

The Oaxaca-Blinder decomposition method is the one of the most widely adopted approaches to quantify the contributions of group differences in productivity-related characteristics and discrimination to the labour market differentials (Oaxaca 1973). For a non-linear equation, such as $Y=F(X\cdot\beta)$, the decomposition equation can be written as:

$$\bar{Y}^H - \bar{Y}^L = \left[\sum_{i=1}^{N^H} \frac{F(X_i^H \beta^H)}{N^H} - \sum_{i=1}^{N^L} \frac{F(X_i^L \beta^H)}{N^L} \right] + \left[\sum_{i=1}^{N^L} \frac{F(X_i^L \beta^H)}{N^L} - \sum_{i=1}^{N^L} \frac{F(X_i^L \beta^L)}{N^L} \right] \quad (2)$$

where superscripts H and L refer to urban locals and migrant workers, respectively. N is the sample size for each group. The first term on the right-hand side of the equation is the explained part of the employment gap that is attributable to the group difference in mean productivity-related characteristics, and the second term is the unexplained part of the employment gap that is attributable to the group difference in returns to productivity-related characteristics. The unexplained portion of the employment gap is often attributed to discrimination.

A practical concern associated with Oaxaca-Blinder decomposition is the well-known index number problem or path-dependence (see examples in Bourguignon and Ferreira 2005, Démurger et al. 2009, Meng and Zhang 2001). The decomposition results may differ according to which group's occupational attainment is chosen as the non-discriminatory norm. For instance, the extent of discrimination in equation (2) is estimated based on urban locals' occupational attainment determination rule β^H . However, it could also be calculated based on migrant workers' occupational determination rule β^L . The results will not be identical and will be sensitive to the chosen path. To ensure the

robustness of results, this research deals with this issue by reporting the average of both possible Oaxaca-Blinder decomposition results.

In addition, it should be noted that to be consistent with all studies of discrimination in labour market, the unexplained portion of the occupational attainment gap that is estimated between urban locals and migrant workers cannot be fully attributed to the discrimination. Some unobservable effects, such as people's abilities in accessing information, adaptation to urban environments, or other similar productivity-related factors, could not be identified and included in this study. As a consequence, their contribution to the occupational attainment differentials may be included in the unexplained component, which may bias the estimation of the extent of discrimination. However, it is generally accepted that a large proportion of unexplained wage or occupational differentials should be attributed to the different treatment for migrant workers (Meng and Zhang 2001).

3.5. Results

Although China's urban labour market has undertaken considerable reform in the last thirty years, the legacy of the *hukou* system—such as the segregation between urban locals and rural migrants and the segregation between locals and non-locals—continues to affect wage earnings and access to employment. As a consequence, both urban migrants and rural migrants might suffer different extents of discrimination in occupational attainment due to the lack of local or urban *hukou*. In this section, we adopt the multinomial regression and decomposition method to estimate the extent of discrimination in occupational attainment against migrant workers.

3.5.1 The multivariate analysis

Table 3.5 presents the maximum likelihood estimation results of occupational attainment of urban locals, urban migrants and rural migrants. The group of service jobs is taken to be the reference group, and the estimated coefficients are explained relative to the reference group.

Table 3. 5 Determinants of Occupational Attainment of the Three Groups.

	White-collar jobs		Office clerical jobs		Production-related jobs	
	Coefficient	Standard errors	Coefficient	Standard errors	Coefficient	Standard errors
Urban locals						
Gender (ref: Female)	0.8546**	0.3578	0.2852	0.3105	0.8970*	0.4826
Age	0.0167	0.1283	-0.1299	0.1073	0.0051	0.1969
Age2	-0.0002	0.0016	0.0017	0.0013	-0.0007	0.0025
Education	0.3434***	0.0870	0.2658***	0.0711	-0.1139	0.0971
Experience	0.0044**	0.0021	0.0024	0.0020	0.0081***	0.0024
Training	0.8538*	0.4520	0.2204	0.3550	0.8041	0.5830
Job search (ref: on one's own)						
Employment agency	2.0144***	0.4655	0.9847**	0.4187	0.9092	0.5900
Friends/relatives	-0.1626	0.4937	-0.1072	0.3822	0.5952	0.5624
City (ref: Tianjin)						
Beijing	0.7535	0.5409	0.6573	0.4594	-0.0581	0.7511
Shanghai	-0.4548	0.6699	-0.0866	0.5257	0.6955	0.6986
Guangzhou	0.8793	0.5880	-0.0291	0.5171	-0.3102	0.8133
Constant	-8.1305***	3.0958	-2.4244	2.5343	-1.5088	4.0984
R2	0.1750					
Observations	330					
Urban migrants						
Gender (ref: Female)	0.6949**	0.3232	0.5108	0.3898	1.2803***	0.4797
Age	-0.0498	0.1466	0.0210	0.2265	0.1022	0.1479
Age2	0.0011	0.0020	-0.0008	0.0034	-0.0011	0.0020
Education	0.4500***	0.0799	0.4436***	0.1037	-0.0355	0.0820
Experience	-0.0010	0.0052	-0.0013	0.0069	-0.0098	0.0066
Training	0.4301	0.3356	0.2858	0.4016	1.1563**	0.4778
Job search (ref: on one's own)						
Employment agency	-0.2694	0.5421	-0.2585	0.7417	1.1633*	0.6799
Friends/relatives	-0.8114**	0.4323	0.2811	0.4428	-0.0044	0.5026
City (ref: Tianjin)						
Beijing	1.6403**	0.6794	-0.4476	0.5433	-2.0737***	0.6668
Shanghai	1.5436**	0.7644	-1.2955	0.8988	-0.8894	0.6818
Guangzhou	0.8334	0.7293	-0.4778	0.5788	-0.5176	0.5880
Constant	-8.1263***	2.5431	-7.4114**	3.5173	-3.6259	2.9165

	White-collar jobs		Office clerical jobs		Production-related jobs	
	Coefficient	Standard errors	Coefficient	Standard errors	Coefficient	Standard errors
R2	0.2170					
Observations	328					
Rural migrants						
Gender (ref: Female)	0.0620	0.2751	-1.0970***	0.3272	0.3406*	0.1784
Age	0.1065	0.1081	-0.0543	0.0816	0.1307**	0.0636
Age2	-0.0016	0.0015	0.0015	0.0011	-0.0019**	0.0009
Education	0.1350***	0.0504	0.2796***	0.0672	-0.0326	0.0355
Experience	0.0020	0.0026	-0.0094***	0.0035	-0.0040**	0.0019
Training	1.6084***	0.2844	2.3564***	0.4056	0.5404***	0.1824
Job search (ref: on one's own)						
Employment agency	0.4351	0.4647	0.4694	0.5589	0.9001***	0.3174
Friends/relatives	-0.5485*	0.3049	-0.1939	0.3468	-0.1360	0.1815
City (ref: Tianjin)						
Beijing	0.4361	0.3577	-1.7547***	0.4787	-2.0321***	0.3351
Shanghai	0.3933	0.3643	-1.4054***	0.4497	-0.1786	0.1944
Guangzhou	-0.2307	0.5513	-1.4518**	0.5716	-0.7020**	0.3345
Constant	-6.0713**	1.9440	-4.7808***	1.6804	-2.4820**	1.1691
R2	0.1426					
Observations	904					

Notes: 1. * P < 0.1, ** P < 0.05, *** P<0.01.

The impact of gender on occupational attainment appears significant for all three groups. Given that all other factors are held constant, being male increases the odds of obtaining white-collar jobs for urban locals by 10.15% and for urban migrants by 8.51%, and of obtaining production related jobs for urban locals by 3.99%, for urban migrants by 6.48% and for rural migrants by 6.54%. This indicates that gender discrimination in occupational attainment is widespread and more severe in formal sectors and among migrant workers. However, male rural migrants are less likely to be employed in office clerical jobs (3.53% lower). This is consistent with the literature that women have a higher probability to engage in clerking, secretarial and receptionist jobs (Huang 2001).

Estimations show an inverted U-shape relation between age and the probability of becoming production-related workers for rural migrants, reaching a certain threshold at approximately age 34. This could be due to that most production-related jobs are labour-intensive, and low-skilled, and health and physical demanding, and thus closely correlated with workers' age. Young rural migrants are preferred by employers to do these jobs.

Education has a significant effect on the odds of obtaining white-collar jobs and office clerical jobs for all three groups. Having an additional year of education, the odds of obtaining white-collar jobs tend to increase by 3.78% for urban locals, by 6.55% for urban migrants and by 0.8% for rural migrants; the odds of obtaining office clerical jobs are expected to increase by 3.98% for urban locals, by 3.28% for urban migrants and by 0.71% for rural migrants. This implies that the urban local and urban migrant models select educated workers into the high-wage occupations much more strongly than does the rural migrant model. This result is consistent with the previous findings that the rate of return to education is significantly higher for urban residents than for rural migrants because of the poorer educational quality in rural areas (Maurer-Fazio and Dinh 2004). However, education does not have a significant effect on the probability of obtaining production-related jobs relative to service jobs. As suggested by other studies, this might be due to that these two jobs are not significantly different in terms of education, and both could be performed by individuals with low educational attainment (Chen 2011).

Work experience is significant in explaining the occupational attainment of urban locals and rural migrants. One additional month of work experience increases the odds of being in white-collar jobs and production-related jobs by 0.04% for urban locals but decreases the odds of being in office clerical jobs by 0.02% and of being in production-related jobs

by 0.07% for rural migrants. This result is most likely because more than 60% of rural migrants in this study work in service jobs. These people are more likely to have similar work experiences (as service workers), which could significantly increase individuals' chances of being in service jobs rather than other types of jobs. The results from prior study also suggest that rural migrants with greater city experience are more likely to be in the self-employed group engaging in service works in informal sector (Meng 2001).

Occupational training tends to play an important role in occupational attainment in the three groups. Having occupational training, the odds of obtaining white-collar jobs are expected to increase by 9.6% for urban locals and by 9.37% for rural migrants, the odds of obtaining office clerical jobs increase by 7.26% for rural migrants, and the odds of obtaining production-related jobs increase by 6.06% for urban migrants and 4.66% for rural migrants. One reason for the higher rewards to urban locals' and urban migrants' training is that, already with better human capital than rural migrants, their occupational skills and knowledge could be improved more significantly by training than that of rural migrants, which increases the chance to acquire other jobs relative to service jobs. In addition, the results further indicate that occupational training remains important for rural migrants to move out of low-wage jobs.

Job search methods exert a significant effect on the occupational attainment for all three groups. Finding jobs through employment agencies tends to increase urban locals' odds of being in white-collar jobs by 27.09% and of being in office clerical jobs by 2.19%. However, this job search method only increases the odds of obtaining production-related jobs by 11.98% for urban migrants and by 17.43% for rural migrants. This result implies that white-collar jobs and office clerical jobs are more likely to be institutionally controlled by central or local governments. It is very difficult for individuals with

non-local *hukou* to gain these occupations whether through employment agencies or friends/relatives. This can be further supported by the significantly negative effect of informal social network such as friends and relatives on job hunting in this study. There is persistent evidence that many rural migrants find jobs through the informal social network which can provide valuable information and opportunities in the urban labour market (Zhao 2003, Bian et al. 2005). Nevertheless, because migrants usually have similar socio-economic status and employment attainments, this social network only links persons of the same hierarchical rank and thus cannot bridge interclass information and social sources, such as power, wealth and prestige of social contacts. Therefore, finding jobs through relatives or friends actually restricts migrants to low-wage jobs, which further reinforces labour sorting and occupational segregation. Our results suggest that it decreases the odds of being in white-collar jobs by 12.66% for urban migrants and by 2.94% for rural migrants.

The socio-economic development in Beijing, Shanghai and Guangzhou only increase the odds of being in white-collar jobs by approximately 35% for urban migrants, but decrease the odds of being in office clerical jobs by approximately 25% for rural migrants, and of being in production-related jobs by 14.62% for urban migrants and by 10-25% for rural migrants. This reaffirms the fact that, in addition to economic factors, migrant workers' occupational attainment might also be affected by the relevant employment policies imposed by local governments in destinations.

The F-test results also indicate that there are significant differences in the determinants of occupational attainment among the three groups¹⁴. The structural difference in returns to

¹⁴ The F-statistics are 9039.63 between urban locals and urban migrants, 3101.18 between urban locals and rural migrants, and 16197.15 between urban migrants and rural migrants, which are

productivity-related characteristics between urban locals and migrant workers indicates that they might be treated differently in the urban labour market. As discussed above, the different treatment is mostly the result of the segmented labour market and the prejudiced attitudes of urban residents and local governments. Based on the coefficients of the three groups in Table 3.5, we employ the Oaxaca-Blinder decomposition approach to evaluate the extent of discrimination in occupational attainment.

3.5.2 Decomposition of occupational attainment differentials

Table 3.6 presents the decomposition results of occupational attainment differentials between urban locals and migrant workers. The explained portion measures the employment gap caused by the difference in mean productivity-related characteristics between the two groups, and the unexplained portion measures the employment gap caused by the difference in returns to productivity-related characteristics between the members of the two groups. The results show that a considerable employment gap is driven by the differential returns, which might be attributable to the discrimination. Compared with urban locals, the extent of discrimination against rural migrants is 27.61%¹⁵ in obtaining white-collar jobs, 33.74% in obtaining office clerical jobs, 39.11% in obtaining production-related jobs and 25.58% in obtaining service jobs. Although urban migrants also face discrimination in obtaining these four occupations, their labour market status as a whole is better than that of rural migrants. The unexplained portion is only 22.04% between urban locals and urban migrants in obtaining white-collar jobs, 30.88% in obtaining office clerical jobs, 29.63% in obtaining production-related jobs and greater than the critical value at the 1% significance level.

¹⁵ The extent of discrimination= (the unexplained portion)/(the raw differentials) *100% = 3.84/13.92 *100%=27.61%.

34.90% in obtaining service jobs. The greater extent of discrimination against rural migrants reflects that they face dual discrimination arising from both segregations between locals and non-locals and between urban locals and rural migrants, while urban migrants only face discrimination that stems from the segregation between locals and non-locals.

In terms of obtaining service jobs, however, our results suggest that the discrimination against urban migrants is higher than that against rural migrants. A plausible explanation is that in China's urban labour market, some service jobs rejected by urban locals are labour-intensive, low-skilled and hazardous. To reduce costs and increase efficiency, employers prefer to employ rural migrants who are qualified and more willing to do these jobs. As a result, urban migrants rather than rural migrants face a greater extent of discrimination. This point of view is further confirmed by the negative discrimination in obtaining service jobs against rural migrants when compared with urban migrants, which accounts for 17.95% of the raw differentials.

Table 3. 6 The extent of discrimination against migrant workers in Occupational Attainment (%).

	White-collar jobs	Office clerical jobs	Production-related jobs	Service jobs
Urban locals VS rural migrants				
Raw differentials	13.92	22.13	-15.42	-20.64
Explained	10.08	14.66	-9.39	-15.36
Unexplained	3.84	7.47	-6.03	-5.28
Discrimination	27.61	33.74	39.11	25.58
Urban locals VS urban migrants				
Raw differentials	-4.84	15.14	0.27	-10.57
Explained	-3.77	10.46	0.19	-6.88
Unexplained	-1.07	4.68	0.08	-3.69
Discrimination	22.04	30.88	29.63	34.90
Urban migrants VS rural migrants				
Raw differentials	18.76	6.99	-15.69	-10.07
Explained	17.84	6.09	-12.06	-11.88
Unexplained	0.92	0.90	-3.63	1.81
Discrimination	4.92	12.90	23.15	-17.95

The decomposition within migrant workers showed that rural migrants experience discrimination in obtaining three occupations compared with urban migrants. The extent of discrimination is 4.92% in obtaining white-collar jobs, 12.90% in obtaining office clerical jobs and 23.15% in obtaining production-related jobs. Regarding the hypothesis, our results indicate that the extent of discrimination against urban migrants compared with urban locals is generally greater than the extent of discrimination against rural migrants compared with urban migrants, suggesting that the segmentation of urban labour market is currently dominated by the segregation between locals and non-locals rather than the segregation between urban locals and rural migrants, which was dominant in the earlier stage of reforms. The results support Hypothesis 2.

To sum up the above findings, it is clear that as a legacy of the planned economy, the *hukou* system remains effective in the segmentation of China's urban labour market and

in creating social stratification. The segmentation of urban labour market, including the segregation between locals and non-locals and the segregation between urban locals and rural migrants, has resulted in severe discrimination against urban/rural migrant workers in occupational attainment when compared with their urban counterparts. The occupational discrimination prevents efficient labour allocation and mobility, which could result in a significant reduction of labour productivity and a waste of social sources as workers may have been located in a position mismatching their capacity. In addition, as an important subset of migrant workers, urban migrants are also treated differently from urban locals. The comparison of the extent of discrimination against urban migrants compared with urban locals and the extent of discrimination against rural migrants compared with urban migrants confirms that the segmentation of the urban labour market is mainly dominated by the segregation between locals and non-locals at present rather than the segregation between urban locals and rural migrants that dominated for many decades previously.

3.6. Conclusion

While China's urban labour market has undergone considerable reform in the last three decades, and particularly since the 1990s, the *hukou* system continues to play an important role in determining migrants' access to urban employment. Migrant workers are most likely to end up in the bottom rungs of the occupational structure and engage in dirty and dangerous jobs. This study provides the first set of evidence about the extent of discrimination in occupational attainment against migrant workers by adopting an extended framework that considers both the segregation between urban locals and rural migrants and the segregation between locals and non-locals. The investigation

empirically extends the application of discrimination theory and segmented labour market theory to rural migrants, urban migrants and to a transitional society; it also contributes to a better understanding of the labour market experience of migrant workers.

The study confirms the severe occupational segregation among urban locals, urban migrants and rural migrants in China's urban labour market due to the two segregations imposed by the *hukou* system. In addition to service jobs, urban locals and urban migrants were more concentrated in white-collar jobs and office clerical jobs, while rural migrants were highly skewed in production-related jobs.

A part of these disparities is caused by the group difference in returns to productivity-related characteristics, which is attributed to discrimination. Compared with urban locals, both urban migrants and rural migrants are subject to discrimination in obtaining all four occupations. However, the labour market status of urban migrants as a whole is better than that of rural migrants. The greater extent of discrimination against rural migrants reflects that they face dual discrimination arising from both segregations between locals and non-locals and between urban locals and rural migrants, while urban migrants only face the discrimination arising from the segregation between locals and non-locals. Nevertheless, our results suggest that the discrimination against urban migrants is higher than that against rural migrants in obtaining service jobs. This could be due to that rural migrants are more desired by employers than urban migrants to undertake certain service jobs that are particularly labour-intensive, low-skilled and hazardous. This viewpoint is further supported by the negative extent of discrimination in terms of being in service jobs against rural migrants compared with urban migrants.

Compared to urban migrants, rural migrants experience discrimination in obtaining almost all occupational categories. The extent of discrimination against urban migrants

compared with urban locals is greater than that against rural migrants compared with urban migrants, which suggests that the segregation between locals and non-locals has played a leading role in the current segmentation of the urban labour market. This reflects a profound transformation from a *hukou*-dominated urban-rural dichotomy in China's urban labour market in the first 20 years after the economic reforms to the segregation between locals and migrants in recent years.

The fundamental and intensive reforms in China's urban labour market and in the *hukou* system since the 1990s have accelerated socio-economic development and improved some aspects of the working conditions of migrant workers. Nonetheless, the present study indicates that the *hukou* system continues to function in social and labour stratifications, and plays a negative role in improving the working conditions and living standards of workers. The discrimination imposed by the *hukou* system has reduced the labour productivity and threatened the social stability. This result suggests that there is a need to further reform the *hukou* system and establish effective and fair employment arrangements for migrant workers, to continually attract and retain them in the coastal cities in the context of emerging labour shortage. For instance, some scholars indicate that the reform should be directed to disconnect the *hukou* status from job opportunities and the distribution of employee benefits and public service (Cai 2011, Cheng et al. 2013), and to eliminate the institutional constraints on movements between segments in the urban labour market (Meng and Zhang 2001). The anti-discrimination policy in China's urban labour market should be oriented to eliminate the segregation between locals and non-locals rather than only the segregation between rural migrants and urban locals. Furthermore, urban migrants should be taken into the consideration when the urban labour market policies and regulations are formulated.

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Chapter 4 A Distributional Analysis of Wage Discrimination against Migrant Workers in China's Urban Labour Market

Abstract: In China's urban labour market, migrants without a local household registration (or *hukou*) are often discriminated against by urban authorities and employers. This study examines the impact of discrimination on wage distribution differentials among urban locals, urban migrants and rural migrants through an extended analytical framework that considers the segregation between urban locals and rural migrants and the segregation between locals and non-locals. The results show that, when compared with urban locals, rural migrants with median income level and above face discrimination, whereas urban migrants with median income level and below face discrimination but to a much lesser extent. Because of the structural difference in employment, urban locals rather than migrant workers with the rest of the income levels are discriminated against. The results suggest that the *hukou* system continues to play an important role in segmenting China's urban labour market. The extent of discrimination against urban migrants relative to urban locals is greater than that against rural migrants relative to urban migrants, which suggests that the segmentation of the urban labour market is largely determined by the segregation between locals and non-locals rather than the segregation between urban locals and rural migrants, which was the case in the recent past.

Key words: China, urban labour market, migrant workers, wage discrimination

4.1. Introduction

A massive population migration into the cities has been one of the most significant socio-economic transformations in post-reform China. In the past three decades, the so-called floating population¹⁶ of migrants who have left their origin of household registration¹⁷ for at least six months, has increased 32-fold from 7 million in 1982 to 221 million in 2010 (NBSC 1982, NBSC 2011). The floating population in the cities contains urban migrants and rural migrants. Urban migrants possess urban *hukou* in cities other than their destinations, while rural migrants possess rural *hukou* from the countryside.

The floating population has contributed approximately 21% of GDP growth and 75% of urbanization growth between 1978 and 1999 (Zhang and Song 2003, Cai and Wang 1999). However, due to their non-local *hukou* status, the majority of migrant workers are treated differently from urban locals in the urban labour market (Roberts 1997, Guo and Iredale 2004).

Migrant workers tend to earn a lower wage than urban locals even on the same jobs (Lu and Song 2006, Sylvie et al. 2008). In 2004, the average monthly wage of urban locals was 1,335 *yuan*, which was 2.48 times that of migrant workers (Yao, Xu and Xue 2008). Although in recent years, the overall wage level has gradually increased due to socio-economic development and urban labour market reform, the wage gap between urban locals and migrant workers has widened. A survey of rural migrants in 2009 showed that the monthly wage of urban locals was 6,394 *yuan*, which was 4.51 times

¹⁶ The floating population is defined as individuals who have left their original *hukou* registration for at least six months but who have continued to hold their original *hukou* registration.

¹⁷ The household registration system, or *hukou*, is an identification system in which every Chinese citizen is classified as either a rural *hukou* resident or an urban *hukou* resident.

higher than that of rural migrants (NBSC 2009). Wage differentials are also significant among migrant workers. Another survey in 2009 showed that the income of urban migrants was 1.54 times that of rural migrants (NPFPC 2010).

China is not the only country experiencing large scale migration due to industrialization and urbanization and inequalities between urban locals and migrant workers. A similar phenomenon has also been observed in developed economies such as the U.S. and the U.K. They have seen inequalities in occupational attainment and wage differentials between racial groups and between immigrant workers and native workers (Massey et al. 1994, Zhou and Logan 1989). The human capital theory suggests that these inequalities are the result of the heterogeneity in productivity-related characteristics such as age, education, working experience and so on (Schultz 1961). However, the literature shows that wage differentials remain even after controlling for these characteristics. A plausible explanation is that the remaining wage differentials are the product of discrimination (Brown, Moon and Zoloth 1980, Gustafsson and Li 2000, Borjas 1995). Several studies on income inequalities between native and immigrant workers and among racial groups in developed countries showed that approximately 10-60% of wage differentials could not be explained by the human capital gap and that discrimination is more intense at low-income levels (Guenter 2000, Juan and César 2008, Arabsheibani and Wang 2008). These studies suggest that racial or residential status usually induce mistreatment and discrimination in labour market.

In China's transitional economy, the factors contributing to the labour market inequalities show some distinctive features compared to those in developed economies. Although China's urban labour market has gone through tremendous changes over the last thirty years of economic reform, it remains underdeveloped and relatively informal. The *hukou*

system has fostered a segmented urban labour market, which has resulted in a disadvantaged socio-economic status for migrant workers (Knight and Song 1999, Goldstein and Goldstein 1991). Researchers have consistently observed that the institutional segmentation and the discrimination imposed by the *hukou* system are some of the most important explanations for the wage differentials between urban locals and migrant workers (Lu and Song 2006, Dong and Bowles 2002, Zhao 2002, Zhang 2006). Several decomposition analyses have indicated that approximately 25-50% of the earnings gap is attributable to an unexplained portion, which could include the factors other than human capital related, such as discrimination (Meng and Zhang 2001, Maurer-Fazio and Dinh 2004). Studies also show that migrant workers are treated even worse in the urban labour market after taking into account urban locals' non-wage bonuses and non-financial benefits (e.g. Lee 2012).

Nevertheless, the empirical literature on the extent of labour market segmentation and discrimination against migrants in China's urban labour market is less developed. In addition, most existing studies focus on the segregation between urban locals and rural migrants. Little research has examined the discrimination in relation to urban-biased economic policy, relaxation of the *hukou* system, and diversification in the composition of migrant workers, especially migrants from other urban areas.

The analytical framework of the urban-rural dichotomy in the urban labour market has been widely adopted in researching the mechanism of economic exclusion and discrimination against rural migrants (Meng and Zhang 2001, Knight and Song 1999). However, this framework either does not distinguish urban migrants from rural migrants or excludes urban migrants from the analysis. Therefore, this framework fails to adapt to the changing composition of migrants, which is more diversified than it was in the 1980s

and early 1990s. In fact, the proportion of urban migrants has gradually increased to 23.9% of the floating population in 2000 (Zhang 2007). Current estimates are even higher. Urban migrants have a comparatively advantageous status compared with rural migrants due to their urban *hukou* but are at a disadvantage compared to urban locals due to their non-local *hukou*. This has importance implications in studying discrimination against migrant workers. However, few empirical studies have investigated the wage differentials and discrimination against urban migrants and rural migrants.

The distributional analysis of wage differentials has attracted much attention in labour economics over the last decade in the context of increasing wage inequalities in many countries. In China, the overall Gini coefficient had increased from 0.30 to 0.46 between 1978 and 2006 (Chen *et al.* 2010). Even larger inequalities were found among urban migrants and urban locals who had Gini coefficients of 0.54 and 0.52 in 2008, respectively; the Gini coefficient (0.43) among rural migrants was lower but still considerable (Guo and Cheng 2010).

Previous research, however, has mostly focused on the mean wage gap among different groups (Démurger *et al.* 2009, Maurer-Fazio and Dinh 2004). Little research has been conducted to estimate the extent of discrimination against migrant workers in wage distribution. Some scholars have argued that migrant workers were more qualified than urban locals within the category of low-tier jobs (Meng and Zhang 2001). Theoretically, migrant workers may be more favored by some employers who offer low-tier jobs, resulting in that urban locals with low income levels rather than migrants are discriminated against in the urban labour market. Nevertheless, this theoretical point of view has not been empirically examined in prior studies.

The present study aims to fill these gaps in the literature on migration and discrimination

by examining to what extent discrimination against migrant workers contributes to the wage distribution differentials. This research empirically extends the application of discrimination theory and segmented labour market theory to both rural migrants and urban migrants in a transitional society. From applied perspectives, the study offers evidence-based policy recommendations to improve the labour conditions for migrant workers.

This paper is structured as follows. The next section reviews the changes of China's urban labour market and provides an integrative framework for empirical analysis. Section 3 introduces the data and the descriptive analysis. Section 4 outlines the models adopted in this study. Section 5 presents the empirical results of a quantile regression and decomposition of the wage distribution differentials. The last section draws a conclusion.

4.2. Background and Analytical Framework

China's urban labour market has undergone a series of remarkable changes over the last thirty years of economic reform. Under the planned economic regime, China's urban and rural labour forces were isolated owing to the *hukou* system that prohibited migration. While urban residents were entitled to grain rations, education, employment, housing and social security, rural residents were confined to the countryside and it was almost impossible for them to undertake any migration between urban and rural areas and across regions (Sun and Fan 2011).

The emergence of a market economy witnessed a dramatic marketization in the commodities and labour market. With the rapid development of Special Economic Zones and the booming urban private and informal sectors, a new labour regime that minimized cost and maximized efficiency was required to fill vacancies and help generate rapid

economic growth (Fan 2003). In order to attract cheap labour, the central government began to allow rural surplus labour looking for higher income to migrate and work in urban industries. As a consequence, the number of rural migrants increased dramatically from 30 million in 1989 to 62 million in 1993 (Li 2008).

Although the strict restrictions on rural-urban migration have been relaxed considerably, the *hukou* system continues to function as an “invisible wall” between urban locals and migrant workers, which has resulted in an urban-rural dichotomy in the urban labour market (Appleton et al. 2004, Maurer-Fazio and Dinh 2004). For instance, without urban *hukou*, rural migrants are socially and economically separated from—and considered inferior to—local residents (Laurence 2002). Typically, migrant workers are employed in informal sectors and in low-tier jobs, whereas urban locals not only have secured jobs with higher wages but also enjoy better working conditions and more social services (Meng and Zhang 2001). Moreover, rural migrants are socially and/or residentially segregated from locals by living in low-income, inferior or deprived housing areas (Song, Zenou and Chengri Ding 2008).

Since the late 1990s, a new type of segregation between locals and non-locals—in which local government is a driver—has emerged. The fiscal decentralization in the 1980s gave local governments the right to administer local finances and the responsibility to maintain a good level of momentum for socio-economic development and social stability. The restructure of state-owned enterprises since 1997 had resulted in millions of urban workers being laid off and caused serious unemployment and fierce competition in the urban labour market. As a consequence, both local government and urban locals regarded migrant workers as competitors to urban workers and troublemakers who brought in instability. Thus, local governments implemented discriminatory policies against

migrants in response to the unemployment problem (Appleton et al. 2004). Some cities prohibited the employment of migrant workers in certain occupations and even forced some enterprises to lay off migrant workers in favour of urban locals (Cai, Du and Wang 2001). These regulations were terminated recently after a series of laws and regulations issued by the central government that explicitly required local governments to enforce equal pay and equal job opportunities for migrant workers. However, the local governments' objective of segregation between locals and non-locals has shifted from protecting employment opportunities for urban locals to ensuring social security and welfare benefits for urban locals at the expense of migrants.

In view of the changing labour market, an integrative framework, that considers the segregation between urban locals and rural migrants and the segregation between locals and non-locals, has been developed to study the socio-economic status of migrant workers (Guo and Zhang 2012). This framework argues, first, that the urban-rural dichotomy in the urban labour market has largely disappeared since the early 2000s because the central government has shifted the focus of policy about migrant workers from restriction to integration. For instance, after the substantial reforms in the *hukou* system and the associated employment and social security, almost all previous laws and regulations that restricted rural-urban migration and rural migrants' occupational choices were abolished. Nevertheless, the depth, scope and pace of *hukou* reform have not met many scholars' expectations (Liu 2005, Chan 1996). It appears that the segregation will linger and continue to play a role in shaping urban inequality and social stratification (Wang, Zuo and Ruan 2002). Second, in the past twenty years, along with the gradual weakening of the segregation between urban locals and rural migrants, the segregation between locals and non-locals has become increasingly more dominant in

the segmentation of China's urban labour market due to the growing local protectionism in favour of locals.

Under this general analytical framework, urban migrants are also included using the so-called three-group analytical approach. This approach investigates the labour market differentials among three groups, i.e., between urban locals and urban migrants, between urban locals and rural migrants and between urban migrants and rural migrants. This approach better considers the reality of the two types of segregation in China's urban labour market and their interactions. The segregation between urban locals and rural migrants continues to affect rural migrants, while the segregation between locals and non-locals affects both rural migrants and urban migrants who are non-locals in their destination. To examine which segregation plays a leading role in the current segmentation of the urban labour market, our hypotheses are:

H1: If the labour market outcomes of urban migrants are similar to those of urban residents, but significantly better than those of rural migrants, the segregation between urban locals and rural migrants dominates in the segmentation of the urban labour market.

H2: If the labour market outcomes of urban migrants are similar to those of rural migrants, but significantly worse than those of urban locals, the segmentation of the urban labour market is mainly determined by the segregation between locals and non-locals.

H3: Discrimination contributes significantly to the labour market outcome differentials between urban residents and rural migrants but less significantly between urban residents and urban migrants.

The present study adopts this framework to investigate to what extent discrimination against migrant workers, including those from rural areas and urban areas, contributes to

wage distribution differentials.

4.3. Data and Descriptive Analysis

This study uses data from the Rural Migrant Labour in Large Chinese Cities Survey, a Discovery Project funded by the Australian Research Council. It was conducted by Macquarie University and Nankai University in Beijing, Shanghai, Tianjin and Guangzhou in 2008. The survey adopted a multi-stage stratified random sampling method. All districts in the four cities were taken as a sample frame. In each city, one urban and one suburban district were randomly selected; then two neighbourhood committees (*juweihui*) were randomly chosen from each district; finally one hundred randomly selected households in each selected neighbourhood committee, including both local households and migrant households, were interviewed with the aid of questionnaires to collect both individual and household data. The information collected in this survey includes individual members' personal characteristics, wage earnings, employment status and so on. The survey finally received 1,797 valid questionnaires response, with a 99.6% effective rate. Among them 1,017 were rural migrants (57%), 378 were urban migrants (21%), and 397 were local residents (22%) (See Table 4.1).

Table 4. 1 Survey Sample Distribution by Cities and Groups.

	Urban locals	Urban migrants	Rural migrants	Subtotal (%)
Beijing	112	151	197	460 (25.67%)
Guangzhou	158	120	164	442 (24.67%)
Shanghai	68	45	281	394 (21.99%)
Tianjin	59	62	375	496 (27.68%)
Subtotal (%)	397 (22.15%)	378 (21.09%)	1017 (56.75%)	1792 (100%)

Considering the fact that a substantial proportion of migrant workers have to work

overtime with little or none extra payment (Chan 2002), we examine the hourly wage of urban locals and migrant workers. The average hourly wage is based on self-reported data in the survey, which excludes any non-cash income. Table 4.2 presents the mean hourly wage and productivity-related characteristics for the three groups. The hourly wage of urban locals was 19.84 *yuan*, which was 1.27 times that of urban migrants and 2.19 times that of rural migrants.

Table 4. 2 Summary Statistics of Hourly Wage and Productivity-related Characteristics.

	Urban locals		Urban migrants		Rural migrants	
	Mean	S.D	Mean	S.D	Mean	S.D
Hourly wage (<i>yuan</i>)	19.84	83.57	15.63	21.77	9.06	8.28
Gender (Reference: female)	0.49	0.50	0.51	0.50	0.59	0.49
Age	39.59	11.23	36.65	102.02	34.02	9.49
Education*	13.08	2.87	13.25	3.15	9.54	2.91
Work experience* *	96.45	104.98	39.73	37.93	52.84	54.24
Training (Reference: No)***	0.74	0.44	0.56	0.50	0.40	0.49
Contract (Reference: No)****	0.78	0.42	0.57	0.50	0.37	0.48
Employer type						
State agency/state-owned company	0.50	0.50	0.16	0.37	0.10	0.30
Collective company	0.08	0.28	0.05	0.22	0.04	0.20
Private company	0.22	0.42	0.43	0.50	0.37	0.48
Self-employment	0.13	0.33	0.30	0.46	0.43	0.50
Others	0.06	0.23	0.04	0.20	0.06	0.23
Occupation (Reference: Blue-collar)*****	0.51	0.50	0.40	0.49	0.15	0.35
City						
Beijing	0.28	0.45	0.40	0.49	0.19	0.40
Tianjin	0.15	0.36	0.16	0.37	0.37	0.48
Shanghai	0.17	0.38	0.12	0.32	0.28	0.45
Guangzhou	0.40	0.49	0.32	0.47	0.16	0.37

Notes: * Education is the number of years of formal education the respondents have had.

** Work experience is the number of months the respondents have been working at current job.

*** Training is whether the respondents have attended job-related formal training.

**** Contract is whether the respondents have signed a formal labour contract.

***** White-collar workers include administrators and managers, professionals and technicians, and clerical and related workers, while blue-collar workers include production and operation related workers, business and service workers and others.

Figure 4.1 presents the density and cumulative density of hourly wage distribution across groups. The density diagram shows that the proportion of rural migrants with low and median wages¹⁸ was higher than that of urban migrants and urban locals, while the

¹⁸ Low wage refers to an hourly wage below the 0.3 quantile, median wage refers to an hourly wage between the 0.3 and 0.7 quantile, high wage refers to an hourly wage above the 0.7 quantile.

proportions of urban locals and urban migrants with high wages were basically identical (and higher than that of rural migrants). The cumulative density diagram shows that urban locals earned a slightly higher hourly wage than urban migrants at most income levels, while a much higher hourly wage than rural migrants. The wage differentials between urban locals and rural migrants increased gradually with the increase in income levels. The results from a Wilcoxon rank-sum test (Table 4.3) further show that at the 5% level, the wage distribution differentials were significant between urban locals and rural migrants and between urban migrants and rural migrants.

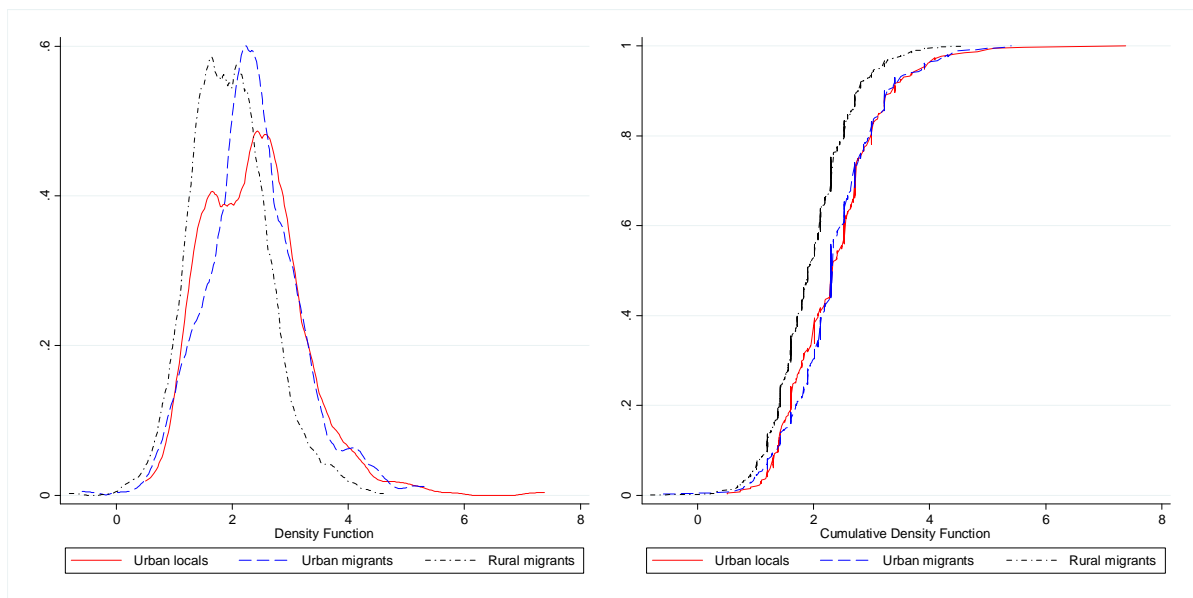


Figure 4. 1 Density Function and Cumulative Density Function of Logarithmic Wage by Three Groups.

The results indicate that migrant workers are not treated equally to their urban counterparts in earnings, and rural migrants have the most disadvantaged wage status. The uneven labour market outcomes seem to support the notions of the segregation between urban locals and rural migrants and the segregation between locals and non-locals.

As aforementioned, however, the wage differentials between two groups may be more or less determined by the differences in productivity-related characteristics. The statistics and T-test for personal characteristics and employment status of urban locals and migrant workers show that, at the 5% level, rural migrants' personal characteristics and employment status were significantly different from that of urban locals and urban migrants (see Table 4.3). Nevertheless, between urban locals and urban migrants, the only significant differences were in age, job-related training, having a labour contract or not, type of industry and type of employer. Even if the abovementioned information were clear, however, it remains difficult to identify to what extent productivity-related characteristics differentials and discrimination contribute to the wage distribution differentials. To disentangle these two components, we employ the quantile regression and decomposition approaches, which are to be discussed in the next section.

Table 4. 3 T-test on the Differences in Hourly Wage and Productivity-related Characteristics.

	Rural migrants vs Urban locals		Urban migrants vs Urban locals		Rural migrants vs Urban migrants	
	t	Pr(T > t)	t	Pr(T > t)	t	Pr(T > t)
Hourly wage*	8.1560	0.0000	-0.1020	0.9190	8.6260	0.0000
Gender	-2.7702	0.0059	-0.5830	0.5603	2.0263	0.0434
Age	7.2402	0.0000	11.6082	0.0000	3.5156	0.0005
Education	-10.5556	0.0000	0.0492	0.9608	9.9749	0.0000
Training	9.4402	0.0000	5.0803	0.0000	-3.4511	0.0006
Contract	10.9863	0.0000	5.7618	0.0000	-3.7043	0.0002
Experience	7.0792	0.0000	9.7509	0.0000	4.1172	0.0000
Employer	-13.0063	0.0000	-9.3426	0.0000	2.0626	0.0399
Occupation	9.1071	0.0000	1.7647	0.0784	-6.6333	0.0000
City	-9.7692	0.0000	1.8467	0.0652	-11.4824	0.0000

Notes: * the test for wage differentials is Wilcoxon rank sum test.

4.4. Models

The Oaxaca-Blinder method is one of the most widely adopted approaches to quantify the

contributions of group differences in productivity-related characteristics and discrimination to the mean wage differentials (Oaxaca 1973). However, this approach is not effective in examining the underlying wage distribution.

In recent years, to study the substantial increase in wage inequality in many countries, this original method has been considerably improved and extended to distributional parameters other than the mean (Fortin, Lemieux and Firpo 2011). More recently, the quantile-based regression and decomposition approaches were developed to untangle the sources of wage distribution differentials by Machado and Mata (2005). These approaches are able to reveal details of discrimination against migrant workers across the distribution of wages, particularly at the tails of the distribution. Since migrant workers in China are more qualified than urban locals in low-tier jobs (Meng and Zhang 2001), the quantile approaches are appropriate to analyze whether migrants with low income levels are being discriminated against.

Based on the Mincer earning function, the quantile regression model can be expressed as follows:

$$Q_{\ln w_i}(\theta | x_i) = x_i \beta_\theta + \varepsilon_\theta$$

where $\ln w_i$ is hourly wage taking the logarithm. X_i is a vector of personal characteristics and employment status. β_θ is a vector of estimated coefficients of variables at the θ quantile and ε_θ is the error term.

There are two potential selectivity issues in earnings regression. One is the non-random occurrence of labour market participation, which indicates that not all people who can work are willing to find a job in the labour market. The selectivity problem would be prominent in a population in which the labour force participation rate is low, such as the

approximately 60% level that was found in Australia and Germany in 1980s (Blau and Kahn 2003, Miller and Rummery 1991). Since the participation rates of urban locals and migrant workers in China are all higher than 80% (Park and Wang 2010), this selection issue should not be problematic. One recent study on China, which adopted the standard Heckman selectivity correction to control for the factors potentially correlated with the selection of working, also indicated that the participation process had no significant effect on earnings (Lee 2012). The other issue relates to the fact that migrant workers are not random samples drawn from a rural population. This may bias the estimation of wage discrimination. Rural migrants usually have higher earning capacities because they have better human capital and they are more motivated, resilient and ambitious than non-migrants in the countryside. Therefore, the wage discrimination might be even greater if rural migrants are randomly drawn in the rural areas. However, neither this nor any other studies on China have enough information to address this particular selection issue.

The quantile decomposition method is employed to estimate the extent of discrimination:

$$\Delta_{\theta} \ln w_{ij} = Q_{\theta}(\ln w_i) - Q_{\theta}(\ln w_j) = [Q_{\theta}(\ln w_i) - Q_{\theta}(\ln w_{i-j})] + [Q_{\theta}(\ln w_{i-j}) - Q_{\theta}(\ln w_j)]$$

where $\Delta_{\theta} \ln w_{ij}$ represents the raw wage differentials between group i and group j at the θ quantile; $Q_{\theta}(\ln w_{i-j})$ is the counterfactual wage distribution, that is, the conditional wage distribution of group j if they had identical marginal returns on various skills as group i. The first term on the right-hand side of the equation is the explained part of the wage gap that is attributable to the group differences in personal characteristics and employment status, and the second term is the unexplained part of the wage gap that is attributable to group differences in returns on productivity-related characteristics. This

unexplained portion of the wage gap is often attributed to discrimination.

To be consistent with other decomposition methods, a practical concern associated with quantile decomposition employed in this study is the well-known index number problem or path-dependence (see examples in Bourguignon and Ferreira 2005, Démurger et al. 2009, Meng and Zhang 2001). The decomposition results may differ depending on which group's earnings are chosen as the non-discriminatory norm, such as urban locals' earnings, urban migrants' earnings and rural migrants' earnings. To ensure the robustness of results, this paper addresses this issue by reporting a simple average of both possible decomposition results.

4.5. Results

Although China's urban labour market has undergone considerable reform in the last thirty years, the legacy of the *hukou* system, such as the segregation between urban locals and rural migrants and the segregation between locals and non-locals, continues to play an important role in social exclusion and in determining earnings and eligibility for access to employee benefits. Both urban migrants and rural migrants might suffer wage discrimination—to different extents, as they do not have local or urban *hukou*. In this section, we adopt the quantile regression and decomposition method to estimate the extent of discrimination against migrant workers in wage distribution in China's urban labour market.

Multivariate Analysis

Before proceeding to the wage decomposition, it is useful to compare the wage determinants in different groups. Table 4.4 presents the estimated effects of independent variables on the hourly wage of urban locals, urban migrants and rural migrants. The

constant terms for urban locals are greater than that for urban migrants and rural migrants at most income levels, indicating that there is a large unexplained wage premium for urban locals. The significance of the gender variable reflects that gender discrimination exists in China's urban labour market and it is more severe among urban locals. Holding other factors constant, being male increases the hourly wage for urban locals with all income levels by 24-53%, while for rural migrants with below the median income level only by 11-35%. This result is consistent with the findings of Liu, Meng and Zhang (2000) that the extent of gender discrimination declines substantially across ownership sectors from the state to the private where rural migrants are disproportionately concentrated in, as there is an increasing degree of decentralization and marketization which drives employers to reward more to better productivity-related factors.

Table 4. 4 Quantile Regression on Hourly Wage by Three Groups.

	Quantiles				
	0.1	0.3	0.5	0.7	0.9
Urban locals					
Gender (Reference: Female)	0.2248**	0.2660***	0.2615***	0.2131**	0.4251***
Age	-0.0152	-0.0140	-0.0050	0.0499	-0.0724
Age2	0.0000	0.0001	0.0000	-0.0006	0.0010*
Education (Reference: Primary school and below)					
College and above	0.4580	0.4369	1.0588***	1.2111***	1.1820***
Senior high school	0.2250	0.0756	0.4838**	0.5363	0.5111
Junior high school	0.1638	-0.0982	0.3636	0.6660*	0.7226*
Training (Reference: No)	0.0881	-0.0090	-0.1005	-0.2036	-0.4406**
Contract (Reference: No)	0.2025	0.0626	0.1194	0.1229	0.2108
Experience	0.0007	0.0010*	0.0013**	0.0008	0.0006
Employer (Reference: Self-employment)					
State agency	-0.3455*	-0.1639	-0.5180**	-0.5149**	-0.9968***
Collective company	-0.5998**	-0.3161	-0.5301**	-0.6445**	-0.9869**
Private enterprise	-0.2591	-0.1144	-0.3615	-0.3654	-0.5605
Others	-0.5522*	-0.3625	-0.4876	-0.4360	-0.9562
Occupation (Reference: Blue-collar)					
White-collar	0.0404	0.0891	0.1255	0.0810	0.1573
City (Reference: Tianjin)					
Beijing	0.3281***	0.3127***	0.3622**	0.6497***	0.4314**
Shanghai	0.4041***	0.5293***	0.4740***	0.6603***	0.2449
Guangzhou	0.2144	0.5926***	0.6457***	0.9393***	0.6730***
Constant	1.3500	1.5828**	1.3620**	0.3662	3.6484***
R2	0.1496	0.2239	0.2407	0.2476	0.311
Observations	326				
Urban migrants					
Gender (Reference: Female)	0.0838	0.0524	0.0601	0.1398**	0.0541
Age	0.0991**	0.1269***	0.1378***	0.0783**	0.0878
Age2	-0.0013**	-0.0016***	-0.0018***	-0.0009*	-0.0010
Education (Reference: Primary school and below)					
College and above	0.8919*	0.4616	0.3933	0.7695**	0.9723**
Senior high school	0.6251	0.1145	-0.0130	0.3657	0.8465**
Junior high school	0.4891	-0.1223	0.0317	0.1636	0.7732**
Training (Reference: No)	0.2367**	0.2170***	0.2597**	0.2457**	0.2951
Contract (Reference: No)	0.2533*	0.1931**	0.1984**	0.0154	-0.2508
Experience	0.0000	0.0000	0.0000	0.0000	0.0000
Employer (Reference: Self-employment)					
State agency	-0.0131	-0.1031	0.0499	-0.1739	-0.6039**
Collective company	0.1385	-0.0111	-0.1024	-0.3426***	-0.8499**
Private enterprise	-0.0733	-0.0277	-0.0956	-0.3073**	-0.3484
Others	0.1607	0.0337	-0.1631	-0.1466	-0.1326
Occupation (Reference: Blue-collar)					
White-collar	0.4151***	0.2265**	0.1858**	0.2357**	0.8127***

	Quantiles				
	0.1	0.3	0.5	0.7	0.9
City (Reference: Tianjin)					
Beijing	0.2579	0.4721***	0.5818***	0.4966***	0.7460***
Shanghai	0.6213**	0.7975***	0.7821***	0.6219***	0.6731***
Guangzhou	0.2095	0.3290***	0.5875***	0.5633***	0.9159**
Constant	-1.5245	-1.2379	-1.1679	-0.0096	-0.0476
R2	0.2663	0.2630	0.2228	0.2330	0.2219
Observations	324				
Rural migrants					
Gender (Reference: Female)	0.2966***	0.1600***	0.1090***	0.0558	0.0566
Age	0.0523**	0.0268	0.0070	0.0010	0.0548***
Age2	-0.0008**	-0.0004*	-0.0002	0.0000	-0.0007***
Education (Reference: Primary school and below)					
College and above	0.5745***	0.5878***	0.5197***	0.7304***	0.9445***
Senior high school	0.0796	0.2545***	0.1894***	0.2253**	0.2970**
Junior high school	0.0163	0.1232*	0.0689	0.1564**	0.1882
Training (Reference: No)	0.0564	0.1587***	0.1847***	0.1981***	0.1596
Contract (Reference: No)	0.1902**	0.1140**	0.1739***	0.1790***	0.1228
Experience	0.0010	0.0013**	0.0010**	0.0011**	0.0005
Employer (Reference: Self-employment)					
State agency	-0.1204	-0.1234*	-0.2568***	-0.2834***	-0.3619*
Collective company	-0.1782	-0.2363**	-0.5019***	-0.6062***	-0.4006**
Private enterprise	-0.0729	-0.1398**	-0.2677***	-0.4011***	-0.4594***
Others	0.0046	-0.1694*	-0.2959***	-0.4685***	-0.6283***
Occupation (Reference: Blue-collar)					
White-collar	0.3604***	0.3435***	0.3872***	0.2885***	0.2847**
City (Reference: Tianjin)					
Beijing	0.2548**	0.2943***	0.2928***	0.4192***	0.3180***
Shanghai	0.3883***	0.4481***	0.4005***	0.4468***	0.3634***
Guangzhou	0.0665	0.1034	0.1301	0.1961**	0.3950**
Constant	-0.0087	0.7102**	1.4254***	1.6864***	1.1764***
R2	0.1633	0.1939	0.2139	0.199	0.1833
Observations	879				

Notes: 1. * $P < 0.1$, ** $P < 0.05$, *** $P < 0.01$;

2. Standard errors are omitted due to space limitations.

At most income levels, the hourly wage of urban migrants and rural migrants follow an inverted U-shaped pattern as age increases, reaching a certain threshold at approximately age 40 and age 30, respectively. The inverted U-shaped trend is more significant among urban migrants than for rural migrants. This result could be due to that most jobs for rural

migrants are labour-intensive, low-skilled, and physically demanding; thus, they are closely correlated with a workers' age.

Education has a significant effect on the hourly wage of urban locals and urban migrants with high-income levels and rural migrants with all income levels. This effect reaffirms the results from a previous study that the rate of return to education was significantly higher for urban locals than for migrant workers because of the poorer quality of education in the rural areas (Maurer-Fazio and Dinh 2004). Having college and above education nearly doubles urban locals' hourly wage, and increases the hourly wage for urban migrants by 1.5 times and for rural migrants by 70-100%. In addition, the increase in return to education with income levels suggests that the knowledge of high-income earners can be better utilized in their work. We also run the same model on the monthly wage and find that rural migrants have a higher return to education than urban locals; but this is largely due to the longer hours they work.

Receiving occupational training has a positive effect on the hourly wage of migrant workers with most income levels. Having occupation training increases the hourly wage by 25% for urban migrants and by 20% for rural migrants. One reason for the higher rewards to urban migrants' training is that, already armed with better human capital than rural migrants, urban migrants' productivity is more significantly improved by training.

It is often believed that a labour contract can help protect workers' lawful right and interests. The results in this study indicate that having a labour contract only has a significant effect on the hourly wage of urban migrants with most income levels and on the hourly wage of rural migrants with below the median income level. Signing a labour contract increases the hourly wage for urban migrants by 21-29% and for rural migrants by 12-21%. This further confirms the fact that some migrant workers signed formal

labour contracts at the cost of higher wages (Cheng, Wang and Chen 2013) or without significant wage increases (Freeman 2013) after the implementation of Labour Contract Law in 2008. Employers may reduce employees' wages in order to recover the additional non-wage benefits required by labour contracts. In addition, some employers increased fees for dormitories, meals and the penalties for breaching rules or making mistakes at work (Wang et al. 2009). As a result, the positive effects of labour contracts on earnings at other income levels are offset and migrant workers' actual hourly wage may even decline.

Current job tenure, which reflects work experience, significantly impacts the hourly wage of urban locals and rural migrants with the median income level. One additional month of work experience contributes to 0.1% higher hourly wage. The type of employer has a significant effect on the hourly wage of urban locals and rural migrants with most income levels and urban migrants with a high-income level. Self-employed workers earn the highest hourly wage relative to those in other employment categories. Being a worker in a state-owned enterprise decreases the hourly wage by 30-63% for urban locals, by 45% for urban migrants, and by 11-30% for rural migrants. Being a worker in collective-owned enterprises decreases the hourly wage for urban locals by 40-63%, for urban migrants by 30-57% and for rural migrants by 20-45%. Being a worker in private enterprises decreases the hourly wage for urban migrants by 26% and for rural migrants by 13-37%. One explanation is that individuals with better endowments, particularly those among migrant workers, are more likely to be self-employed in the informal sectors and obtain higher wages (Meng 2001). In addition, the concept of wage in this study does not take into account the fringe benefits that urban locals and formal sector workers are more likely to enjoy (Knight and Yueh 2004). Occupational attainment has a significant effect

on the hourly wage of urban migrants and rural migrants with all income levels. Being a white-collar worker increases the hourly wage for urban migrants by 20-125% and for rural migrants by 33-47%.

As expected, urban socio-economic development has a significant effect on each group's hourly wage. Workers in Beijing, Shanghai and Guangzhou—three of the most developed cities in China—earn more than their counterparts in Tianjin. Generally, the effect of locations on the hourly wage of urban migrants is greater than that of urban locals and rural migrants. This implies that, in addition to the economic factors, migrant workers' hourly wage might also be affected by the relevant employment policies imposed by local governments in destinations.

The results of F-tests suggest that there are significant differences in the determinants of hourly wages between three groups at most income levels.¹⁹ The structural difference in returns on productivity characteristics indicates that migrant workers are treated differently in the urban labour market. As mentioned above, the different treatment may be the outcome of labour market segmentation and prejudiced attitudes of urban residents and local governments. Based on the coefficients of the three groups given in Table 4.4, we employ the quantile decomposition approach to evaluate the extent of wage discrimination.

Decomposition of wage distribution differentials

Table 4.5 presents the decomposition results of wage distribution differentials between urban locals and migrant workers. Surprisingly, urban locals rather than migrant workers with some income levels face discrimination. The finding of the so-called reverse

¹⁹ The results of these F-tests are available upon request from authors.

discrimination is different from some previous studies on mean wage differentials in China's urban labour market. The extent of reverse discrimination against urban locals compared to rural migrants ranges from 8.2% to 38.3% among various below median-income levels, while the extent of reverse discrimination against urban locals compared with urban migrants ranges from 20.9% to 154.87% among the categories at high-income levels. One explanation is that the employment structure is different between urban locals and migrant workers. In China's urban labour market, most low-tier jobs are shunned by urban locals. To reduce costs and increase efficiency, employers prefer to employ rural migrants who are willing to do these jobs. As a result, the urban poor or those urban residents that are not desired by employers who offer jobs below median-income level are therefore discriminated against in the labour market. In contrast, urban migrants with higher human capital are more qualified in the high-wage and high-skilled jobs and are thus favoured by employers in the labour market.

At the other income levels, compared with urban locals, the extent of discrimination against rural migrants with above the median income level varies from 31.9% to 125.78%. The latter figure indicates that the wage gap caused by discrimination could be greater than the raw wage gap. The extent of discrimination against urban migrants with below the median income level varies from 16.26% to 32.52%. The greater extent of discrimination against rural migrants reflects that they face discrimination arising from both segregations between locals and non-locals and between urban locals and rural migrants in the urban labour market, while urban migrants only face the discrimination arising from the segregation between locals and non-locals. At most income levels, the extent of discrimination against rural migrants estimated in this study is greater than that reported in previous research on mean wage differentials varying from 20% to 50%

(Maurer-Fazio and Dinh 2004, Lee 2012). This indicates that, after taking into account the diversification in the composition of migrant workers and wage inequality within each group, the extent of discrimination is higher. This might more accurately identify the mistreatment for migrant workers.

The results suggest that the discriminatory policies by local governments aforementioned have limited success in protecting the employment and benefits of urban locals. It seems that the effect of these policies has been to only hurt rural migrants at the top and urban migrants who could least afford it, while privilege those migrants at other income levels.

Table 4. 5 Quantile Decomposition of Wage Distribution Differentials between Urban Locals and Migrant Workers.

	Quantiles								
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
Rural migrants vs Urban locals									
Raw wage differentials	0.19	0.22	0.24	0.27	0.36	0.31	0.41	0.47	0.48
Composition effects	0.20	0.28	0.32	0.35	0.34	0.35	0.37	0.31	0.38
Wage structure effects	0.18	-0.05	-0.02	-0.10	0.13	0.10	0.20	0.42	0.60
Interaction	-0.20	0.00	-0.05	0.03	-0.12	-0.14	-0.16	-0.25	-0.51
Discrimination (%)	97.07	-24.80	-8.20	-38.30	37.62	31.90	48.05	88.38	125.78
Urban migrants vs Urban locals									
Raw wage differentials	-0.19	-0.14	-0.12	-0.09	-0.07	-0.04	-0.05	-0.05	-0.13
Composition effects	0.17	0.13	0.11	0.13	0.16	0.13	0.14	0.13	0.15
Wage structure effects	-0.04	-0.03	-0.02	-0.02	-0.02	-0.01	0.04	0.08	0.03
Interaction	-0.32	-0.24	-0.21	-0.21	-0.21	-0.15	-0.23	-0.26	-0.31
Discrimination (%)	18.74	22.15	17.16	16.26	32.52	28.51	-90.61	-154.87	-20.90
Rural migrants vs Urban migrants									
Raw wage differentials	0.38	0.34	0.36	0.36	0.39	0.44	0.46	0.42	0.61
Composition effects	0.41	0.36	0.39	0.40	0.38	0.38	0.44	0.46	0.49
Wage structure effects	0.02	0.06	0.05	0.04	0.11	0.18	0.10	0.03	0.16
Interaction	-0.05	-0.07	-0.08	-0.07	-0.09	-0.13	-0.09	-0.07	-0.04
Discrimination (%)	6.05	16.31	13.85	9.78	27.61	41.28	21.65	7.04	26.57

Notes: 1. Composition effects indicate the explained part of the wage gap that is attributable to group differences in mean personal characteristics and employment status listed in Table 4.2.

2. Wage structure effects indicate the unexplained part of the wage gap that is attributable to group differences in returns on productivity-related characteristics.

The decomposition within migrant workers shows that in comparison with urban migrants, the extent of discrimination against rural migrants with all income levels is positive in a range of 6.05% to 41.28%. Regarding the hypothesis, the results show that the extent of discrimination against urban migrants compared to urban locals is greater than the extent of discrimination against rural migrants compared with urban migrants, which suggests that the segmentation of the urban labour market today is dominated by the segregation between locals and non-locals, rather than the segregation between urban locals and rural migrants which was dominant in the earlier stage of reform.

A limitation of these results is that non-cash income is not included. Urban locals generally enjoy more income in-kind, welfare entitlements and employee benefits than migrant workers (Fan 2008). Therefore, the extent of discrimination reported in this study may have underestimated the actual discrimination against migrant workers in the urban labour market.

To solve this problem, we employ the method in Yue, *et al* (2010) that decompose the wage differentials between monopolistic and competitive industries. This approach assumes that the undervalued percentages of urban locals' wage are identical across the distribution of wages, while the absolute number increases with the rise of actual wages. This assumption is reasonable because bonuses and employee benefits are also determined by workers' human capital and employment status. The procedure is to multiply the wage of urban locals by an adjustment factor larger than 1 while holding that of migrant workers constant and then to decompose the wage differentials.

According to previous surveys, such as China General Social Survey (2008), China Urban Labour Survey (2005) and Rural Migrant Workers in Urban Pearl River Delta Survey (2008), the non-cash income, including in-kind income, bonus and welfare

entitlements, contributed 8-25% to urban locals' real income, while the contribution to migrants' real income was relatively small. Therefore, three adjustment factors 1.1, 1.2 and 1.5 are selected in this study to represent that the real income of urban locals is undervalued by 9%, 17% and 33%, respectively.²⁰ In general, the results are consistent with those based on the observed wage. The only differences are that migrant workers with almost all income levels are discriminated against compared to urban locals and the extent of discrimination becomes greater with the increment of undervalued degree in wage distribution.

In summary, the decomposition results suggest that the *hukou* system remains effective in the segmentation of China's urban labour market. The segmented urban labour market has resulted in severe discrimination against migrant workers with most income levels compared to urban workers; it has also resulted in reduced labour productivity because urban locals may receive a wage higher than their marginal productivity of labour (MPL) while migrant workers may earn a wage lower than their MPL. In addition, as an important composition of migrant workers, urban migrants are also treated quite differently from urban locals. A comparison of the extent of discrimination against urban migrants compared with urban locals and the extent of discrimination against rural migrants compared with urban migrants confirms that segmentation of the urban labour market is mainly dominated at present by the segregation between locals and non-locals rather than by the segregation between urban locals and rural migrants, which had been

²⁰ For example, the adjustment factor 1.1 is estimated based on China General Social Survey data, which were jointly administered by Renmin University and Hong Kong University of Science and Technology in 2008. The hourly wage of urban locals is 8.39 *yuan* and hourly income, including in-kind income, bonus and welfare entitlements, is 9.15 *yuan*, 1.1 times that of hourly wage.

the case in the past.

4.6. Conclusion

This study presents a comprehensive analysis of discrimination against migrant workers in wage distribution by adopting an extended framework that considers the segregation between urban locals and rural migrants and the segregation between locals and non-locals. Urban migrants are included in this framework to examine the interaction between these two segregations and their relative importance in the segmentation of the urban labour market.

The results confirm that there are unfair labour market conditions in urban China due to the two segregations that were induced by the *hukou* system. Compared to urban locals, rural migrants with the median income level and above are discriminated against, while urban migrants with the median income level and below are discriminated against. The greater extent of discrimination against rural migrants reflects that they face the discrimination arising from both segregations in the urban labour market, while urban migrants only face the discrimination arising from the segregation between locals and non-locals.

Contrary to some previous studies on the mean wage differentials in China's urban labour market, urban locals rather than migrant workers with the rest of income levels face discrimination mainly due to the difference in employment structure. Rural migrants are more desired by employers to undertake low-wage jobs characterized by labour-intensive, low-skilled and hazardous work that are typically shunned by urban locals, while urban migrants are more favoured to undertake high-wage jobs that embody human capital-intensive and high-skilled work. In addition, at most income levels, the extent of

discrimination against rural migrants estimated in this study is greater than that reported in previous research. This indicates that taking the diverse composition of migrant workers and wage inequality into account might allow for more accurate identification of mistreatment for migrant workers.

The results suggest that the discriminatory policies by local governments have limited success in protecting the employment and benefits of urban locals. The effect of these policies has been to only hurt rural migrants at the top and urban migrants who could least afford it, while privilege those migrants at other income levels.

When we compared discrimination against urban migrants and rural migrants, we found that the extent of discrimination against urban migrants compared to urban locals is greater than that against rural migrants compared to urban migrants, which suggests that the segregation between locals and non-locals has played the leading role in the current segmentation of the urban labour market. This reflects a profound transformation from a *hukou*-dominated urban-rural dichotomy in China's urban labour market for approximately the first 20 years following the economic reforms, to the segregation between locals and migrants in more recent years. Similar—or even stronger—results could also be obtained if non-cash income is taken into consideration, which are not reported in details in this study.

This study indicates that while there have been fundamental changes in the *hukou* system since the 1990s, which resulted in an increasing population mobility and significant socio-economic development, the reform still lags far behind economic development. The *hukou* system continues to affect social and labour stratifications and impose severe discrimination against migrants. Discrimination causes large wage differentials between urban locals and migrants and reduces the labour productivity in urban China. This study

implies the need for further reform of the *hukou* system and effective anti-discrimination labour market policies to promote equal pay and equal access to employment. Due to the significant transformation of China's urban labour market, the anti-discrimination policy should be more focused on eliminating the segregation between locals and non-locals rather than only the segregation between rural migrants and urban locals. Furthermore, urban migrants should be considered when urban labour market policies and regulations are formulated.

This study empirically extends the application of discrimination theory and segmented labour market theory to urban migrants and to a transitional economy and contributes a clearer characterization of migrant worker experience in labour market experience. It should be noted that, as with most studies on labour market discrimination, this study also has some limitations in measuring the extent of discrimination. The unexplainable proportion of wage differentials, which have been generally interpreted as discrimination in most research on wage and employee benefit differentials, may also include such factors as workers' ability to access information, adapt to urban environments, or other non-productivity related factors. The absence of these factors in the analysis may bias the estimation of extent of discrimination.

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Chapter 5 Discrimination in Migrant Workers' Welfare Entitlements and Benefits in the Urban Labour Market

Abstract: In the Chinese cities migrants have been treated differently from urban locals in varied aspects because of their rural or non-local household registration (*hukou*) status. But the existing literature provides little understanding on how migrant workers' welfare entitlements and benefits are affected by discrimination and institution in the urban labour market. On the basis of an extended analytical framework that examines not only the segregation between urban locals and rural migrants but also the segregation between locals and non-locals, this paper investigates the discrimination against migrant workers in employment-based benefits in four megacities. The results show that there are gradient differences in access to overall and individual items of benefits among urban locals, urban migrants and rural migrants. More than half of the benefit disparities between urban locals and migrant workers are caused by discrimination against the latter, implying that the *hukou* system still plays a role in segmenting China's urban labour market. Urban migrants and rural migrants suffer similar extent of discrimination when they are compared with urban locals, suggesting that urban labour market segmentation is currently dominated by the segregation between locals and non-locals rather than by the segregation between urban locals and rural migrants that was observed in the earlier stage of reforms. In addition, this study suggests that previous studies focusing on the mean wage may have underestimated the extent of discrimination against migrants.

Keywords: China; urban labour market; migrant workers; employee benefit; discrimination

5.1. Introduction

Since the opening-up reforms in 1978, China has gradually transformed from a planned economy to a market economy, and in the process, the market mechanism has played an increasingly important role in the allocation of labour and resources. Because of the urban-biased economic policy, inequalities between rural and urban areas have increased significantly since the 1980s (Yang 1999). For instance, the urban-rural income gap widened from 2.57-to-1 in 1978 to 3.23-to-1 in 2010 (NBSC 2011b). In the meantime, the household registration (*hukou*) system which impeded the free flow of population has been loosened considerably in order to meet the demand for cheap labour in the cities (Chan 2009).²¹ As a result, the floating population—defined as individuals who have left their original *hukou* registration for at least six months but who have continued to hold their original *hukou* registration—has increased 32 times from nearly 7 million in 1982 to more than 221 million in 2010 (NBSC 1982, NBSC 2011a).

As an integral part of China's economic growth, the floating population has contributed approximately 21% of GDP growth and 75% of the urbanization growth between 1978–1999 (Zhang and Song 2003, Cai and Wang 1999). Despite their significant contributions, the majority of migrant workers are treated differently from urban locals due to their *hukou* status, even if they have been working in cities for many years (Roberts 1997, Meng and Zhang 2001).²² Several studies show that migrant workers have much

²¹ The household registration system, or *hukou*, is an identification system in which every Chinese citizen is classified as either a rural *hukou* resident or an urban *hukou* resident.

²² In this study, migrant workers include both urban-to-urban migrants ('urban migrants') and rural-to-urban migrants ('rural migrants'). Urban migrants work in a surveyed city but hold urban *hukou* from another city. Rural migrants work in a surveyed city but hold rural *hukou* from the

lower participation rates than urban locals in social insurance schemes (such as unemployment insurance, pension insurance, medical insurance and industrial injury insurance) (Chan and Zhang 1999, Fan 2008).

China is not the only country to have experienced large scale migration due to industrialization and urbanization, leading to inequalities between urban locals and migrant workers. A number of studies of developed economies, such as the U.S and the U.K, have also shown similar migration pattern and significant inequalities in employment and wages between immigrants and native workers when these countries were experiencing the shift towards industrialization and urbanization (Massey et al. 1994, Zhou and Logan 1989). According to the human capital theory, labour market differentials are the results of heterogeneity in productivity-related characteristics, such as age, education, working experience and so on. (Schultz 1961, Mincer 1974, Becker 1993). However, other studies suggest that some differentials—possibly due to discrimination in the labour market—remain even after controlling for productivity characteristics (Borjas and Hilton 1995, Solinger 1999).²³ Although an abundance of literature is concerned with gender and racial discrimination, the lion's share of research only estimates the extent of discrimination in employment and wage (Bendick, Jackson and Reinoso 1994, Firpo, Fortin and Lemieux 2007). Only several studies have been devoted to documenting the differentials and discrimination in employee benefits. The

countryside.

²³ Discrimination in this study refers to the system/practice/culture/institution in which workers who have the same capacity, education, training and experience and demonstrate the same productivity are treated differently in terms of labour benefits, due to otherwise irrelevant personal characteristics (such as place of birth or gender).

results suggest that minorities and female workers are less likely to be offered fringe benefits, such as pension and health insurances (Okunade 1995, Currie 1993).

Nevertheless, China's experience of industrialisation and urbanisation has some uniqueness due to its stage of transitional economy. First, after decades of remarkable changes, China's urban labour market is still under development and relatively informal compared with other countries at the same level of economic development. Second, the *hukou* system has induced a segmented urban labour market, and has resulted in the disadvantaged socio-economic status of migrant workers (Meng 2001, Zhang 2004). The institutional segmentation, such as urban–rural dichotomy and the segregation between locals and non-locals, and the discrimination imposed by the *hukou* system are generally believed to be some of the most important reasons for labour market differentials between urban locals and migrants (Meng and Zhang 2001, Zhang 2006).

Although the labour market differentials between urban locals and migrant workers have drawn considerable attention from both Chinese and international research communities, issues with respect to the welfare entitlements and benefits warrant further study for various reasons.

Most previous studies adopt the analytical framework of urban-rural dichotomy in the urban labour market and examine rural migrants and urban locals only. However, the composition of migrant workers has become more diverse because of the socio-economic changes in recent years. In particular, urban-to-urban (or inter-city) migrants, who are different from rural migrants and urban locals in terms of types and locations of *hukou* but largely ignored in previous studies, have gradually increased in proportion among the population of migrant workers. Even as far back as 2000, the National Population Census shows about 24% of floating population were urban migrants (Zhang 2007). Therefore,

urban migrants should be considered as an important group in the research of migrants in the Chinese cities. Generally speaking, urban migrants have some advantages compared with rural migrants due to their urban *hukou*, but have some disadvantages compared with urban locals due to their non-local *hukou*. Nonetheless, little research has been performed to study the differentials among urban locals, urban migrants and rural migrants.

The existing studies mostly focus on the determinants and causes of discrimination against rural migrants in access to a few social insurance schemes (Zhang and Hou 2008, Lin and Zhu 2009). Limited insight is offered into the differentials in welfare entitlements and benefits. In particular, the extent of discrimination against migrant workers, as measured by their access to the total number and individual items of employee benefits, has not been empirically quantified and compared with urban locals' access.

To help fill these gaps in the literature, the present study estimates to what extent the discrimination against urban migrants and rural migrants contributes to the welfare entitlements and benefits differentials. The study empirically extends the application of discrimination theory and segmented labour market theory to urban migrants and to a transitional society. From a policy perspective, this study contributes to the discussion of anti-discrimination policy in China's urban labour market such as whether the policy should be oriented to eliminate the segregation between locals and non-locals rather than only the segregation between rural migrants and urban locals.

The remainder of this paper is structured as follows. The next section reviews the theories and introduces an extended research framework. Section 3 describes the data and descriptive analysis. Section 4 outlines the econometric methods adopted in this study. Section 5 examines the determinants of employee benefits of the three groups and estimates the extent of discrimination. The last section draws a conclusion.

5.2. Research framework

The segmented labour market theory and discrimination theory provide theoretical basis for the research on discrimination against migrant workers in China's urban labour market. The segmented labour market theory suggests that the labour market is segmented into primary and secondary sectors, with little inter-sectoral mobility (Doeringer and Piore 1985). The primary sector is organized in an internal labour market and characterized by good pay, well-defined career ladders, favourable working conditions and job security; whereas, the secondary sector is characterized by low pay, poor working conditions and high mobility rate. The employers exert themselves to minimize their commitments and responsibilities to their workers (Sakamoto and Chen 1991). The theory highlights the importance of institutions in explaining labour market differentials. The institutional constraints, such as the regulations on migration and the forms of segmentation, result in a disadvantageous status of women and ethnic minorities, who are largely confined to the secondary labour market (McDonald and Solow 1981). The bulk of research has found sustained discrimination against minorities on the basis of the segmented labour market theory (Ashenfelter 1970, Joan Gustafson, Gwartney and Haworth 1975).

Similarly, China's urban labour market has been segmented owing to the *hukou* system. In the pre-reform era, this system institutionally assigns every Chinese either a rural or urban *hukou* status, and precludes rural residents from employment and other benefits in the cities (Sun and Fan 2011). Consequently, rural residents were confined in the countryside and it was almost impossible for them to migrate between urban and rural areas and across regions.

In the post-reform era, the rapid development of Special Economic Zones and the

booming urban private and informal sectors has increased the demand for cheap rural labour in urban areas. In order to boost the rapid and sound economic growth, the Chinese central government began to foster rural surplus labour to migrate and work in urban industries. Although the strict restrictions on rural-urban migration have been relaxed considerably, the *hukou* system still functions as an “invisible wall” between urban locals and migrant workers, resulting in the urban-rural dichotomy in the urban labour market (Appleton et al. 2004, Maurer-Fazio and Dinh 2004). Usually, without urban or local *hukou*, rural migrants are socially and economically separated from, and considered to be inferior to, local residents (Laurence 2002). The majority of rural migrants are restricted to informal and private sectors and engage in lower-ranked jobs, while urban locals not only have secured jobs with higher wages but also enjoy better working conditions and more social services in state sector (Meng and Zhang 2001). Moreover, rural migrants are socially and/or residentially segregated from locals by living in low income and inferior or deprived housing areas (Li and Huang 2006).

Since the late 1990s, another type of segregation between locals and non-locals in which local government is a driver has come into being on the basis of the *hukou* location. The restructure of state-owned enterprises since 1997 had laid off millions of urban workers, resulting in a serious unemployment problem and fiercer competition in the urban labour market. As a consequence, both local government officials and urban locals regarded migrant workers as competitors to urban workers and as trouble makers who brought instability to Chinese cities. In order to maintain socio-economic stability, local officials implemented discriminatory policies against migrants in response to the unemployment problem (Appleton et al. 2004). However, in recent years these local regulations have largely been abolished after a series of laws and regulations were issued by the central

government to explicitly require local governments to enforce equal pay and equal job opportunities for migrant workers. Therefore, the function of segregation between locals and non-locals shifted accordingly from protecting the employment of urban locals to ensuring the welfare benefit levels and supply of public goods for urban locals.

In view of the changing urban labour market, an extended research framework that considers both the segregation between urban locals and rural migrants and the segregation between locals and non-locals has been developed to study the socio-economic status of migrant workers (Guo and Zhang 2012). It argues that, on the one hand, the urban-rural dichotomy in the urban labour market has largely come to an end since the early 2000s, as the central government's policies concerning migrant workers have transformed from restriction to social integration. For instance, after the substantial reforms in the *hukou* system, almost all laws and regulations that restricted rural-urban migration and rural migrants' employment in certain occupations have been abolished. Nevertheless, many scholars argue that the depth, scope and pace of the *hukou* reform do not come up to expectation (Liu 2005). It seems that the segregation between urban locals and rural migrants will linger and continue to play a role in shaping urban inequality and social stratification (Wang, Zuo and Ruan 2002). On the other hand, during the past twenty years, along with the gradual weakening of the segregation between urban locals and rural migrants, the segregation between locals and non-locals has become increasingly more dominant in the segmentation of China's urban labour market because of the growing local protectionism in favour of urban locals.

Under this general analytical framework, urban migrants are also included in a three-group analytical approach. This approach investigates the labour market differentials among the three groups, such as between urban locals and urban migrants,

between urban locals and rural migrants, and between urban migrants and rural migrants. This approach better reflects the reality of the two types of segregation in China's urban labour market and their interactions. The segregation between urban locals and rural migrants still affects rural migrants, while the segregation between locals and non-locals affects both rural migrants and urban migrants who are non-locals in their destination.

In the present study, we adopt this integrative framework to investigate the discrimination against migrants, including those from rural areas and urban areas, in obtaining welfare entitlements and benefits. To examine which segregation plays a leading role in the current segmentation of the urban labour market, three hypotheses are set up:

H1: If the labour market outcomes of urban migrants are similar to those of urban residents, but significantly better than those of rural migrants, the segregation between urban locals and rural migrants dominates in the segmentation of the urban labour market.

H2: If the labour market outcomes of urban migrants are similar to those of rural migrants, but significantly worse than those of urban locals, the segmentation of the urban labour market is mainly determined by the segregation between locals and non-locals.

H3: Discrimination contributes significantly to the labour market outcome differentials between urban residents and rural migrants but less significantly between urban residents and urban migrants.

5.3. Data and Descriptive Statistics

Data

This study employs original data collected through an Australian Research Council Discovery Project entitled Rural Migrant Labour in Large Chinese Cities. In 2008

questionnaire surveys were conducted in Beijing, Shanghai, Tianjin and Guangzhou, guided by a multi-stage stratified random sampling technique. The overall administrative regions in the four cities were taken as a sampling frame. First, two administrative districts were randomly selected in each city. Then two neighbourhood committees were randomly chosen from the selected districts. From each neighbourhood committee, one hundred households were randomly chosen to participate in the questionnaire survey. In each sampled household, only one adult over 18 years old was interviewed.

The questionnaire collected information on households and individuals. The sample contained both local and migrant households. The proportion of local households did not exceed 30%. Finally, 1,804 families were drawn from the total in the four cities, and from that number, 1,797 valid questionnaires were collected, producing a total effective rate of 99.6%²⁴. Of these, 1,017 were rural migrants (57%), 378 were urban migrants (21%) and 397 were local residents (22%).²⁵

Employee benefits among the three groups

Since the late 1990s, a new social security system has been designed to build upon the labour relations. The new system does not exclude migrants from the institution perspective. Nevertheless, the urban-rural dichotomy still takes effect in the benefit

²⁴ The survey collected 197 more samples than planned.

²⁵ The proportion of urban locals in this survey is lower than the national figure of 72.59% from China 1% Population Sample Survey in 2005. It is reasonable to assume that a similar or even stronger level of discrimination against rural and urban migrants than later analysis may be obtained if more samples of urban locals were collected.

This paper focuses on the segregation between urban locals and rural migrants and the segregation between locals and non-locals. Therefore, permanent migrants who have acquired local urban *hukou* were categorized as urban locals.

inequality in the urban labour market though in a declining manner. In addition, the new social security system, taking the form of decentralization management, has intensified the segregation of social security system between locals and non-locals to a great extent. As a consequence, the employee benefit differentials remain considerable among urban locals, urban migrants and rural migrants.

Table 5. 1 Welfare entitlements and benefits among the three groups (urban locals, rural migrants and urban migrants)

Number of items of employee benefits	Total		Urban locals		Rural migrants		Urban migrants	
	Number	%	Number	%	Number	%	Number	%
0	522	29.66	15	3.88	422	42.07	85	22.97
1	216	12.27	15	3.88	159	15.85	42	11.35
2	228	12.95	19	4.91	156	15.55	53	14.32
3	130	7.39	29	7.49	72	7.18	29	7.84
4	149	8.47	51	13.18	72	7.18	26	7.03
5	144	8.18	57	14.73	48	4.79	39	10.54
6	371	21.08	201	51.94	74	7.38	96	25.95
Mean	2.62		4.74		1.65		3.00	
Variance	5.46		2.92		3.70		5.51	
Std. deviation	2.33		1.71		1.92		2.35	
Observations	1760		387		1003		370	

Wilcoxon rank-sum test:

Rural migrants compared to urban locals: $z = 21.409$; probability $> |z| = 0.0000$

Rural migrants compared to urban migrants: $z = 9.618$; probability $> |z| = 0.0000$

Urban migrants compared to urban locals: $z = 10.241$; probability $> |z| = 0.0000$

As indicated in Table 5.1, in the full sample, workers without any items of benefits and those who enjoyed all items of benefits were the two largest groups, accounting for 29.66% and 21.08%, respectively, while those enjoyed three items of benefits accounted for the lowest proportion of 7.39%. For the three groups, 51.94% of urban locals enjoyed

all items of benefits, which was 2.46 times the overall average, while the proportion of those who enjoyed fewer items of benefits reduced dramatically. The distribution of urban migrants' benefits was consistent with that of the total sample. Urban migrants who enjoyed all items of benefits took the largest share (25.95%), while those who had four items of benefits accounted for the smallest share (7.03%). In contrast, the distribution of rural migrants' benefits just diverged from that of urban locals. The number of rural migrants with no items of benefits was 422, accounting for 42.07%, while those with all items of benefits numbered only 74, accounting for 7.38%.

In comparison, the proportion of urban/rural migrants who enjoyed no more than two items of benefits was higher than urban locals, while the proportion of those who had three or more items of benefits was lower. The benefit gap widened as the number of benefits increased and decreased, respectively. Comparison between rural migrants and urban migrants showed similar situation as those between migrant workers and urban locals, but the gap narrowed between the former two groups. As to benefits per capita, on average, urban locals and urban migrants enjoyed 4.74 and 3 items of benefits, respectively—both higher than the overall average, while rural migrants only enjoyed 1.65 items of benefits—considerably lower than the overall average. Results from a Wilcoxon rank-sum test show that significant differences exist in the distribution of benefits among the three groups.

The differences in individual items of benefits among the three groups are also significant (see Table 5.2). The participation rates of urban locals in all individual items of benefits were higher than the overall average, maintaining above 65%. The participation rates of urban migrants in all individual items of benefits were also higher than the overall average, but lower than the urban locals. The gap was the largest and the smallest in

access to unemployment insurance and public holidays, respectively. The participation rates of rural migrants in all individual items of benefits were the lowest. The gap between urban locals and rural migrants was greater than that between urban migrants and rural migrants.

Table 5. 2 Percentage of individual items of benefits received by the three groups

	Public holidays (%)	Weekends (%)	Medical (%)	Pension (%)	Unemployment (%)	Injury (%)
Urban locals	74.57	70.69	87.01	85.26	90.44	69.06
Rural migrants	38.61	32.11	20.19	18.42	9.45	24.00
Urban migrants	56.56	51.20	50.45	53.43	41.19	46.99
Total	53.24	47.18	45.11	44.74	31.12	40.72

The aforementioned analysis confirms the existence of exclusion of migrant workers from the urban social security system, and rural migrants are in the most disadvantaged status. The unfair labour market conditions support the notions of the segregation between urban locals and rural migrants and the segregation between locals and non-locals in China's urban labour market. As aforementioned, however, the differences in access to employee entitlements and benefits are closely associated with the heterogeneity in productivity-related characteristics. The T-test for personal characteristics and employment status of the three groups (see Table 5.3) shows that at the 5% significance level, rural migrants' personal characteristics and employment status was significantly different from those of urban locals and urban migrants. However, between the groups of urban locals and urban migrants, the differences were only significant in age, occupational training, labour contract, types of industry and types of employer. The above description of productivity-related characteristics, however, does not provide sufficient information about how the differences in personal characteristics

and employment status between the three groups affect their access to welfare entitlements and benefits.

Table 5. 3 T-test on the differences in productivity-related characteristics among the three groups

	Rural migrants VS Urban locals		Urban migrants VS Urban locals		Rural migrants VS Urban migrants	
	t	Pr(T > t)	t	Pr(T > t)	t	Pr(T > t)
Gender	-2.7702	0.0059	-0.5830	0.5603	2.0263	0.0434
Age	7.2402	0.0000	11.6082	0.0000	3.5156	0.0005
Education	-10.5556	0.0000	0.0492	0.9608	9.9749	0.0000
Training	9.4402	0.0000	5.0803	0.0000	-3.4511	0.0006
Contract	10.9863	0.0000	5.7618	0.0000	-3.7043	0.0002
Industry type	7.6876	0.0000	5.2685	0.0000	1.7140	0.0868
Employer type	-13.0063	0.0000	-9.3426	0.0000	2.0626	0.0399
City	-9.7692	0.0000	1.8467	0.0652	-11.4824	0.0000

It is also unclear that to what extent the differences in productivity-related characteristics and the discrimination contribute to the employment benefit differentials. Therefore, in the following sections, we econometrically decompose these two components in order to provide a better understanding of the impacts of discrimination on people's welfare entitlements and benefits.

5.4. Methodology

Empirical studies have found that the determinants of employee benefits are complex, multifaceted and interactive. Many studies indicate that the access to employee benefits is affected by personal characteristics, employment status and institutional factors (Findeis, Snyder and Jayaraman 2005, Mandel and Shalev 2009). Therefore, in the present study, the key explanatory variable is the institutional factor embedded in *hukou* status. Other regressors include dummy variables for gender, education, occupational training, labour contract, city, and types of industry and employer.

A Poisson or negative binomial regression may be used in the case when the dependant variable is a count of the total number of employee benefits. However, the statistics in Table 5.1 show that the variance does not equal to the mean either in the total sample or in each group, which violates the assumption of Poisson distribution. Therefore we model the statistical distribution assuming a negative binomial distribution.

The negative binomial distribution model is similar to the Poisson distribution model, which also regresses on the incidence intensity λ . The difference between the two models is that the variance of events in Poisson model is equal to λ , while the variance of the events in the negative binomial model is equal to $\lambda(1 + a\lambda)$, in which $(1 + a\lambda)$ is the variance expansion factor.

The count model is expressed as follows:

$$\ln(\lambda_i) = \beta_0 + \sum \beta_k X_i + \mu \quad (1)$$

where λ is a vector of incidence intensity, and X_i is the vector of personal characteristics, employment status and institutional factors.

The logit model is employed to identify the determinants of access to individual items of benefits, which is expressed as follows:

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \sum \beta_k X_k + \mu \quad (2)$$

where p is a vector of probability of the individual items of benefits gained by a single person, and X_i is the vector of person-specific explanatory variables.

To estimate the extent of discrimination against migrant workers in the total number of employment benefits and individual items of benefits, the Oaxaca-Blinder decomposition

approach is employed (Blinder 1973). For a non-linear equation, such as $Y=F(X\beta)$, the decomposition equation can be written as:

$$\bar{Y}^H - \bar{Y}^L = \left[\sum_{i=1}^{N^H} \frac{F(X_i^H \beta^H)}{N^H} - \sum_{i=1}^{N^L} \frac{F(X_i^L \beta^H)}{N^L} \right] + \left[\sum_{i=1}^{N^L} \frac{F(X_i^L \beta^H)}{N^L} - \sum_{i=1}^{N^L} \frac{F(X_i^L \beta^L)}{N^L} \right] \quad (3)$$

where, superscripts H and L refer to the urban locals and migrant workers, respectively. N is the sample size for each group. The first term on the right-hand side of equation is the explained part of the benefit gap that is attributable to the group differences in mean personal characteristics and employment status, and the second term is the unexplained part of the benefit gap that is attributable to the group differences in returns to productivity characteristics. This unexplained portion of benefit gap is often attributed to discrimination.

A practical concern associated with the Oaxaca-Blinder decomposition employed in this study is the well-known index number problem or path-dependence (see examples in Bourguignon and Ferreira 2005, Démurger et al. 2009, Meng and Zhang 2001). The decomposition results may differ depending on which group's employee benefits are chosen as the non-discriminatory norm. For instance, the extent of discrimination in equation (3) is estimated on the basis of the urban locals' rule of employee benefits determination β^H . However, it could also be calculated on the basis of the migrant workers' rule of employee benefits determination β^L or other rules, such as the rule β^* in Cotton decomposition. It is certain that the results will not be identical, and they will be sensitive to the chosen path. To ensure the robustness of results, this research deals with this issue by reporting the means from both possible Oaxaca-Blinder decomposition results and Cotton decomposition results.

To examine the discrimination in more detail, the Cotton decomposition approach is adopted in the form of the following:

$$\bar{Y}^H - \bar{Y}^L = \left[\sum_{i=1}^{N^H} \frac{F(X_i^H \beta^*)}{N^H} - \sum_{i=1}^{N^L} \frac{F(X_i^L \beta^*)}{N^L} \right] + \left[\sum_{i=1}^{N^H} \frac{F(X_i^H \beta^H)}{N^H} - \sum_{i=1}^{N^H} \frac{F(X_i^H \beta^*)}{N^H} \right] + \left[\sum_{i=1}^{N^L} \frac{F(X_i^L \beta^*)}{N^L} - \sum_{i=1}^{N^L} \frac{F(X_i^L \beta^L)}{N^L} \right] \quad (4)$$

where $\beta^* = \gamma_H \beta^H + \gamma_L \beta^L$, γ_H and γ_L are the proportions of group H and L. The first term represents the explained part of the benefit gap due to the group differences in mean personal endowments. To be different from the Oaxaca-Blinder decomposition, the unexplained portion of benefit gap due to the group differences in estimated coefficients is further divided into two parts. The second term captures the amount by which the productivity-related characteristics of urban locals are overvalued (the ‘benefit’ of being an urban local), and the third term measures the amount by which the productivity-related characteristics of migrant workers are undervalued (the ‘cost’ of being a migrant worker).

Similar to other studies of discrimination in the labour market, the unexplained portion of benefit gap between urban locals and migrant workers cannot be fully attributed to discrimination. Some unobservable factors (such as workers’ ability to obtain information, adaptation to urban environment, and some other productivity-related factors) could not be identified and included in this study. The effects of these factors on the benefit gap may be embedded in the unexplained component. Although these effects may bias the estimated extent of discrimination, it is generally agreed that a large proportion of unexplained wage or occupational differentials should be attributed to the different treatment for migrant workers anyway (Meng and Zhang 2001).

5.5. Results

5.5.1 Discrimination in total number of employee benefits

As discussed in the previous section, negative binomial regression is used to estimate the determinants of the total number of employment benefits. Table 5.4 reports the results for the full sample, urban locals, urban migrants and rural migrants separately. In order to examine whether discrimination existed against migrant workers, rural migrants are set as the reference group in Model 1 and urban locals are set as the reference group in Model 2.

Table 5. 4 Estimated negative binomial regression coefficients of the access to total number of employee benefits

	Full sample		Urban locals	Rural migrants	Urban migrants
	Model 1	Model 2			
Identity					
Urban migrants	0.3343***	-0.1969***	--	--	--
Urban locals/rural migrants1	0.5359***	-0.5281***	--	--	--
Gender (reference: female)	-0.0779**	-0.0772**	-0.1322**	-0.0732	0.0559
Age	-0.0007	-0.0006	0.0018	-0.0024	0.0019
Education (reference: primary school and below)					
College or above	0.3119***	0.3077***	0.2197	0.4950***	0.1493
Senior high school	0.2835***	0.2768***	0.2298	0.5107***	-0.0756
Junior high school	0.0947	0.0880	0.1542	0.2499**	-0.4428*
Training (reference: no)	0.2290***	0.2326***	0.0517	0.4574***	0.0836
Labour contract (reference: no)	0.6139***	0.6137***	0.2710***	0.8061***	0.5491***
Industrial type (reference: manufacturing)					
Construction	-0.1381	-0.1306	0.2074	-0.4368**	-0.2048
Transportation and logistics	-0.1892***	-0.1796**	-0.0840	-0.2588*	-0.2510
Commerce	-0.2825***	-0.2765***	0.0323	-0.3946***	-0.4267***
Services	-0.3242***	-0.3159***	-0.1263	-0.6449***	-0.0828
Monopoly 2	-0.1307**	-0.1218**	0.0491	-0.1373	-0.2619**
Others	-0.2227***	-0.2132***	-0.0329	-0.5512***	-0.2303*
Employer (reference: private enterprise)					
State enterprise and agencies	0.1607***	0.1633***	0.1481**	0.3664***	0.1244
Collective enterprise	-0.0114	-0.0043	0.0545	-0.0812	-0.0684
Foreign-funded enterprise	0.1594***	0.1674***	0.1122	0.1792*	0.0567
Individual entrepreneur (getihu)	-0.4430***	-0.4362***	-0.1088	-0.3149***	-0.6501***
Self-employment	-0.4546***	-0.4512***	-0.3917***	-0.2429*	-0.6307***
Others	0.0017	0.0086	-0.0122	0.2195	-0.1127
City (reference: Tianjin)					
Beijing	0.1902***	0.1898***	0.0714	0.19151	0.3868***
Shanghai	0.3489***	0.3395***	0.2480***	0.5476***	0.3320**
Guangzhou	0.2245***	0.2255***	0.0266***	0.3696***	0.4228***
Constant	0.0270	0.5485***	0.9078***	-0.4364**	0.5982**
Log likelihood	-2923.5888	-2925.4591	-757.6729	-1,116.2318	-583.7807
Observations	1721		395	817	324

Source: Author's calculation.

Notes: 1. Model 1's reference group is rural migrants and Model 2's reference group is urban locals.

2. The monopoly industry includes real estate management, public health, sports, culture, education and art, research and technical services, finance and insurance, government agency and social organizations.

* $P < 0.1$, ** $P < 0.05$; *** $P < 0.01$.

Standard errors are omitted due to space limitations

The results of Model 1 show that, after controlling for personal characteristics and employment status, the coefficients of urban migrants and urban locals were all significantly positive. Holding other factors constant, on average urban locals received 1.21 more items of benefits than rural migrants, and urban migrants received 0.72 more items of benefits. It is therefore safe to suggest that the variation of access to employee benefits was partially caused by institutional discrimination against rural migrants. Moreover, the larger number of benefits received by urban locals may reflect that rural migrants face a greater extent of discrimination arising from both segregations between locals and non-locals and between urban locals and rural migrants, while urban migrants only face the discrimination arising from the segregation between locals and non-locals.

The regression results of Model 2 show that the coefficients of urban migrants and rural migrants were significantly negative. After controlling for other variables, on average urban migrants received 0.37 less items of benefits than urban locals, and rural migrants received 1.06 less items of benefits. This suggests that, similar to that experienced by rural migrants, urban migrants also face discrimination in obtaining the total number of employment benefits compared with urban locals. However, the degree of discrimination experienced by urban migrants is less than that experienced by rural migrants.

For the determinants of the total number of employment benefits among the three groups, the results of F-tests suggest that there is structural difference in the returns to productivity characteristics, indicating that migrant workers are treated differently in the

urban labour market.²⁶ On the basis of the coefficients of the three groups in Table 5.4, we employ the Oaxaca-Blinder decomposition and Cotton decomposition to evaluate the extent of discrimination in employment benefits in the next section.

Table 5. 5 The extent of discrimination against migrant workers in access to total number of employee benefits

	Rural migrants Urban locals	VS	Urban migrants Urban locals	VS	Rural migrants Urban migrants	VS Urban migrants
	Overall benefits	%	Overall benefits	%	Overall benefits	%
Oaxaca-Blinder decomposition						
Characteristics*	2.07	67.21	0.73	42.44	0.83	61.03
Discrimination**	1.98	64.29	1.01	58.72	0.15	11.03
Constant	-0.97	-31.49	-0.02	-1.16	0.38	27.94
Cotton decomposition						
Characteristics	1.53	49.54	0.71	41.50	1.07	78.80
Overvalued***	0.37	11.85	0.58	33.47	0.18	13.11
Undervalued****	1.19	38.61	0.43	25.03	0.11	8.09
Total difference	3.08	100	1.72	100	1.36	100

Source: author's calculation.

Notes: * “Characteristics” indicates the explained part of the benefit gap that is attributable to the group differences in mean personal characteristics and employment status.

** “Discrimination” indicates the unexplained part of the benefit gap that is attributable to the group differences in returns on productivity-related characteristics.

*** “Overvalued” indicates the amount by which the productivity-related characteristics of urban locals are overvalued (the ‘benefit’ of being an urban local),

**** “Undervalued” indicates the amount by which the productivity characteristics of migrant workers are undervalued (the ‘cost’ of being a migrant worker).

Table 5.5 presents the decomposition results of benefit differentials between urban locals and migrant workers. The results indicate that differences in personal characteristics and

²⁶ Urban locals versus urban migrants: $F = 96.70$ ($p = 0.0000$); urban locals versus rural migrants: $F = 205.14$ ($p = 0.0000$); urban migrants versus rural migrants: $F = 60.93$ ($p = 0.0000$).

employment status—the explained part—could only contribute to a part of the benefit gaps. The remaining considerable benefit gaps could be discrimination, or the unexplained part in the model. Compared with urban locals, the extent of discrimination experienced by rural migrants (64.29%) was slightly higher than that experienced by urban migrants (58.72%).

The similar extent of discrimination against urban migrants and rural migrants implies that the segregation between locals and non-locals has played a more significant role than the segregation between urban locals and rural migrants in the segmentation of urban labour market in recent years. Compared with urban migrants, the degree of discrimination experienced by rural migrants was a mere 11.03%. Therefore the results support Hypothesis 2.

The Cotton decomposition results are generally consistent with those of the Oaxaca-Blinder decomposition. Compared with urban locals, the undervalued part of discrimination experienced by rural migrants was 38.61%, while the overvalued part of discrimination experienced by rural migrants was 11.85%. In contrast, the undervalued part of discrimination experienced by urban migrants was only 25.03%, 13.58 percentage points lower than that of rural migrants. The overvalued part of discrimination experienced by urban migrants reached 33.47%, 21.62 percentage points higher than that of rural migrants. Compared with urban migrants, the undervalued part of discrimination experienced by rural migrants was only 8.09%, while the overvalued part of discrimination experienced by rural migrants was 13.11%.

This strongly suggests that compared with urban locals, the discrimination against rural migrants is dominated by rural migrants' "pure" treatment disadvantage, that is, they are considered to be "inferior" to local residents. In contrast, compared with urban locals, the

discrimination against urban migrants is dominated by urban locals' "pure" treatment advantage, that is, they are considered to be "superior" to urban migrants.

5.5.2 Discrimination in individual items of employee benefits

Table 5.6 shows the logit regression results of workers' access to individual items of benefits including public holidays, weekend leave, medical insurance, pension insurance, unemployment insurance, and industrial injury insurance.²⁷ It is evident that rural migrants and urban migrants experienced discrimination in obtaining all individual items of benefits compared with urban locals. However, compared with urban migrants, rural migrants were discriminated against in their participation in medical, pension, unemployment and industrial injury insurance schemes, but they were not discriminated against in the entitlement of public holidays and weekend leave.

²⁷ Due to space limitation, this paper only reports the results in which urban locals are the reference group. The results in which the rural migrants as the reference group are available from the authors.

Table 5. 6 Estimated logit regression coefficients of the access to individual items of benefits

	Public holidays	Weekends	Medical	Pension	Unemployment	Industrial injury
Gender (reference: female)	-0.6684***	-0.6004***	0.1415	-0.1099	-0.2712*	0.1723
Age	-0.0151**	-0.0087	0.0039	0.0243***	0.0018	-0.0060
Education (reference: primary school and below)						
College or above	0.9109***	1.0264***	0.8424***	0.8955***	0.6900**	0.6360**
Senior high school	0.9903***	0.8724***	0.1802	0.4228*	0.4406	0.5369**
Junior high school	0.4465**	0.3627*	-0.1375	-0.0034	-0.1641	0.1615
Training (reference: no)	0.6631***	0.6704***	0.5521***	0.5568***	0.4266***	0.6837***
Contract (reference: no)	0.8669***	0.8172***	1.5621***	1.6535***	1.7290***	1.7863***
Industrial type (reference: manufacturing)						
Construction	-0.8522**	-1.0688***	0.2385	-0.2294	0.0502	-0.0525
Transportation and logistics	-1.5195***	-0.7187**	0.3375	-0.1541	0.4440	-0.1198
Commerce	-1.6322***	-1.0911***	0.1004	-0.0907	0.0288	-0.4608*
Services	-1.3034***	-1.1503***	-0.1968	-0.3263	0.1384	-0.4653
Monopoly	-0.7106***	-0.6407***	0.2827	0.2804	0.3291	-0.4521*
Others	-1.1773***	-0.8239***	0.0451	-0.0562	-0.1461	-0.8123***
Employer (reference: private enterprise)						
State enterprise and agencies	0.0883	0.5491***	1.2984***	1.1546***	0.9759***	0.9588***
Collective enterprise	-0.7767***	-0.3091	0.3979	0.0296	-0.3498	0.6751**
Foreign-funded enterprise	0.1652	0.2901	0.5831**	0.8767***	0.7294***	1.1006***
Individual entrepreneur	-0.7937***	-0.7568***	-0.2577	-0.3255	-0.5880**	-0.4228*
Self-employment	-0.8278***	-0.8061***	0.2500	0.3794	-0.3152	-0.7881***
Others	-0.3175	-0.3096	0.3487	0.5225	0.0089	0.4069
City (reference: Tianjin)						
Beijing	0.5840***	0.5071**	0.1144	0.8269***	0.8209***	-0.4026*
Shanghai	1.3712***	1.4345***	0.6381***	1.7229***	0.8435***	-0.0435
Guangzhou	0.3941**	0.4148**	0.4979**	1.3899***	0.3638	-0.6150***
Identity (reference: urban locals)						
Urban migrants	-0.5614***	-0.5064***	-1.5774***	-1.1149***	-0.7982***	-0.3777*
Rural migrants	-0.8900***	-0.8145***	-2.3027***	-2.0530***	-2.0177***	-0.9694***
Constant	0.9851**	-0.0519	-0.8726*	-2.4431***	-2.0626***	-1.0044***
Log likelihood	-825.1837	-842.2432	-704.3845	-677.4142	-629.0918	-734.7291
Observations	1730	1727	1729	1729	1722	1730

Source: author's calculation.

Notes: * P < 0.1; ** P < 0.05; *** P < 0.01.

Table 5.7 presents the Oaxaca-Blinder and Cotton decomposition results of the differences in access to the individual items of benefits among the three groups. The Oaxaca-Blinder decomposition results suggest that 50-70% of the benefit differentials

between urban locals and rural/urban migrants were due to the discrimination. Compared with urban locals, rural migrants suffered the highest degree of discrimination (71.25%) in access to unemployment insurance and the lowest—yet considerable—degree of discrimination (59.53%) in access to weekend leave. The situations for urban migrants are different. Compared with urban locals, urban migrants experienced the highest degree of discrimination (64.40%) in access to pension insurance, while the lowest degree of discrimination (47.59%) in access to public holidays.

The greater extent of discrimination against rural/urban migrants in access to pension and unemployment insurance schemes could be due to the significant monetary commitments of enterprises. The relative laws and regulations, such as Labour Contract Law and Interim Regulation on the Collection and Payment of Social Insurance Premiums, stipulate that the mandatory social insurance contribution rates of enterprises are about 20% in pension insurance scheme and 2% in unemployment insurance scheme.

In comparison, the extent of discrimination against rural migrants was little higher than that against urban migrants in obtaining all individual items of benefits, except in access to medical insurance. The gap was the largest in access to industrial injury insurance and public holidays. The results further prove the leading role of segregation between locals and non-locals in the segmentation of urban labour market.

Table 5. 7 The extent of discrimination against migrant workers in access to individual items of employee benefits (%)

	Holidays	Weekends	Medical	Pension	Unemployment	Injury
Rural migrants VS urban locals						
Oaxaca-Blinder decomposition						
Characteristics	62.48	56.33	55.48	59.74	40.27	64.39
Discrimination	60.29	56.42	61.76	69.58	71.25	64.33
Constant	-22.77	-12.75	-17.24	-29.32	-11.52	-28.72
Cotton decomposition						
Characteristics	47.57	49.1	46.51	42.46	40.81	47.71
Overvalued	9.51	10.99	8.13	7.13	14.11	7.13
Undervalued	42.92	39.91	45.36	50.41	45.08	45.15
Urban migrants VS urban locals						
Oaxaca-Blinder decomposition						
Characteristics	32.16	43.72	55.92	49.28	37.59	59.43
Discrimination	47.59	52.17	58.61	64.40	63.27	53.79
Constant	20.25	4.11	-14.53	-13.68	-0.86	-13.22
Cotton decomposition						
Characteristics	44.13	50.55	50.38	46.53	42.83	54.97
Overvalued	29.88	24.68	18.45	18.07	26.52	17.12
Undervalued	25.98	24.76	31.17	35.4	30.65	27.9
Rural migrants VS urban migrants						
Oaxaca-Blinder decomposition						
Characteristics	69.52	65.33	70.12	58.19	49.26	66.49
Discrimination	-19.29	-11.46	4.69	25.33	28.94	37.57
Constant	49.77	46.13	25.19	16.48	21.80	-4.06
Cotton decomposition						
Characteristics	110.11	102.59	88.33	68.16	65.01	62.48
Overvalued	7.42	9.81	8.06	12.15	15.58	10.19
Undervalued	-17.53	-12.41	3.61	19.69	19.4	27.32

Compared with urban migrants, the extent of discrimination against rural migrants remained at 4-38% in their participation in the four insurance schemes, which was lower than that compared with urban locals. However, in terms of access to public holidays and weekend leave, urban migrants were discriminated compared with rural migrants. The degrees of reverse discrimination reached 19.29% and 11.46% for these two items respectively. One explanation is that working overtime on public holiday and weekend

are more prevalent among urban migrants because they are more likely to work in highly competitive occupations and engage in management and technical work.

A further decomposition suggests that compared with urban locals, the undervalued part of discrimination experienced by rural migrants in all individual items of benefits remained at 40–50%. The overvalued part of discrimination experienced by rural migrants remained constantly at below 15%. In contrast, compared with urban locals, the undervalued part of discrimination experienced by urban migrants in obtaining all individual items of benefits maintained at 25–35%, which was lower than that experienced by rural migrants. The gap was the largest in the enjoyment of industrial injury insurance, while the smallest in access to medical insurance. The overvalued part of discrimination experienced by urban migrants was 15–30%, which was much greater than that experienced by rural migrants. The gap was the largest and the smallest in access to public holidays and industrial injury insurance, respectively.

Compared with urban migrants, the undervalued part of discrimination against rural migrants only existed in their access to the four insurance schemes. The extent of discrimination was found to be far less than that compared with urban locals. However, negative undervalued part of discrimination was found to exist against rural migrants in their enjoyment of public holidays (-17.53%) and weekend leave (-12.41%). In contrast, the extent of overvalued part of discrimination experienced by rural migrants in obtaining all individual items of benefits was found to be positive, stabilising at 7–16%.

The decomposition results suggest that in the legacy of planned economic policy, the *hukou* system continues to take effect in the segmentation of China's urban labour market and in social stratification. The segmentation of urban labour market has resulted in various, sometime severe, degrees of discrimination against urban and rural migrants not

only in wage but also in access to employee benefits. In comparison, the extent of discrimination against urban migrants is similar (although at a lesser extent) to that against rural migrants, suggesting that the segmentation of the urban labour market is dominated by the segregation between locals and non-locals nowadays rather than the segregation between urban locals and rural migrants, which was dominant at the early stage of reforms. Moreover, the extent of discrimination in employee benefits evaluated in this study is relatively greater than the extent of discrimination in wages estimated by many prior studies (Meng and Zhang 2001, Lee 2012, Wang 2005). This indicates that the actual discrimination against migrant workers is likely to be more serious in the urban labour market due to the underestimation based solely on the mean wage.

Results from previous studies suggest that some employers provide the employee benefits at the cost of lower wages (Cheng, Wang and Chen 2013). It could be the case that migrants may receive compensation packages that offer lower benefits but higher earnings. Therefore, we extend the models to include a variable representing the monthly wage in addition to the specifications in Table 5.4 and 5.6, respectively. Nevertheless, the results indicate that the monthly wage has a significantly positive effect on rural migrants' access to the total number of benefits and a few individual items of benefits.²⁸ This could be due to that higher wage earners usually possess better human capital which could significantly increase their level of welfare benefits. In addition, studies on China also show that when considering the bonus and insurance entitlement, which are mostly received by urban locals, migrant workers are treated even worse in the urban labour market (e.g. Lee 2012).

²⁸ The results are not presented here due to the consideration of length of the paper but will be available upon request from authors.

5.6. Conclusion

This study on the employee benefit differentials among urban locals, urban migrants and rural migrants has addressed a number of research questions regarding discrimination and segmentation in China's urban labour market. The investigation empirically extends the application of discrimination theory and segmented labour market theory to urban migrants and to a transitional society, and contributes a better characterisation of labour market experience of migrant workers.

This study identifies the existence of exclusion of migrant workers from the urban social security system due to the segregation between urban locals and rural migrants and the segregation between locals and non-locals induced by the *hukou* system. These segregations have resulted in the severe discrimination against rural migrant workers in terms of access to welfare entitlements and benefits.

The results show that gradient differences are evident in access to the total number of benefits and individual items of benefits among the three groups, and that rural migrants are the most disadvantaged. However, the differences in productivity-related characteristics can only explain part of the benefit gaps. More than 50% of the difference in the total number of benefits between urban locals and migrant workers is due to discrimination. Compared with urban locals, the extent of discrimination experienced by rural migrants was greater than that experienced by urban migrants. This indicates that rural migrants face dual discrimination arising from both segregations in the urban labour market, while urban migrants only face the discrimination arising from the segregation between locals and non-locals. In addition, rural migrants also experienced a certain degree of discrimination compared with urban migrants, but much lower than those compared with urban locals. A further decomposition shows that compared with urban

locals, rural migrants experienced higher undervalued part of discrimination than urban migrants, but lower overvalued part of discrimination.

In terms of individual items of benefits, 50-70% of the benefit gap between urban locals and migrant workers was found to be caused by discrimination. Compared with urban locals, the extent of discrimination against rural migrants was slightly higher than that against urban migrants in obtaining most of the individual items of benefits. However, in access to public holidays and weekend leave, rural migrants were discriminated only compared with urban locals, although not compared with urban migrants. A further decomposition shows that compared with urban locals, urban migrants experienced a lower undervalued part of discrimination than rural migrants, but a higher overvalued part of discrimination. Compared with urban migrants, rural migrants experienced the undervalued part of discrimination only in access to the four insurance schemes, but experienced the overvalued part of discrimination in obtaining all the individual items of benefits.

The comparison of the extent of discrimination against urban migrants and rural migrants confirms that nowadays the segmentation of urban labour market is dominated by the segregation between locals and non-locals rather than the segregation between urban locals and rural migrants which was the case earlier. In addition, the study points out that the decomposition based on the mean wage might underestimate the extent of discriminatory treatment of migrants.

Although there have been some changes in the *hukou* system since the late 1990s, which resulted in the increased population mobility and the emergence of a large number of employment opportunities in the urban labour market, its reform is still lagged far behind the socio-economic development. The *hukou* system continues to function in social and

labour stratifications, and plays a negative role in improving workers' working and living standards. There is a strong need to overhaul the *hukou* system and establish effective anti-discrimination labour policies to promote equal access to the social security system and labour benefits for both rural migrants and urban migrants. The anti-discrimination policy in China's urban labour market should be oriented to eliminate the segregation between locals and non-locals rather than only the segregation between rural migrants and urban locals.

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Chapter 6 Conclusion

6.1. Conclusion

This thesis examines the effect of regional divergence in socio-economic development on migrants' choice of destination to developed coastal cities (such as Beijing, Tianjin and Shanghai) and the determining factors of discrimination against urban migrants and rural migrants regarding occupational attainment, wage earnings and welfare entitlements and benefits. The aim of this study is to empirically extend the application of migration theory, discrimination theory and segmented labour market theory to urban migrants in a transitional society, and to contribute a better understanding of China's internal migration and a clear characterization of the labour market experience of migrant workers. The evidence and recommendations provided by this study could contribute significantly to the public debate on the reform of the *hukou* system and the urban labour market.

Chapter 2 is a quantitative study on the effect of socio-economic divergence between regions on migrants' destination selectivity. The study suggests that there are significant differences in demographic and socio-economic characteristics between those migrating to Beijing, Tianjin and Shanghai. Migrants in Beijing and Shanghai are especially gender-selective, while those in Tianjin and Shanghai tend to be more selective by marital status. Due to its advantages in location and resources, Beijing is more attractive to highly qualified migrants. Most migrants in Beijing find jobs on their own, while those in Tianjin and Shanghai depend more on an informal social network. Migration to Beijing is dominated by urban-urban migration, while migration to Tianjin and Shanghai is dominated by rural-urban migration. However, due to their non-local *hukou*, migrant workers in the three cities are usually restricted to the informal sectors and engage in blue-collar occupations.

The regression results indicate that the rise in the ratio of average wage growth rate between destinations and origins could significantly increase the probability of migrating to the three cities. However, in light of the segmented urban labour market, it is plausible that the increased demand caused by the rise of urban residents' wages rather than the actual rise of migrants' wages has a greater effect on destination selectivity. In extreme cases, the rise of job opportunities in formal sectors at destinations may even crowd out the demand for migrant workers, as the job opportunities in formal sectors may not be available to workers without local *hukou*. This is evidenced by the negative effect of employment growth on the probability of migrating to Tianjin. Because migrants come from different regions with varied levels and patterns of consumption, migrants in Beijing and Tianjin are more sensitive to the relative increment of urban consumption level, while migrant workers in Shanghai are not.

The results of this study also suggest that the investments by enterprise types such as state-owned enterprises, collective enterprises, joint-venture enterprises and so on. have different effects on the probability of migrating to the three cities due to the differences in institutional barriers and investment objectives (such as attempting to improve labour productivity or to expand production). In addition, the conflicting signs on the coefficients of investment by joint-venture enterprises and foreign enterprises in the three cities' models further suggest that the investment has a significant selective effect on the human capital of migrants. The secondary and tertiary industries in the three cities remain characterised by labour-intensive and low technology industries. The expansion of industry in these sectors demands more cheap labour, which could significantly increase the probability of migrating to the three cities. The difference in total export-import volume between destinations and origins has a negative effect on the probability of

migrating to Tianjin and Shanghai. One plausible explanation for this is that the imports and exports of these two cities are characterised by high-tech products that cannot utilise many manual workers.

Infrastructure construction could increase the incentive to migrate to the developed coastal cities by enlarging the welfare gap and increasing the demand for labour while also decrease the incentive to migrate to the coastal cities by promoting productivity. The results show that the enlarged welfare gap and increased labour demand play dominant roles in migrants' choice of destination to Tianjin and Shanghai, while the promoted productivity takes a leading role in influencing migrants' choice of destination to Beijing. People in provinces with higher human capital stock are more likely to migrate to the three cities relative to other destinations. The considerable brain drain will further accelerate the regional disparity, especially urban-rural inequality.

In line with neoclassical predictions, the distance could increase the physical and psychological costs, negatively affecting the choice of destination to the three cities. The social network in Beijing and Shanghai could increase the migration probability. However, the total number of migrants in the three cities may not represent a reasonable proxy to calculate a general measure of social network, which results in the negative effect of social network on the odds of migrating to Tianjin.

Chapter 3 uses the multinomial logit model and Oaxaca-Blinder decomposition method to investigate the discrimination against migrants in occupational attainment. Due to the privatisation and marketization of some previously state-controlled sectors, workers in all three groups are highly represented in service jobs. The proportions of urban locals, urban migrants and rural migrants are 40.18%, 50.75% and 60.82%, respectively. In addition, urban locals (50.59%) and urban migrants (40.29%) are more concentrated in high-wage

occupations such as white-collar jobs and office clerical jobs, while rural migrants are highly skewed in production-related jobs, accounting for 24.65%.

Both urban migrants and rural migrants face discrimination in obtaining the four occupations compared with urban locals. The extent of discrimination against rural migrants is 27.61% in obtaining white-collar jobs, 33.74% in obtaining office clerical jobs, 39.11% in obtaining production-related jobs and 25.58% in obtaining service jobs. The labour market status of urban migrants as a whole is better than that of rural migrants. The extent of discrimination ranges from 20-35% in obtaining the four occupations. Nevertheless, urban migrants face a greater degree of discrimination in obtaining service jobs than rural migrants. This could be due to that some service jobs characterised as labour-intensive, low-skilled and dangerous are not desired by urban locals. To reduce cost and increase efficiency, employers therefore prefer to employ rural migrants who are qualified and more willing to do these jobs. This point of view is further confirmed by the negative extent of discrimination in obtaining service jobs against rural migrants when compared with urban migrants. In addition, rural migrants are discriminated against when seeking the other three occupations compared with urban migrants (4.92% in obtaining white-collar jobs, 12.90% in obtaining office clerical jobs and 23.15% in obtaining production-related jobs).

In Chapter 4, the quantile-based regression and decomposition approaches are adopted to examine the wage determinants for the three groups and the discrimination against migrant workers across the distribution of wage. The result shows that the hourly wage of urban locals is 19.84 *yuan*, 1.27 times that of urban migrants and 2.19 times that of rural migrants. The wage distribution differentials between urban locals and rural migrants, as well as between urban migrants and rural migrants are significant. The structural

difference in returns on productivity characteristics indicates that migrant workers are treated differently from urban locals in the urban labour market.

This study categorises the hourly wage into three income levels according to the quantiles to which they belong. Low income level refers to the hourly wage below the 0.3 quantile, median income level refers to the hourly wage between the 0.3 and 0.7 quantiles and high wage level refers to wages above the 0.7 quantile. The decomposition results indicate that rural migrants with median income level and above tend to experience discrimination compared with their urban local counterparts, while urban migrants with the median income and below tend to be discriminated against. The extent of discrimination against rural migrants varies from 31.9% to 125.78% and that against urban migrants varies from 16.26% to 32.52%. At most income levels, the extent of discrimination against rural migrants estimated in this study is greater than that reported in previous research on mean wage differentials (Maurer-Fazio and Dinh 2004, Lee 2012). This may imply that the accuracy of measurement of discrimination could increase remarkably after taking into account the diversification in the composition of migrant workers and the wage inequality within each group.

In contrast with previous studies on the mean wage differentials in China's urban labour market, urban locals rather than migrant workers with the rest of income levels face discrimination. The extent of reverse discrimination against urban locals compared with rural migrants ranges from 8.2% to 38.3%, while the extent of reverse discrimination against urban locals compared with urban migrants ranges from 20.9% to 154.87%. One plausible explanation for this is that urban locals and migrant workers have different employment structures. For instance, rural migrants are more desired by employers to undertake low-wage jobs that are labour-intensive, hazardous and shunned by urban

locals, while urban migrants with higher human capital are more favoured to undertake the high-wage jobs characterised as human capital-intensive and requiring highly skilled workers. The decomposition within migrant workers shows that the extent of discrimination against rural migrants compared with urban migrants is positive at all income levels and ranges from 6.05% to 41.28%. Similar or more pronounced results are obtained after considering non-cash income.

Chapter 5 employs the negative binomial distribution model, logit model and Oaxaca-Blinder decomposition method to estimate the extent to which migrant workers are discriminated against in access to total number of benefits and individual items of benefits. Welfare entitlements and benefits include public holidays, weekend leave, medical insurance, pension insurance, unemployment insurance, and industrial injury insurance. The results show that gradient differences are evident in access to the total number of benefits and individual items of benefits among the three groups, and rural migrants are the most disadvantaged. On average, urban locals and urban migrants enjoy 4.74 and 3 items of benefits respectively, while rural migrants only enjoy 1.65 items of benefits. The participation rates of urban locals in all individual items of benefits maintain above 65%. In contrast, the participation rates of urban migrants are between 40-60% and those of rural migrants are the lowest between 10-40%.

In terms of the total number of benefits, the decomposition results show that more than 50% of the difference in the total number of benefits between urban locals and migrant workers could be attributed to discrimination. The Cotton decomposition further divides the unexplained portion of the benefit gap due to the group differences in the estimated coefficients into two parts. One part captures the amount by which the productivity-related characteristics of urban locals are overvalued. The other part

measures the amount by which the productivity-related characteristics of migrant workers are undervalued. Compared with urban locals, the undervalued part of discrimination experienced by rural migrants is 38.61% and that experienced by urban migrants is 25.03%, indicating that migrant workers are considered “inferior” to local residents. The overvalued part of discrimination experienced by rural migrants is 11.85% and that experienced by urban migrants reaches 33.47%, suggesting that urban locals are considered “superior” to migrant workers. In terms of individual items of benefits, 50-70% of the benefit gap between urban locals and migrant workers is due to discrimination. Compared with urban locals, the undervalued part of discrimination experienced by rural migrants remains at 40–50% in obtaining all individual items of benefits, while that experienced by urban migrants maintains at 25–35%. The overvalued part of discrimination experienced by rural migrants remains constant at below 15%, while that experienced by urban migrants is between 15–30%.

Compared with urban migrants, the extent of discrimination against rural migrants remains between a range of 4%-38% in their participation with the four insurance schemes such as the medical insurance scheme, pension insurance scheme, unemployment insurance scheme, and industrial injury insurance scheme. This implies that rural migrants have the most disadvantaged status when accessing state-provided social services that are strictly regulated by local governments. However, urban migrants are discriminated against regarding access to public holidays and weekend leave compared with rural migrants. The degrees of reverse discrimination are 19.29% and 11.46%, respectively. This could be because working overtime on public holidays and weekends is more prevalent among urban migrants due to their highly competitive occupations and their participation in management- and technical-related work.

The decomposition results of occupational attainment differentials, wage distribution differentials and welfare entitlement differentials all indicate that compared with urban locals, the extent of discrimination against rural migrants is greater than that against urban migrants. This may indicate that rural migrants face discrimination arising from both segregations between locals and non-locals and between urban locals and rural migrants in the urban labour market, while urban migrants only face discrimination arising from the segregation between locals and non-locals. In addition, the results indicate that the extent of discrimination against urban migrants compared with urban locals is generally greater than the extent of discrimination against rural migrants compared with urban migrants, suggesting that the segmentation of the urban labour market is currently dominated by the segregation between locals and non-locals rather than the segregation between urban locals and rural migrants which was the case in the era of the planned economic system. Therefore, the results support Hypothesis 2, which states that if the labour market outcomes of urban migrants are similar to those of rural migrants but significantly worse than those of urban locals, the segmentation of the urban labour market is primarily determined by the segregation between locals and non-locals. This reflects a profound transformation from a *hukou*-dominated urban-rural dichotomy in China's urban labour market in the first 20 years or so after the economic reforms to the segregation between locals and migrants in recent years. While the effect of the *hukou* system on social and labour stratifications has not significantly weakened over the past few decades, it has also diversified the types of segmentation in the urban labour market and resulted in the disadvantaged socio-economic status of both urban migrants and rural migrants.

6.2. Implications and reflections

Like many developing and developed countries undergoing industrialisation and urbanisation, China has experienced a massive population migration and increasing inequalities in labour market outcomes between urban locals and migrant workers. Discrimination has contributed to increasing inequalities in labour market outcomes, especially in the urban labour market. Nevertheless, China's population migration and the discrimination in the urban labour market have some unique characteristics due to the country's transitional stage.

China's unique socialist market economy has been characterised as an uneasy blend of state control and market mechanisms (Fan 2002). It differs from both socialist economies and capitalist economies by adopting only those market practices that could promote socio-economic development while depending heavily on state control (Smart 2000). The results shown in Chapter 2 indicate that features of China's internal migration reflect the co-existence of China's capitalist and socialist systems in the decades after the reforms. On the one hand, as in most capitalist countries, the internal migration in China is selective for those people whose labour is demanded by the destinations. The regional divergence in socio-economic development has a significant effect on migrants' destination selectivity. Since the 1980s, a large number of young, skilled and educated people have moved from western and central regions to eastern regions as a response to the enlarged gaps in income and job opportunities. Migrant workers have contributed substantially to China's socio-economic development by providing a cheap labour force. However, the flow of human resources from less developed inland regions to more developed coastal regions has aggravated other than reduced the regional inequality, especially the imbalance between urban and rural areas.

On the other hand, as in other socialist countries, the *hukou* system, a legacy of planned

economy, is still effective in the segmentation of China's urban labour market and in social stratification, which determines the wages and the eligibility to access to employment and state-provided social services. This makes some of the push-pull factors in China's internal migration ineffective or even contrary to the theoretical expectation. For instance, due to the segmented urban labour market, it is plausible that the increased demand caused by the rise of urban residents' wages rather than the actual rise of migrants' wages has a greater effect on destination selectivity. The jobs created in formal sectors by investment are more likely to be institutionally controlled by central or local governments. It is very difficult for individuals without local *hukou* to obtain these occupations; this could significantly decrease the odds of migrating to cities. These results suggest that the synthesis of the neoclassical approach, the new economics of labour migration and the structural approach could provide a valuable theoretical supplement to better understand China's internal migration.

The institutional constraints regarding access to well-paid and secure jobs and public services have resulted in the co-existence of a migrant labour shortage in the urban areas and a migrant labour surplus in rural areas (Knight, Deng and Li 2011). The labour shortage in the migrant-dominated export manufacturing sector would slow down Chinese and global economic growth. This study implies the need for further reform of *hukou* system and urban labour market to continually attract and retain migrants in the coastal cities. For instance, there is a need for policies that disconnect the *hukou* status from job opportunities and state-provided social services and that eliminate the institutional constraints on movement between segments. In addition, there should be efforts to change the economic and employment structures in both origins and destinations to realise the optimal allocation of human capital and other resources to

reduce regional inequality.

The *hukou* system and segmented urban labour market not only have a significant effect on China's internal migration but also result in severe discrimination against migrant workers in the urban labour market. The fundamental and intensive reforms of China's urban labour market and the *hukou* system since the 1990s have accelerated socio-economic development and improved migrant workers' working conditions in some regards. Nonetheless, the results in Chapters 3-5 indicate that the *hukou* system continues to function in social and labour stratifications and hinders the improvement of workers' working and living standards. The discrimination against migrant workers contributes to a large proportion of labour market differentials not only in earnings but also in access to employment and welfare entitlements and benefits. This indicates that the actual discrimination against migrant workers is likely to be underestimated based solely on the mean wage in the urban labour market.

Urban migrants, who account for an increasing proportion in migrant workers and have some advantages compared with rural migrants due to their urban *hukou*, but some disadvantages compared with urban locals due to their non-local *hukou*, also face discrimination in occupational attainment, wages and welfare entitlements and benefits compared with urban locals. This implies that only the extended research framework, which considers both the segregation between urban locals and rural migrants and the segregation between locals and non-locals, could provide a full assessment of labour market inequality between workers with different residential statuses. Taking into account the two types of segregations as well as the diversification in the composition of migrant workers could more accurately identify the mistreatment for migrant workers. Urban migrants (an important group in the urban labour market) should be taken into

consideration when the urban labour market policies and regulations are formulated.

Based on the extended research framework, this thesis confirms that China's urban labour market has experienced a profound transformation over the past three decades. The comparison of the extent of discrimination against urban migrants and rural migrants indicates that the segmentation of the urban labour market is currently dominated by the segregation between locals and non-locals rather than the segregation between urban locals and rural migrants which was the case in the era of the planned economic system. This could be due to the loosened restrictions on rural-urban migration and rural migrants' employment in urban cities on the one hand and growing local protectionism in favour of urban locals on the other. In addition, the results suggest that the extent of discrimination against urban migrants compared with urban locals in welfare entitlement and benefits is greater than that in occupational attainment and wage earnings. This implies that since the early 2000s, the function of segregation between locals and non-locals has shifted from protecting the employment of urban locals to ensuring the welfare benefit levels and supply of public goods for urban locals.

The Chinese government has committed itself to formulating policies and regulations to improve migrants' socio-economic status since the 1990s. However, these attempts have had limited success (Meng and Zhang 2010). The study on migrants' destination selectivity finds that the social network could significantly increase the odds of migrating to coastal cities. However, this social network only links those of the same hierarchical rank and thus cannot bridge interclass information and social resources such as power, wealth and prestige of one's social contacts. The study on discrimination in occupational attainment suggests that high-wage occupations are more likely to be institutionally controlled by central or local governments. Finding jobs through the social network

actually keeps migrants in low-wage jobs and further reinforces the segmentation of the urban labour market and labour sorting.

The occupation segregation between urban locals and migrant workers has significantly reduced the extent of discrimination against rural migrants with low income levels. Rural migrants are more qualified and preferred by employers to undertake low-wage jobs characterised as hazardous, labour-intensive, requiring a low amount of skill (which are also shunned by urban locals). The research on discrimination in wages shows that rural migrants with median income level and below do not face discrimination, which is in contrary to the findings of some previous studies on the mean wage differentials in China's urban labour market. However, eligibility to access to welfare entitlements and benefits remains in strict control by local governments based on the *hukou* status. The study on discrimination in welfare entitlement suggests that migrant workers are discriminated against in their access to both the total number of employment benefits and individual items of benefits. In addition, there is no substitution between lower benefits and higher earnings, or vice versa. The results further support the viewpoint that the function of segregation between locals and non-locals has shifted from protecting the employment of urban locals to ensuring the welfare benefit levels and supply of public goods for urban locals.

The present study suggests that the *hukou* system continues to function as a "Great Wall"²⁹, which affects social and labour stratifications and results in severe discrimination against migrants. This discrimination has resulted in a significant reduction of labour productivity and a waste of social resources because workers may have been located in a position that does not match their work capacity and because urban

²⁹ See Wang (1997) for detail explanation of how *hukou* functions as a "Great Wall".

locals may receive a wage higher than their marginal productivity of labour (MPL) while migrant workers may receive a wage lower than their MPL. In addition, this discrimination has precipitated an increasing number of conflicts between employers and migrant workers, as well as between local residents and migrant workers, which could threaten social stability (Chen 2010, Chan 2012). This study implies a strong need to overhaul the *hukou* system and establish effective anti-discrimination labour policies to promote equal pay and equal access to the employment and social security system for both rural migrants and urban migrants. Due to the significant transformation of China's urban labour market, the anti-discrimination policy should be more focused on eliminating the segregation between locals and non-locals rather than only the segregation between rural migrants and urban locals.

6.3. Future research

This research is the beginning of an understanding of migration selectivity and discrimination against migrant workers in China's urban labour market. As the most vulnerable group, the living and working conditions of migrant workers require more efforts and attention from academia as well as local and national governments. A number of areas related to the present study could be explored further such as the new-generation migrants who were born in 1980 or thereafter, the social and residential segregation as well as compensating wage differentials for migrant workers undertaking risky jobs.

This study only focuses on urban locals, urban migrants and rural migrants in the urban labour market and does not examine the working and living situations between different generations of migrants. The new-generation migrants account for an increasing proportion of migrants as the first generation ages and returns to the countryside to retire.

Compared with first-generation migrants, new-generation migrants are better educated, more socially connected, and they have a stronger tendency towards individualism and consumerism. While first-generation migrants remit more than half of their income back to their household in the countryside, new-generation migrants remit a lower proportion of their income. New-generation migrants also have a stronger awareness of their legal and socioeconomic rights, which has resulted in more frequent job changes and workplace unrest (Zhou and Sun 2010). Different from their predecessors (for whom return migration was the norm), many new-generation migrants aspire to settle in the cities and to be officially recognised as urban residents with the same rights as urban locals. A further study could investigate the differentials in labour market outcomes between urban locals, first- and new-generation migrants in urban China.

As previously mentioned, many migrant workers have experienced longstanding housing difficulties due to low income and a lack of urban *hukou* status, which is a precondition to access subsidised or public housing (Wang and Murie 2000). They have tended to live in low-income, inferior or deprived housing areas usually in the forms of factory dormitories, migrant enclaves and urban villages (Ma and Xiang 1998, Wu 2004). Consequently, many migrant workers are socially and/or residentially segregated from locals (Wu et al. 2010). There is a proven relationship between neighbourhood characteristics and residents' labour market outcomes (such as employment, occupation and pay) in Western countries (Andrews 2002, Dickerson 2008). Nevertheless, it remains unknown whether neighbourhood characteristics affect migrant workers' labour market outcomes (in particular their wages) in China. Further research could examine the extent to which neighbourhood characteristics affect the wages of migrant workers.

The results of this study and many previous studies have found that most migrant workers

have not been covered by an urban social security system despite the fact that many of them work in dirty and dangerous jobs (Roberts 2001, Chan and Zhang 1999, Fan 2008). A survey in six cities in the Pearl River delta in 1994 suggested that one third of migrant workers believed that their health had been affected by their working conditions, particularly noise, dust and poison (Tan 2004). Some reports noted that in many parts of southern China, migrant workers became physically disabled at work or suffered from chronic diseases due to exposure to hazardous dusts and toxic chemicals (Chan 2001, Lam 2000, Xiang 2004). In addition, the official number of fatalities in mining accidents in China has reached approximately 10,000 per annum since 1990, accounting for 60% of the fatalities due to mining accidents worldwide (SSB 2004, Nielsen et al. 2005).

The compensating wage differentials theory suggests that wage premiums are paid to compensate workers who work in undesirable conditions with higher health and safety risks (Rosen 1974). Nevertheless, migrant workers in China have fewer job alternatives than those with an urban household registration. Thus, they may be willing to accept less compensation for risk on the job. This raises the following questions. First, are migrant workers compensated for undertaking jobs that carry significant occupational and health risks? Second, if so, to what extent, and in what form, are migrant workers in risky jobs compensated by monetary premiums or other benefits? Third, if so, is there any inequality between migrant workers in compensation for this risk? A study could further investigate these questions by analysing the wage distribution differentials between migrant workers in risky and safe jobs.

This study has laid a solid foundation for further research in the areas of new-generation migrants, social and residential segregation and compensating wage differentials for migrant workers in risky jobs. The significance of this thesis is to empirically extend the

application of migration theory, discrimination theory and segmented labour market theory to the study of urban migrants in a transitional society. The results of this study contribute to a better understanding of China's internal migration and a clear characterisation of the labour market experience of migrant workers. Moreover, this study provides evidence and recommendations for reforming the *hukou* system and the urban labour market. With further understanding of migrant labour in China's urban labour markets, one would hope that the improvement of working and living condition of migrant workers will take place in the near future.

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Appendix Questionnaire (in English)

Institute of Population and Development, Nankai University
Macquarie University, Australia

“Rural Migrant Labour in Large Chinese Cities” Project Individual Questionnaire (discussion draft)

(Introduction: read to the respondent):

We are researchers from the Institute of Population and Development of Nankai University and Macquarie University of Australia. We'd like to take some of your time to fill out a questionnaire about your household. This is an important survey to gain an understanding of how people from different places are living together in this city. Your information is very valuable to us. We promise that any information provided by you will not be disclosed to anyone else except for the researchers of this project. Other researchers who wish to use the data for research purpose will only be granted access to aggregated data. Your name, address, and any information that can be used to identify you and your family member will not be used in any forms of publication. If you agree to participate in the survey, please place a check here: _____

Date Month Year 2008

City: 1. Beijing, 2. Shanghai, 3. Guangzhou, 4. Tianjin

Community	code	
Respondent's code		
Name of the respondent		
Gender of the respondent		
DoB of the respondent		

Name of interview		
Date of interview		
Starting time of the interview		

Visiting record

	First visit	Second visit	Third visit
Date			
Time			
Results of visit 1. interviewed 2. refused 3. no at home, notes left			
Other notes			

A. Members of household currently living with you

A1	A2	A3	A4	A5				A6	15 years old and above					6-15 children
									A7	A8	A9	A10	A11	A12
HH serial No.	Name	Sex 1. m 2. F	Relations hip with HH	DoB				Hukou status	Education level	Marital status	Types of employment	Type of sector	Type of major occupation	Attending local school or not?
				Year		Month								
1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(15 years old migrants answer A13 to A17)

A1	Migrants 15 years and above									
	A13	A14	A15	A16	A17					
HH serial no.	If migrants, place of origin	Occupation at place of origin	Year of first migration	Year of moving to this city	Year of moving to this community					
1		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

Code

A4 Relationship with HH 1 被访人本人 2 配偶 3 父母 4 子女 5 兄弟姐妹 6 其他亲属 7 其他非亲属	A7 Education level 1 大专及大专以上 2 高中或相当于高中 3 初中 4 小学 5 文盲或识字很少	A8 Marital status 1 从未结过婚 2 未婚同居 3 已婚（目前有配偶） 4 离婚 5 丧偶
	A9 Type of employment 1 国家机关、事业单位、学校及研究单位 2 国营类企业 3 集体类企业	A10. Type of sector 1 农、林、牧、渔水利业 2 采掘业及地质勘探业 3 制造业 4 建筑业 5 交通、运输、邮电及通讯业 6 商业、饮食业、及供销仓储业

5		<input type="checkbox"/> <input type="checkbox"/>					年					年					年
6		<input type="checkbox"/> <input type="checkbox"/>					年					年					年
7		<input type="checkbox"/> <input type="checkbox"/>					年					年					年
8		<input type="checkbox"/> <input type="checkbox"/>					年					年					年

4 三类企业 5 股份制企业 6 民营企业 7 个体工商户 8 自我雇佣 9 其它类型	7 房地产业 8 居民个人服务及咨询服务业（包括各种生活用品修理） 9. 卫生体育文教及艺术事业 10 科研及技术服务业 11. 金融及保险业 12 政府机关及社会团体 13 其它行业 14 不知道	产人员 6 生产、运输设备操作人员及有关人员 7 不便分类的其他从业人员
--	--	--

B. Dwelling

(编码)

B1	Type of dwelling	1.自建楼房 2.购买房屋 3.租赁楼房 4.租赁平房 5.自建平房 6.自建窝棚 7.其它	<input type="checkbox"/>
B2	Material of dwelling	1.钢筋混凝土 2 砖瓦 3 木板 4 其它	<input type="checkbox"/>
B3	If purchase, cost	_____元	(元) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B4	If purchase, year of purchase	_____年_____月	(年/月) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/>
B5	Number of bedroom		<input type="checkbox"/> <input type="checkbox"/>
B6	Square meters (Sq m)		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B7	Number of people living in the dwelling		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B8	Tap water	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无自来水	<input type="checkbox"/>
B9	Kitchen	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无厨房	<input type="checkbox"/>
B10	Type of cooking facility	1.燃气 2.燃煤 3. 燃柴 4.其它	<input type="checkbox"/>
B11	Type of heating facility	1.暖气 2.炉子 3.其它 4. 无取暖设备	<input type="checkbox"/>
B12	Toilet	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无厕所	<input type="checkbox"/>
B13	Bathroom	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无洗澡间	<input type="checkbox"/>
B14	Public garbage disposal facility	1.有定期处理 2.无定期处理 3.自行处理 4. 其它	<input type="checkbox"/>
B15	Length of residence at this dwelling	1.少于半年 2.半年到一年 3.一年到三年 4.三年到五年 5.五年以上	<input type="checkbox"/>

B16	Type of dwelling before moving to this city	1.自建楼房 2.购买房屋 3.租赁楼房 4.租赁平房 5.自建平房 6.自建窝棚 7.其它 8.无	<input type="checkbox"/>
-----	---	--	--------------------------

C. Income and Expenditure

	十万	万	千	百	拾	元
C1. Estimated monthly income (<i>yuan</i>)						
C2. Estimated monthly expenditure on food (<i>yuan</i>)						
C3. Estimated expenditure on clothing (<i>yuan</i>)						
C4. Monthly rental (<i>yuan</i>)						
C5. If purchase, monthly re-payment (<i>yuan</i>)						
C6. Estimated monthly saving (<i>yuan</i>)						

D. Household appliances (1: yea; 0: no)

D1	TV	<input type="checkbox"/>
D2	Refrigerator	<input type="checkbox"/>
D3	VCD	<input type="checkbox"/>
D4	Tape-recorder	<input type="checkbox"/>
D5	Camera	<input type="checkbox"/>
D6	Micro-wave oven	<input type="checkbox"/>

D7	Electric Fan	<input type="checkbox"/>
D8	Washing machine	<input type="checkbox"/>
D9	Telephone or Cell phone	<input type="checkbox"/>
D10	Air-con	<input type="checkbox"/>
D11	Motorcycle	<input type="checkbox"/>
D12	Computer	<input type="checkbox"/>

E. Individual Characteristics

E1. Please tell me where your *hukou* is registered?

☐

1. City/town in this city
2. Countryside in this city
3. Other city/town in this province
4. Other countryside in this province
5. City/town in other province
6. Countryside in other province

E2. Where exactly is your *hukou* registered? (notes to interviewer: write the exact name of province and city/county)

_____ province _____ city/cooounty

☐ ☐ ☐
☐

E3. When did you move to this city?

☐ ☐ ☐ ☐ / ☐
☐

1. Born in this city (skip to E5)
2. Migrated to this city in _____ year _____ month

E4. Why did you move to this city?

☐

1. Seeking for job /business opportunities
2. Was transferred by the employer
3. Recruited/assigned
4. Attending school/training
5. Moving because of my original dwelling was demolished by construction project
6. Moving into spouse' household
7. Moving with other family member
8. Moving with other relatives
9. Other reasons, please specify _____

E5. Could you please tell me your marital status?

☐

1. Single. (*skip to F1*)
2. Married.
3. Divorced.
4. Widowed
5. *De facto*

E6. Is your spouse living with you in this city?

☐

1. Living in this city
2. Not living in this city (*skip to E8*)

E7. Is your spouse living in this dwelling with you?

☐

1. yes
2. no

E8. If your spouse is not living with you in this dwelling, why?

☐

1. Staying at the place of origin
2. Working at other part of the city
3. Working outside of this city
4. Living in a collective dorm
5. Couldn't afford renting together
6. Other reasons, please specify _____

E9. How many children do you have? (including those children who are not currently living with you).

☐

E10. Do you have any school-age children?

☐

1. Yes
2. No (*skip to F1*)

E11. How many of your school-age children are not currently living with you in this city?

☐

E12. Why are some of your school-age children not living with you in this city?

☐

1. Attending school at place of origin, living with other relatives
2. Working at other places
3. Living with other relatives, but are not attending school
4. Other reasons, please specify _____

E13. Among those school-age children living with you in this city, are they all attending school here in this city?

☐

1. All attending school in this city
2. Some attending school in this city
3. None is attending school in this city
4. Not applicable

E14. If you have at least one child attending school in this city, how much do you pay for their school tuition, fees and other school costs each year?

_____ yuan

☐☐☐☐☐

(元)

E15. If some of your children are not attending school in this city, why?

☐

1. School fees are too high
2. Not allowed to attend school in this city
3. Not willing to attend school
4. Need to help family business or finding a job
5. No school admits my child(ren)
6. Other reason, please specify _____

F. Employment status

F1. How did you get your current job?

☐

1. Assigned by the government agency
2. Referred by private recruitment agency
3. Referred by government-run recruitment agency
4. Introduced by friends or relative
5. Landed by oneself without any agency
6. Through recruitment advertisement (newspaper or other forms of media)
7. Recruited directly by employer
8. Other channel, please specify _____

F2. In the last month, how many jobs did you do _____

☐

F3. In general, how many hours did you work everyday?

1. First job (major)_____hours

☐☐

2. Second job_____hours

☐☐

3. Third job_____hours

☐☐

F4. Have you signed any contract with your employer?

☐

1. didn't sign any contract
2. signed a contract of six months or less
3. one year contract
4. two to five years contract
5. five years or above
6. Other type, please specify_____

F5. A number of employment-related benefits or welfare is listed in the following table, could you please tell me whether you are entitled to any of the following?

1. Are you entitled to the paid public holiday e.g. the National Day, the May Day, etc.?	1. Yes 2.No 3. uncertain or unclear	
2. Are you normally off from work on weekend (Sat and Sun.)?	1. Yes 2.no 3. uncertain or unclear	
3. Are you entitled to public medicare program or medical insurance program?	1. Yes 2.no 3. uncertain or unclear	
4. Do you have any forms of pension insurance?	1.是 2.否 3. 不一定或不知道	
5. Do you have any forms of unemployment insurance?	1.是 2.否 3. 不一定或不知道	
6. Do you have any forms of insurance that covers the work-related injuries?	1.是 2.否 3. 不一定或不知道	
7. If females, are you entitled to any forms of paid maternity leave?	1.是 2.否 3. 不一定或不知道	
8. Have your employers often delayed paying your wages/salaries?	1.是 2.否 3. 不一定或不知道	
9. If you work overtime, are you entitled to overtime payments?	1.是 2.否 3. 不一定或不知道	

F9. How much do you earn from your current job(s) (all jobs)? _____yuan/month

 (元)

F10. How long have been working on your current job?

_____year _____month

 /

☐

F11. In the past six months, how many times have you changed your jobs? _____ times

☐ ☐

F12. Is your current job your first job in this city?

☐

1. Yes (skip to G1)
2. No.

F13. Which one of the following describes the type of employer of your first job?

☐

1. Government organization and related work unit
2. State-run enterprise
3. Collective run enterprise
4. San Zi enterprises (share-holding, foreign invested, and joint-venture)
5. Privately-run enterprise
6. Small business owner
7. Self-employed
8. Other type, please specify _____

F14. How did you get your first job in this city?

☐

1. Assigned by the government agency
2. Referred by private recruitment agency
3. Referred by government-run recruitment agency
4. Introduced by friends or relative
5. Landed by oneself without any agency
6. Through recruitment advertisement (newspaper or other forms of media)
7. Recruited directly by employer
8. Other channel, please specify _____

F15. Do you think your current job is better than your first job in this city?

☐

1. Much better 2. A little bit better. 3. More or less the same. 4. A little bit worse. 5. Much worse.

G. Living Conditions, Consumptions and related issues

G1. Why do you want to live in this community?

☐

1. No where else to go
2. low rental cost here
3. close to friends and relatives
4. suitable for doing small business or finding a job
5. handy location
6. safe place

7. other reasons, please specify _____

G2. How did you find this dwelling in this community?

☐

1. Assigned by city housing management organization
2. introduced by friends or relatives
3. from commercial advertisements
4. provided by employer
5. provided by friend/relatives
6. found it by oneself
7. others, please specify _____

G3. Have you ever thought about moving to other places?

☐

1. yes, have thought about it
2. no, haven't thought about it (skip to G5)

G4.If you have ever thought about moving to other place, why you are still living here in this dwelling?

☐

1. Too costly elsewhere
2. elsewhere not handy for doing business/working
3. not close to friends and relatives
4. Being afraid of not being able to get long with locals.
5. no services available for us elsewhere
6. Not familiar with other places
7. other reasons, please specify _____

G5. In this dwelling, is there any adult living with a married couple in the same bedroom?

☐

1. Yes
2. No.

G6. Where do you normally buy food and clothes for you and your family member? (*only check one major type*)

	1 street vender	2 departm ent store	3 super- market	4 street open market	5 self made	6 other
1.Food						
2.clothes and daily necessities						

G7. If you or your family members are slightly sick, what do you do?

☐

1. see a doctor
2. Do not see a doctor, just take some medicines

3. others, specify _____

G8. If you or your family members are very sick, what do you do?

☐

1. Go to see a doctor
2. Not to go to see a doctor, just take some medicines
3. others, specify _____

G9. Have you and your spouse had your physical check-ups done regularly at a hospital or a clinic?

☐

1. Yes.
2. No

G10. Have your children had their immunization and regular vaccines done?

☐

1. Yes.
2. No

G11. If your children have never had their immunization/vaccines at a local hospital/clinic, did they get their immunization in another hospital/clinic?

☐

1. Yes.
2. No

G12. Have any of your children ever been diagnosed as malnourished (e.g. poor physical development) by their doctors?

☐

1. Yes
2. No.

H. Relationship with the Host Community and Its Members

H1. In the following questions, could you tell me whether you have visited any of the following places, and how many visits in the past month?

	0.Never visited	1.visited once	2. Visited twice	3. Visited three times	4. More than three times
1.Library					
2.Bookstore					
3.Movie theatre					
4.Dancing hall					
5.Video theatre					
6.Community centre					
7.Park					

H2. Could you tell me who are the three best friends of yours in this city?

	<i>1.None</i>	<i>2.Local co-worker</i>	<i>3.local neighbour</i>	<i>4.fellow migrant worker</i>	<i>5.others</i>
1. First friend					
2. Second friend					
3. Third friend					

☐
☐
☐

H3. If you encounter any of the following situations, whom would you turn to for help **FIRST**?

	1. Financial Difficulties	2. Personal safety
<i>1. Family members living in this city</i>		
<i>2. Relatives living in this city</i>		
<i>3. People from my place of origin</i>		
<i>4. Local friend</i>		
<i>5. Employer</i>		
<i>6. Community cadre</i>		
<i>7. Police</i>		
<i>8. Local government office</i>		
<i>9. Government office at place of origin</i>		
<i>10. No one</i>		
<i>11. Other people, specify:</i>		

(code)

☐
☐

H4. Are you satisfied about the community you are currently living in?

☐

1. Very satisfied 2. Satisfied 3. Just so so. 4. Dissatisfied 5. Very dissatisfied

(H5 — H14 to be answered by migrants only)

H5. How do you feel about the attitudes of local residents toward you?

☐

1. friendly
2. fair and equal
3. Don't care
4. Not friendly
5. Look down upon
6. dislike
7. No contact with local residents
8. Have some contacts with local residents, but don't know their attitude

H6. How many times did you visit your place of origin?

☐

1. None
2. once
3. twice
4. once each month
5. other frequency, specify _____

H7. Do you care about what is happening at your place of origin?

☐

1. Yes, I care
2. No, I don't care

H8. If you do care, what specifically do you care about? Could you tell me some details?

H9. If you don't care, why not?

H10. Do you care about what is happening in this city?

1. Yes, I care
2. No, I don't care

H11. If you do care, what specifically do you care about? Could you tell me some details?

H12. If you don't care, why not?

H13. If your *hukou* is not registered in this city, do you regard yourself as a resident of this city?

☐

1. Yes
2. No

H14. If your *hukou* is not registered in this city, would you like to become a resident of this city?

☐

1. Yes, I'd like to become a resident of this city
2. No, I don't.

(H15 — H20 to be answered by local residents only)

H15. How do you feel about the attitudes of migrants toward you?

☐

9. friendly
10. fair and equal
11. Don't care
12. Not friendly
13. Look down upon
14. dislike
15. No contact with migrants
16. Have some contacts with migrants, but don't know their attitude

H16. What would be your attitude toward migrant workers coming to the cities?

☐

1. support
2. oppose (*skip to H18*)
3. don't care (*skip to H19*)

H17. If you answered "support" in H16, is this because you think that:

☐

1. migrants make contribution to the local economy
2. migrants provide services to local community
3. Migrants bring economic benefits to local residents
4. Other reasons, please specify_____

H18. If you answered "oppose" in H16, is this because you think that:

☐

1. Migrants create troubles in the society
2. Migrants take job opportunities from local residents
3. Migrants make community living conditions worsening
4. Migrants burden public transportation system
5. Migrants have bad influence to my children
6. Other reasons, please specify_____

H19. Have you or your family members ever derived any benefited from migrants?

☐

1. Yes
2. No

H20. If H19 answer is "yes", what are the benefits?

☐

1. Rental income from migrants
2. Employ migrant workers
3. Employed by migrants
4. Enjoyed services provided by migrants
5. Other benefits, specify_____

Thank you very much for your time!

Interview ending at:	____ year ____ month ____ day ____ hour ____ minute
Cooperation of the respondent	1. Very cooperative 2. cooperative 3. Not so cooperative

Signature of interviewer	
Other notes	

Appendix Questionnaire (in Chinese)

南开大学人口与发展研究所

“迁移和流动劳动力与中国大城市的发展” 研究课题

调查问卷

我们是南开大学人口与发展研究所的研究人员。我们想占您一点时间，请您填写一份有关您和您的家庭的问卷。您的回答对我们非常重要。我们保证，您填写的任何信息都不会泄露给我们这些研究人员以外的任何人。您的名字、地址和其它信息是用来确认您和您的家庭的，这些情况不会以任何形式发表。

如果您愿意参加这项调查，请在这里打勾_____。

2008 年 月 日

城市： 1. 北京 2. 上海 3. 天津 4. 广州

社区		编码	<div></div> <div></div>
调查表序号	<div></div> <div></div> <div></div> <div></div>		
被访人姓名			
被访人性别	1 男 2 女	编码	<div></div>
被访人出生年月	____年/____月	编码	<div></div> <div></div> <div></div> <div></div> / <div></div> <div></div>

调查员		编码	<div></div> <div></div>
调查日期	___/___年___/___月___/___日	编码	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div>
问卷开始时间	_____时_____分		

访问记录

	第一次	第二次	第三次
日期			
时间			
访问结果 1 成功访问 2 拒绝 3 不在家，已留言			
其他记录			

A. 目前在现住所与您住在一起的户成员（提示调查员：填答以下表格，请用对话口气提问每一个问题）

A1	A2	A3	A4	A5				A6	A7	15 岁以上的人填答					6-15 岁儿童填答
										A8	A9	A10	A11	A12	A13
家庭成员 序号	姓名	性别 1 男 2 女	与被访人 的关系 (见代码)	出生年月				户口状况 1. 农业户口 2. 非农业户口 3. 户口待定	户口所 在地 1. 本地 1. 外地	教育程度 (见代码)	婚姻状况 (见代码)	雇主类型 (见代码)	主 要 工 作 行业类别 (见代码)	主 要 工 作 职业类别 (见代码)	是否在本地上学 (1. 是, 2 否)
				年	月										
1		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

（每个属于迁移和流动人口的15 岁以上家庭成员继续添以下问题: A14 到A17）

A1	迁移和流动人口填答													
	A14	A15	A16				A17				A18			
家庭成员 序号 (和上 表一致)	迁移和流动前户 口所在地	在 原 籍 的 职业 (见代码)	第一次迁移年份				迁入本市年份				迁入本社区年份			
1		<input type="checkbox"/> <input type="checkbox"/>				年				年				年
2		<input type="checkbox"/> <input type="checkbox"/>				年				年				年
3		<input type="checkbox"/> <input type="checkbox"/>				年				年				年

A4 与被访人关系代码 1 被访人本人 2 配偶 3 父母 4 子女 5 兄弟姐妹 6 其他亲属 7 其他非亲属	A8 教育程度代码 1 大专及大专以上 2 高中或相当于高中 3 初中 4 小学 5 文盲或识字很少	A9 婚姻状况代码 1 从未结过婚 2 未婚同居 3 已婚（目前有配偶） 4 离婚 5 丧偶
	A11 行业代码 1 农、林、牧、渔水利业 2 采掘业及地质勘探业 3 制造业 4 建筑业 5 交通、运输、邮电及通讯业	A12, A15 职业代码 1 国家机关、党群组织、企业、事业单位负责人 2 专业技术人员 3 办事人员和有关人员 4 商业、服务业人员
A10 雇主类型代码 1 国家机关、事业单位、学		

4		<input type="text"/> <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年
5		<input type="text"/> <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年
6		<input type="text"/> <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年
7		<input type="text"/> <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年
8		<input type="text"/> <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	年

校及研究单位 2 国营类企业 3 集体类企业 4 三资类企业 5 股份制企业 6 私营企业 7 个体工商户 8 自我雇佣 9 其它类型	6 商业、饮食业、及供销仓储业 7 房地产管理业 8 居民个人服务及咨询服务业（包括各种生活用品修理） 9. 卫生体育文教及艺术事业 10 科研及技术服务业 11. 金融及保险业 12 政府机关及社会团体 13 其它行业 14 不知道	5 农、林、牧、渔水利生产人员 6 生产、运输设备操作人员及有关人员 7 不便分类的其他从业人员
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B. 居住情况 (提示调查员: 填答以下表格, 请用对话口气提问每一个问题)

(编码)

B1	居住类型	1.自建楼房 2.购买房屋 3.租赁楼房 4.租赁平房 5.自建平房 6.自建窝棚 7.雇主提供 8.其它	<input type="checkbox"/>
B2	房屋建筑材料	1.钢筋混凝土 2.砖瓦 3.木板 4.其它	<input type="checkbox"/>
B3	如果购房, 房价金额 (元)		(元) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B4	如果购房, 购房时间	_____年_____月	(年/月) <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/>
B5	如果租房, 租房形式?	1、独租 2 合租分摊 3 单位提供或补贴	<input type="checkbox"/>
B6	有几个卧室		<input type="checkbox"/> <input type="checkbox"/>
B7	住房使用面积 (平方米)		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B8	同住的人口数		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B9	有无自来水	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无自来水	<input type="checkbox"/>
B10	厨房设施	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无厨房	<input type="checkbox"/>
B11	燃料类型	1.燃气 2.燃煤 3. 燃柴 4.其它	<input type="checkbox"/>
B12	取暖设施	1.暖气 2.炉子 3.其它 4. 无取暖设备	<input type="checkbox"/>
B13	厕所	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无厕所	<input type="checkbox"/>
B14	洗澡间	1.室内自用 2.室内共用 3.室外自用 .4.室外共用 5.无洗澡间	<input type="checkbox"/>
B15	居住区内公共垃圾清理点	1.有定期处理 2.无定期处理 3.自行处理 4. 其它	<input type="checkbox"/>

B16	在现住所的居住时间	1.少于半年 2.半年到一年 3.一年到三年 4.三年到五年 5.五年以上	<input type="checkbox"/>
B17	在本市现住所之前的住房类型	1.自建楼房 2.购买房屋 3.租赁楼房 4.租赁平房 5.自建平房 6.自建窝棚 7.雇主提供 8.其它	<input type="checkbox"/>

C. 收入和支出 (提示调查员: 填答以下表格, 请用对话口气提问每一个问题)

按照过去一年的情况	十万	万	千	百	拾	元
C1. 请您估计您家的平均月收入 (元)						
C2. 估计的每月食品支出 (元)						
C3. 估计的每月服装支出 (元)						
C4. 您每月的房租支出是多少 (元)						
C5. 如果一次性购房, 房款多少 (元)						
C6. 如果分期购房, 每月的付款是多少 (元)						
C7. 平均每月给家乡寄钱多少 (元)						
C8. 每月大概有多少节余 (元)						

D. 家庭基本消费品 (1: 有; 0: 没有)

编号	类别	现居住地	原居住地
D1	电视机	<input type="checkbox"/>	<input type="checkbox"/>
D2	电冰箱或冰柜	<input type="checkbox"/>	<input type="checkbox"/>
D3	VCD 机	<input type="checkbox"/>	<input type="checkbox"/>
D4	收录机	<input type="checkbox"/>	<input type="checkbox"/>
D5	照相机	<input type="checkbox"/>	<input type="checkbox"/>
D6	微波炉	<input type="checkbox"/>	<input type="checkbox"/>
D7	电风扇	<input type="checkbox"/>	<input type="checkbox"/>
D8	洗衣机	<input type="checkbox"/>	<input type="checkbox"/>
D9	电话或手机	<input type="checkbox"/>	<input type="checkbox"/>
D10	空调	<input type="checkbox"/>	<input type="checkbox"/>
D11	摩托车	<input type="checkbox"/>	<input type="checkbox"/>
D12	电脑	<input type="checkbox"/>	<input type="checkbox"/>
D13	汽车	<input type="checkbox"/>	<input type="checkbox"/>

E. 个人基本情况

E1. 请问您的正式户口在哪里?

☐

1. 本市城镇

2. 本市农村

3. 本省的其他城镇

4. 本省的其他农村

5. 其他省份城镇

6. 其他省份农村

E2. 请您告诉我您的户口所在地在哪? (提示调查员: 请填写具体省市或县, 现在不用编码)

_____省 _____市或县 ☐ ☐ ☐

☐

E3. 您是什么时候来到本市的?

☐ ☐ ☐ ☐ / ☐

☐

1. _____年 _____月迁入 2. 出生在本市(跳到E5)

E4. 您为什么要来这个城市? (提示调查员: 请被访人自己说出迁移原因后再圈填)

☐

10. 务工经商
11. 工作调动
12. 分配录用
13. 学习培训
14. 拆迁搬家
15. 婚姻迁入
16. 随迁家属
17. 投亲靠友
18. 其他, 请具体说明_____

E5. 请您告诉我您的婚姻状况

☐

6. 未婚 (跳到F1)
7. 已婚
8. 离异 (跳到E10)
9. 丧偶 (跳到E10)
10. 非婚同居(跳到E9)

E6. 您的配偶现在与您同住本市吗?

☐

1. 同住本市
2. 不同住本市 (跳到E8)

E7. 您的配偶现在与您同住在这个住所吗?

☐

1. 是 (跳到E9)
2. 不是

E8. 如果您的配偶现在没有与您一起住, 是因为:

☐

7. 留在原籍
8. 在本市其它地方工作
9. 在本市之外工作
10. 住集体宿舍
11. 无钱租房
12. 其它原因, 请具体说明_____

E9. 您 (男性) 现在配偶的年龄或您 (女性) 现在的年龄_____?

☐ ☐

E10. 您 (或您配偶) 是否生育过?

☐

1. 生育过 2. 未生育过 (跳到F1)

E11. 每个孩子的状况?

胎	生存状况	年	性	是否同住
---	------	---	---	------

次	(1 存活 2 不存活)	龄	别	(1 同住 2 不同住)
第一胎				
第二胎				
第三胎				
第四胎				

E12. 如 E11 有不同住子女, 请回答为什么有的子女现在没有与您住在一起?

☐

5. 与其他亲戚同住, 在原籍上学
6. 在其它地方工作
7. 与其他亲戚同住, 但没有在原籍上学
8. 其它原因, 请具体说明_____

E13. 与您同住本市的学龄子女(6-15 岁)目前是否在本市上学?

☐

5. 全部在本市上学
6. 部分在本市上学
7. 都不在本市上学
8. 不适用 (跳到 F1)

E14. 在什么类型的学校上学?

☐

1. 公立学校
2. 正规私立学校
3. 非正规私立学校

E15. 如果有在本市上学的子女, 每学期您要为他们共交纳多少学费, 杂费, 以及赞助费?

_____ 元

(元)

E16. 如果有在本市不上学的学龄子女, 为什么?

☐

7. 学费太高
8. 不愿意上学
9. 要给家里帮忙或帮工
10. 学校不接收
11. 其他, 请具体说明_____

F. 就业和相关问题

F1. 您目前做什么工作?

☐

1. 国家机关、党群组织、企业、事业单位负责人
2. 专业技术人员
3. 办事人员和有关人员
4. 商业、服务业人员
5. 农、林、牧、渔水利生产人员
6. 生产、运输设备操作人员及有关人员
7. 不便分类的其他从业人员

F2. 您目前在什么单位工作_____ (请填写具体单位)

☐

1. 农、林、牧、渔水利业
2. 采掘业及地质勘探业
3. 制造业
4. 建筑业

5. 交通、运输、邮电及通讯业
6. 商业、饮食业、及供销仓储业
7. 房地产管理业
8. 居民个人服务及咨询服务业（包括各种生活用品修理）
9. 卫生体育文教及艺术事业
10. 科研及技术服务业
11. 金融及保险业
12. 政府机关及社会团体
13. 其它行业
14. 不知道

F3. 您所工作的单位主要产品或服务类型？

☐

1. 高新技术产品或服务
2. 一般机电产品或服务
3. 日常生活用品或服务
4. 其他_____

F4. 您现在工作的雇主是哪一类？

☐

1. 国家机关、事业单位、学校及研究单位
2. 国营类企业
3. 集体类企业
4. 三资类企业
5. 私营企业
6. 个体工商户
7. 自我雇佣
8. 其它类型，请具体说明_____

F5. 您是怎样得到您目前这份工作（主要工作）的？

☐

9. 政府分配
10. 通过私人中介
11. 通过政府中介
12. 通过亲友介绍
13. 未通过中介, 自己找的
14. 通过招工广告 (报纸或其它媒介)
15. 用人单位直接招工
16. 其他，请具体说明_____

F6. 您现在工作单位规模？ _____

☐

1. 10 人以下
2. 10 -50 人
3. 50-300 人
4. 300-1000 人
5. 1000 人以上

F7. 在上个月，您同时做了几份_____工作？

☐

F8. 您每天通常要工作多少小时？

9. 第一份工作_____小时

☐
☐

10. 第二份工作_____小时

☐☐

11. 第三份工作_____小时

☐☐

F9. 您与雇主是否签订了劳动合同?

☐

7. 签了

8. 没签 (跳到F14)

F10. 如果签了劳动合同, 您什么时候签的合同?

☐

1. 刚开始这份工作时候

2. 今年年初 (2008 年以后) /最近

3. 其他时间_____

F11. 您与雇主签了那种劳动合同?

☐

1. 半年及半年以下

2. 一年

9. 二到五年

10. 五年以上

11. 无固定期限劳动合同 (长期合同)

12. 其它, 请具体说明_____

F12. 您认为签订劳动合同对您有何好处?

☐

1. 工资有保证

2. 雇主不能随便解雇我

3. 能有退休保险和其他保险

4. 没有什么好处 (转F13)

5. 其他_____

F13. 为什么您认为签劳动合同没有什么好处?

请具体说明_____

F14. 如果没有签订合同, 为什么没有签订合同?

☐

1. 雇主没提起

2. 不知道应该签合同

3. 手续太麻烦

4. 没有必要

5. 本人要求过, 但雇主不答应

6. 其他_____

F15. 您知道最近国家颁布了新的《劳动合同法》吗?

☐

1. 知道

2. 不知道 (跳到F18)

F16. 新的《劳动合同法》都有那些主要内容? (可多项)

☐☐☐☐☐☐☐☐☐

1. 用人单位必须与劳动者签订书面劳动合同

2. 劳动合同必须明确工作期限和劳动报酬

3. 同一用人单位对同一劳动者的试用期只有一次，且最长不得超过六个月
4. 试用期工资不能低于最低工资标准和合同工资的 80%
5. 用人单位不得扣押劳动者证件、收取押金和要求担保
6. 除专项培训费用和保密责任外，用人单位不得要求劳动者承担违约金
7. 用人单位要为劳动者购买社会保险
8. 用人单位不得强迫或者变相强迫劳动者加班
9. 用人单位不能随便辞退劳动者，如辞退，必须依法提供经济补偿

F17. 您对这个新的《劳动合同法》有什么看法？（可多项）

☐ ☐ ☐ ☐ ☐

- 1 有利于保护劳动者权益
- 2 提高了劳动者的地位
- 3 法律可能很难落实
- 4 可能更难找工作了
- 5 其他_____

F18. 您是否接受过培训？

☐

1. 接受过
2. 没有（跳到F20）

F19. 通过什么途径接受培训？

☐ ☐ ☐
☐

1. 市场
2. 政府
3. 单位
4. 其他_____

F20. 下表是一些有关就业场所劳动福利和劳动报酬的问题，请您告诉我您是否享受这些福利或报酬。（提示调查员：请用对话形式逐一询问以下问题，然后圈填答案）

1. 公共节假日,比如五一,十一,您一般是否休息?	1.是 2.否 3. 不一定或不知道	
2. 您周六或者周日一般是否休息?	1.是 2.否 3. 不一定或不知道	
3. 您是否享受公费医疗或参加医疗保险?	1.是 2.否 3. 不一定或不知道	
4. 您是否参加了任何养老保险?	1.是 2.否 3. 不一定或不知道	
5. 您是否参加了失业保险?	1.是 2.否 3. 不一定或不知道	
6. 您是否有工伤保险?	1.是 2.否 3. 不一定或不知道	
7. 如果是女性, 您是否享受产假等有关生育的法定假日?	1.是 2.否 3. 不一定或不知道	
8. 您是否经常被雇主拖欠工资?	1.是 2.否 3. 不一定或不知道	
9. 如果您加班, 您的用人单位或雇主是否支付加班费?	1.是 2.否 3. 不一定或不知道	

F21. 您的工资结算方式？

☐

1. 按天结算
2. 按周结算
3. 按月结算
4. 按季度结算
5. 按年结算

6. 一年以上

F22. 您每月从目前的所有工作中挣多少钱? _____元

F23. 您目前的主要工作干了多长时间?

_____年_____月

 /

F24. 在过去的一年中, 您换了几个雇主? _____次数

F25. 在找寻工作的过程中, 是否受到歧视或不公正待遇?

1. 是的

2. 没有 (跳到F27)

F26. 为什么受到歧视或不公正待遇? (可多项)

1. 非本地户口

2. 性别原因

3. 年龄原因

4. 其他_____

F27. 过去一年里, 有大约多长时间_____月没有工作?

1. 1月以下

2. 1-3月

3. 3-6月

4. 半年以上

F28. 为什么没有工作?

F29. 无工作期间, 生活主要来源

1. 储蓄

2. 银行借贷

3. 亲友帮助

4. 失业保险

5. 低保

6. 其他_____

F30. 您对目前工作满意吗?

1. 满意 (跳到F32)

2. 不满意

F31. 如果不满意, 为什么? (可多项)

1. 工作环境不好

2. 收入太少

3. 社会地位低

4. 其他_____

F32. 目前您的主要工作是您在本市的第一份工作吗?

3. 是 (跳到G1)

4. 否

F33. 您在本市的第一份工作的雇主是哪一类?

☐

1. 国家机关、事业单位、学校及研究单位
2. 国营类企业
3. 集体类企业
4. 三资类企业
5. 私营企业
6. 个体工商户
7. 自我雇佣
8. 其它类型, 请具体说明_____

F34. 您是怎样得到您在本市的第一份工作的?

☐

1. 政府分配
2. 通过私人中介
3. 通过政府中介
4. 通过亲友介绍
5. 未通过中介, 自己找的
6. 通过招工广告 (报纸或其它媒介)
7. 用人单位直接招工
8. 其他, 请具体说明_____

F35. 您认为您的现有工作要比您在本市的第一份工作好吗?

☐

1. 好得多
2. 好一些
3. 差不多/一样
4. 差一些
5. 差得多

G. 生活条件, 消费及相关问题

G1. 您选择居住在这个住所的主要原因是什么?

☐

(提示调查员: 请被访人自己回答, 然后再圈答案)

8. 没其他地方可以去
9. 房租/房价低
10. 老乡熟人多
11. 做工做生意方便
12. 生活方便
13. 有安全感
14. 福利分房
15. 雇主提供
16. 其它, 请具体说明_____

G2. 您是怎样找到这个住所的?

☐

8. 雇主提供
9. 熟人介绍
10. 租房/售房广告

11. 亲戚朋友提供
12. 自己找的
13. 其他, 请具体说明_____

G3. 您是否考虑过想换住所?

☐

3. 考虑过
4. 没考虑过 (跳到 G5)

G4. 如考虑过换住所, 为什么没换?

☐

8. 别处房租/房价太高
9. 做工做生意不方便
10. 周围没同乡朋友
11. 怕跟周围居民处不好
12. 没有为我们服务的设施
13. 不熟悉其它地方的环境
14. 其他, 请具体说明_____

G5. 在这一住处, 是否有任何家庭成员或亲戚与已婚夫妇住在同一间屋内?

☐

1. 有
2. 没有

G6. 您**主要**在哪里为您的家人购买: (提示调查员: 打勾, 每行只选一个)

	1 街头小贩	2 百货店	3 超级市场	4 农贸市场	5 自制	6 其它
1. 食品						
2. 服装和日用品						

H. 与本市社区成员和社会成员的关系

H1. 以下我们想问您的业余生活。过去一个月内您**经常**去以下地点:

(提示调查员: 打勾, 每行选一个)

	0. 没去过	1. 一次	2. 二次	3. 三次	4. 三次以上
1. 图书馆					
2. 书店					
3. 电影院					
4. 歌舞厅					
5. 录象厅					
6. 社区活动中心					
7. 公园					

H2. 我想问一下您在本地的三个**联系最紧密**的朋友与您是什么关系?

(调查员提示: 打勾, 每行只选一个)

	1. 无	2. 本市同事/熟人	3. 本市邻居	4. 外来同乡	5. 其他外地人
1. 第一个					
2. 第二个					
3. 第三个					

H3. 如果您遇到经济困难时, 您**首先**向谁求助?

☐

1. 本市的家庭成员
2. 本市的亲戚
3. 同乡
4. 本地朋友
5. 雇主
6. 社区干部
7. 警察
8. 当地政府部门
9. 家乡政府部门
10. 谁都不找
11. 其他, 请具体说明_____

H4. 您对您所居住的社区是否满意?

☐

1. 很满意
2. 满意
3. 一般
4. 不满意
5. 很不满意

(H5 — H16 仅限于外来流入人口回答)

H5. 您认为本地居民对您的态度是

☐

17. 亲近
18. 平等
19. 无所谓
20. 不友好
21. 看不起
22. 有反感
23. 与本地人没交往
24. 有交往但说不好

H6. 如果您不是本地居民, 您在过去一年里, 回老家的次数

☐

6. 没回去
7. 一次
8. 两次
9. 每月一次
10. 其他, 请具体说明_____

H7. 在过去的一年里, 您和家乡联系的主要方式

☐

1. 电话
2. 信件
3. 电子邮件
4. 其他_____

H9. 在过去的一年里, 您和家乡联系的频率

☐

1. 经常
2. 有时
3. 很少
4. 没有

H10. 您关心老家发生的事情吗?

☐

1. 关心
2. 不关心. (跳到H12)

H11. 如果关心, 您关心老家发生的什么事情? (最关心的3件)

☐ ☐ ☐

1. 土地制度

2. 宅基地
3. 集体分红
4. 基础设施建设
5. 计划生育政策
6. 农产品价格
7. 收入水平
8. 亲朋好友
9. 其他请具体说明_____

H12. 如果否, 为什么? (具体回答)

H13. 您是否帮助过家乡其他人来本市工作过? ☐

1. 是的
2. 没有 (跳到H15)

H14. 您帮助过多少人来本市工作过? ☐

1. 10人以下
2. 10人—20人
3. 20人—50人
4. 50人—100人
5. 100人以上

H15. 您关心本市发生的事情吗? ☐

1. 是.
2. 否.

H16. 如果您的户口不是本地的, 您认为自己是本市居民吗? ☐

3. 是.
2. 否.

H17. 如果您的户口不是本地的, 您将来有何打算? ☐

1. 本地定居
2. 回老家
3. 转战其他城市
4. 暂时没打算

H18. 您在原居住地是否保留 (可不止一项) ☐ ☐ ☐

1. 耕地
2. 宅基地
3. 房屋
4. 其他_____

H19. 您认为在城市生活的最大困难是什么?

(H20 — H24 仅限于本地居民回答)

H20. 您认为外来流动人口对您的态度是

☐

1. 亲近
2. 平等

2. 无所谓
3. 不友好
4. 看不起
5. 有反感
6. 与外地人没交往
7. 有交往但说不好

H21. 您认为外地人流入本市是正面影响大还是负面影响大？

☐

1. 正面影响大
2. 负面影响大
3. 差不多
4. 说不清

H22. 您或您的家人是否受益于外地人的流入？

☐

3. 是
4. 否 (跳到 H24)

H23. 如 H22 答是，具体受益是什么？（可多项）

☐ ☐ ☐ ☐
☐

6. 收房租
7. 雇佣外地人
8. 受雇于外地人
9. 享受外地人提供的服务
10. 其他，请具体说明_____

H24. 您认为现在针对流动人口的方针政策应该调整吗？

☐

1. 更严格的控制流动人口
2. 改善对外来流动人口的待遇
3. 给予外来流动人口全面市民待遇
4. 维持现状，暂时不调整

谢谢您的合作！

问卷结束时间	_____年_____月_____日_____时_____分
被访人态度	1.合作 2. 一般 3. 不大合作
调查员签字	
其它备注	