Dynamic changes of labour market and employment opportunities of migrant workers in transitional China: evidence from three metropolises[1]

Yeqing HUANG[2] & Neng WAN[3]

Abstract

Migrant workers in China complemented the local urban labour market until the end of the 1990s, working in professions and jobs not favoured by local urbanites. Segregation between migrant workers and local urbanites occurred mainly through institutional constraints and the legacy of the *hukou* system. Metropolises were the main destinations for migrant workers, and governments restricted local enterprises from employing non-local workers, with the result that migrant workers tended to be employed in mostly labour-intensive or agriculturally relevant industries. City-based state-owned enterprises (SOEs) and collective enterprises were least likely to employ migrant workers. This study examines enterprises in three metropolises of China in 2008. This paper discusses the changes to migrant workers' employment opportunities and predicts the future trend of segregation in the urban labour market. The paper argues that the migrant workers' role is changing from one of complementarities to a mixture of complementarities and substitutions in the current urban labour market. Newly emergent ownerships, including joint ventures, joint-stock and listed enterprises, employ a high percentage of migrant workers. Though the SOEs are still not very open to migrant workers, the employment of incremental migrant workers indicates that access is becoming less restricted.

[1] Acknowledgements: The data analyzed in this paper comes from ARC-Discovery Project "Migrant Labour in Large Chinese Cities" (Principle investigator: Dr. Fei Guo, Macquarie University, Australia). The writing of this paper was supported by Macquarie University Postgraduate Research Grant (2010).
[2] Dr. Yeqing Huang is a lecturer in School of Economics and Management, Tongji University, Shanghai, China. Dr. Neng Wan works as financial manager in Agricultural Bank of China, Jiangxi Province.
[3] Dr. Neng Wan works as financial manager in Agricultural Bank of China, Jiangxi Province.

Key Words: Urban labour market; Segregation; Migrant workers; Employment; China

1.1 Introduction

Economic reform and restructuring in China in the middle and late 1990s caused huge employment pressure in large cities. Both governments and local urbanites considered that migrants from rural areas threatened the employment opportunities of local residents[4] (Yuan, 2006), and that conflicts between non-migrants and migrants would lead to social and political instability. Therefore, local governments introduced policies to restrict the professions and sectors in which migrants were permitted to work[5].

Segregation had been obvious between people with different *hukou* status[6] during the 1990s. Rural migrants made up a small proportion of white-collar workers; most migrants worked in labour-intensive industries and professions shunned by local urbanites, and job and wage discrimination were widespread in the cities (Guo & Iredale, 2004; Knight, Song, & Jia, 1999; Wang & Shen, 2001). Yet the migration from rural to urban areas and from undeveloped to developed

---

[4] Yuan (2006) empirically tests the correlation between unemployment and the flows of rural to urban migrants, and suggests there is not a necessary connection between the two. The rural-urban migrants, to some extent, were scapegoats (Solinger, 1999).

[2] Local governments in metropolises such as Beijing, Shanghai and Guangzhou all had experiences of implementing particular regulations on constraining employment opportunities in the local city; the regulations required the enterprises to employ migrant workers in categories that local urbanites would rarely choose.

[6] *Hukou* status is also called household registration system, which is labeled on people when they were born. The distinction between rural and urban hukou status was significant in obtaining food, daily necessities, employment and welfare during the state socialist China. After the economic transition from a planned to a market economy, the affiliated benefits and opportunities began to be detached from the *hukou* system; Chinese central government also takes a series of policies to develop the rural economy. However, it is considered that the legacy of the *hukou* system still affects contemporary Chinese people.

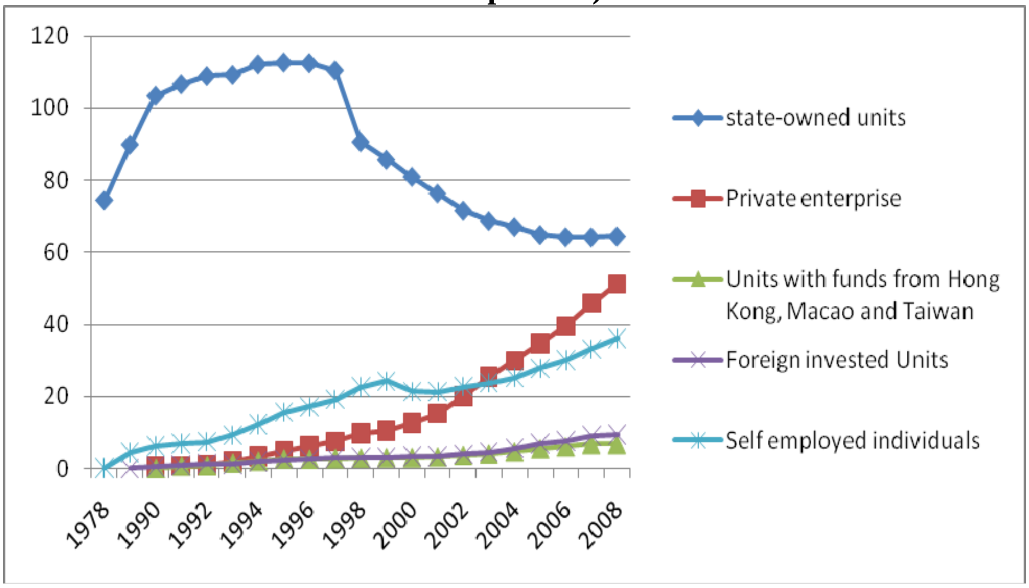
regions continued unabated, as employment opportunities and economic rewards were higher than in the migrants' places of origin. Empirical studies of the labour market in the 1990s[7] illustrated that the urban labour market was segmented into migrants and non-migrants, with little competition between the two groups; overall, migrants played a complementary role in the local urban labour market.

China's economy has changed since the end of the 1990s in several ways. First, the economic monopoly of the state-owned enterprises (SOEs) has gradually declined, from about 80 per cent of gross output at the end of the 1970s to less than 26.5 per cent by the end of the 1990s (Zheng, 2004, p. 4). At the same time, China has also become the most favoured destination of all developing countries for foreign direct investment (FDI). From 1988 to 2000, actual or utilised FDI increased at an annual average rate of 23 per cent, reaching a cumulative total of US$339 billion, and foreign-invested enterprises (FIEs) had grown to account for almost half of all exports from China (Zheng, 2004, p. 4). Second, the number of persons employed in SOEs has decreased 20 per cent since 1998, while the numbers of those working in private enterprises or as self-employed are climbing even faster (see Figure 1-1). Third, at an individual level, employment opportunities are no longer allocated by the state. Since 1998, Chinese university graduates have not been assigned to particular employment. Therefore, the urban labour market is more complicated and stratified, with divisions not only between rural migrants and local urbanites, but also among large numbers of urban-to-urban migrants, university graduates[8], laid-off workers[9] and foreign immigrants.

[7] For instance, Guo and Iredale (2004) using 1997 Beijing statistics, Knight, *et, al.* (1999) using 1995-1996 survey data from Ministry of Labour.

[8] Lian (2009) surveyed several urban communities of university graduates in metropolises of China, and found a marginalised urban life of these highly educated people. Because of

Figure 1–1 Number of employed persons at year-end in urban areas (1 million persons)



Source: National Bureau of Statistics (2009)

The rapid growth of economic capitalism in China raises doubts about the validity and legitimacy of employment constraints on migrants. Indeed, attempts to control the inflow of migrants after 2000 were less successful than previously. By early 2011, Beijing's population had reached 19.7 million and was growing much faster than expected (Net, 2011). Several mega-cities have populations of more than 10 million. In cities like Shenzhen and Dongguan in Guangdong province, migrants outnumber the local population. These figures indicate the long-term inefficiency of using *hukou* status to implement geographical control[10].

fierce competition and high living cost in metropolises, they have to live at the periphery of the cities, with some characteristics in common with the urban villages where rural-to-urban migrants live. This book gives good examples of other urban groups who are also confronted with social exclusion in the process of economic restructuring in China.

[9] Laid-off workers are those who lose their jobs in SOEs and become one of the most marginalised social groups in transitional China. Before economic reform in SOEs, the government promised most urban workers in SOEs with permanent employment and comprehensive welfare benefits in the working unit. However, at the end of the 1990s, economic reform requires SOEs to act as an independent entity rather than a miniature welfare state. Then a large number of workers, who were considered as redundant, were dismissed and became unemployed.

[10] Beijing always implemented much stricter measures than other cities in controlling the

Indeed, the ineffectiveness of migration control has also been affected by changes in demographic structure, despite China's overall policy of "low fertility, low death rate and low net increase rate". First is the lack of balance between rural and urban areas (J. Zhang, 2000). The varied pace of implementing family planning policy throughout China has led to a lower fertility rate in urban areas than in rural areas, with the result that the problems of an ageing population are severe in urban regions. It is estimated that population change in rural areas lags that of urban areas by 20 years (J. Zhang, 2000). It is likely that urban China will face labour shortages and an ageing population, while rural China has a surplus labour force. The second imbalance lies between developed and undeveloped regions. The fertility rate in developed regions, especially metropolises, is lower than in undeveloped regions, with the expected outcome that the large labour supply in undeveloped regions will bring increasing competition in the destination cities. Indeed, Guangzhou statistics for 2000 showed that over 50% of employees in 18 out of 25 professions were migrants (Li, 2004) (see Table 1-1).

The factors discussed above highlight the need to further examine the effects of internal migrants on the labour market. This paper asks whether there has been a trend of substitution in the local urban labour market since the 1990s. Through analysing data from a survey of enterprises in metropolitan China, this article argues that the trend of competition and substitution in the local urban labour

---

inflows of migrants. In 1995, the Beijing government not only founded a management agency to control and manage the migrants, but also issued 11 regulations on employment, housing and family planning supervision. In 1997, Beijing implemented three large-scale clean-ups of migrants without legal certificates, which resulted in a decrease of 25% in the number of migrants. However, after 2000, Beijing has seen greater population expansion. The 1% population sample data in 2005 estimate the number of migrants residing in Beijing for longer than six months reached 3.57 million, which means one in every four people in Beijing must be a migrant.

market in the late 2000s is more obvious than it was in the 1990s; institutional constraints on migrants are not as effective as in the state socialist period, and market mechanisms play an increasingly important role in employment opportunities.

Table 1–1 Proportion of migrants employed in different professions in Guangzhou in 2000 (%)

S/N	Profession	Proportion (%)
1	Tailoring, sewing and leather processing and making	88.3
2	Handicraft and artwork	88.3
3	Glass, porcelain and enamel processing and production	87.9
4	Textiles, needlework and dyeing	84.2
5	Electronic device and equipment manufacturing, assembling, debugging and maintenance	82.3
6	Wood processing, wood-based panel production and processing	81.4
7	Cultural, education and sport articles production	79.7
8	Construction materials	78.2
9	Rubber and plastic production	77.0
10	Construction	76.0
11	Printing	71.7
12	Mechanical processing	70.2
13	Electromechanical product assembly	69.9
14	Metal smelting and rolling	66.9
15	Inspection and measuring	60.3
16	Food and beverage production and processing personnel	60.2
17	Chemicals	58.4
18	Surveying and mining	54.2
19	Mechanical equipment maintenance	39.8
20	Broadcasting and TV	38.6
21	Power equipment installation, operation, maintenance and supply	35.4
22	Environment monitoring and waste treatment	32.5
23	Transport equipment operation	27.1
24	Drug production	24.3
25	Tobacco products	4.3

Data Source: Li (2004, p. 89)

Most existing empirical studies discuss the labour market issue from the supply side (rural migrants), while the demand side (the employers) has received little attention. A better understanding of whether enterprises are more affected by institutional constraints or more stimulated by market competition will illustrate the openness of the urban labour market in contemporary China. Enterprises in Beijing, Tianjin and Shanghai were sampled for this study. The next section broadly reviews current studies of the urban labour market and unequal opportunities of employment. This is followed by a description of the methodology, the empirical results, and finally a brief discussion and conclusion.

1.2 Literature review of segregated urban labour market and employment opportunities of migrants

In contrast to most developing countries, which typically have formal and informal labour markets, studies show that China's urban labour market is segregated and suffers from institutional inequality and incomplete competition. Employment opportunities in urban China are highly correlated with the *hukou* system. A hierarchy exists with permanent migrants at the top as the privileged and successful elite, below them the non-migrant natives, and temporary migrants at the bottom (Fan, 2002). Most rural-to-urban migrants fall into the category of temporary migrants who have difficulty entering the formal employment sector or, even if they find work, are deprived of equivalent pay to other urban workers (J. Li, 2002; Zhu, 1999). The rural-urban division is significant in explaining wage discrimination and segregation according to occupation (Xie, 2007). A study by Meng and Zhang (2001) showed that rural migrants with the same productivity as urban workers are less likely to have formal employment opportunities, or they receive less pay for doing the same job.

Although the *hukou* division seems evident in the labour market segregation in China, its impacts on segregation are debatable. Maintaining *hukou* division in the urban labour market could be a strategy to attract more foreign capital investment and encourage private enterprises through "a stable and abundant supply of cheap unskilled or low skilled labour" (Wang, 2005). Other studies (J. Li, 2002; S. Li, 1997; Z. Zhang, 2004; Zhu, 1999) imply that the rural-urban division is too simplistic an argument for understanding segregation in China's urban labour market. The rural-urban division and ownership in the urban labour market have become less pronounced since the 1990s, but segmentation among industries[11] is increasing in the urban labour market (Zhang, 2004). Using the population census data of 2000, Ding and Wu (2006) calculated that 7.2 per cent of urban jobs were performed by migrants, rather than local workers; overall, they found that rural-urban migrants were very much a complement to local urban workers, and the substitution varied significantly according to gender, educational level and profession.

The impact of human capital accumulation on urban labour segregation has also been studied. Most rural migrants are in the secondary labour market because of their lower educational level (Z. Li, 2007). Studies have shown the positive role of human capital accumulation on earnings for both rural migrants and urbanites (Meng and Zhang, 2001; Appleton et al., 2001; Li, (2006). However, Yang and Chen (2000) insist that the difference is explained more by institutional arrangement than by human capital accumulation. The debate probably depends on data sources and models adopted in the analysis. For instance, the 1997 Beijing migrant sampling data suggest a university degree could increase probabilities of

[11] Industry segmentation is indicative of the varied openness among industries to enterprises. Since the economic reform in the 1990s, many industries previously monopolised by the SOEs have gradually opened to other ownership (Zhang, 2004). For example, the industries of manufacturing, highway transportation, whole and retail trades, and construction are completely open; industries such as the production and supply of gas and water, or public services including postal and telecommunication, railway, education and government agencies are less open. The more closed industries imply the state is more protective and the employees normally enjoy better benefits.

obtaining white collar jobs for both migrants and non-migrants (Guo & Iredale, 2004), but the difference between middle school and high school is not as significant on employment as a university degree.

Although most scholars agree that migrants generally complement the local urban labour market, several studies point out possible changes in the labour market. Also analysing the 2000 census data for Wuhan city, Yang (2003) found that, in spite of segregation between outsiders and local workers, the market economic reforms brought increased opportunities to outsiders; the data suggest outsider workers seem more active and flexible with regard to industrial structural changes. Yang found the competition came mainly from migrants and laid-off workers. Losing their elite positions in the city, the laid-off workers were marginalised under the urban economy. The intrusion of foreign investment and the developing private economy following China's entry into the World Trade Organization (WTO) are also bringing changes to the labour market (Xu, Tan, & Wang, 2006). Under these influences, enterprises are more competitive and capital-driven and possibly, therefore, are more concerned with decreasing their labour costs rather than judging their employees' residential status.

Those previous studies have shed light on the segregation of the urban labour market, and most have been based on surveys from the migrants' perspective. Very few studies have examined changes in the labour market from the enterprises' perspective. Using a recent dataset of enterprises in Chinese metropolises, this study has found dynamic changes in the current urban labour market – under the impact of migrants, the local urban labour market is changing from one of complementarity to one of substitution.

1.3 Data sources and methodology

This paper utilised data from the project "Rural Migrant Workers in Large Chinese Cities". The survey randomly sampled business enterprises and companies in major metropolises of China (Beijing, Tianjin and Shanghai). The survey was finished in May 2008, with 424 valid questionnaires collected in the three cities. The profiles of the samples are presented in Table 1-2.

The survey comprised questionnaires and the respondents of the selected business units were normally the managers or those in the Human Resource Department (HRD) who had detailed knowledge of their business/company/enterprise. The survey contained five parts: basic information of the business unit, recruitment policies and changes, relationship of migrant workers and non-migrant workers, salary/benefits/welfare of employees, and general opinion toward migrant workers in the city. It did not distinguish between rural and urban *hukou* holders, but between local and non-local workers, as it was considered that local urban policy favoured local urbanites more than migrants (either rural or urban *hukou*). To examine the changes and dynamics of recruitment after economic reform, this paper compares recruitment between 1990 (or year at establishment) and 2008.

To better understand the dynamics of changes in the employment, the analysis adopted the quartile deviation approach, with the proportion of migrant workers employed in the enterprises divided into four Quartiles: 0–25 per cent as the 1st Quartile, 26–50 per cent as the 2nd Quartile, 51–75 per cent as the 3rd Quartile and 76–100 per cent as the 4th Quartile. Similarly, when analysing the incremental migrant workers in 2008, the proportion of incremental migrant workers accounting for the total newly recruited staff was divided into the same four Quartiles.

Table 1–2 Profiles of the enterprises surveyed in the project

		Number	Percentage
City			
	Beijing	94	22.2
	Tianjin	231	54.5
	Shanghai	99	23.3
Current ownership			
	State-owned enterprises	33	7.9
	Collective-owned enterprises	14	3.4
	Joint ventures	81	19.4
	Joint-stock enterprises	73	17.6
	Listed enterprises	8	1.9
	Private enterprises	154	36.9
	Self/individual employment	28	6.7
	Other	26	6.2
Year of establishment			
	Before 1978	18	4.5
	1979–1998	133	32.8
	1999 and later	254	62.7
Total number of employees in 2008			
	≤30 persons	108	26.3
	31–50	61	14.8
	51–100	77	18.7
	≥101	165	40.2
Number of non-local employees in 2008			
	≤10 persons	116	30.7
	11–30	97	25.7
	31–50	39	10.3
	≥51	126	33.3
Total number of employees in 1990 (at establishment)			
	≤30 persons	134	49.8
	31–50	31	11.5
	51–100	50	18.6
	≥101	54	20.1
Number of non-local employees in 1990 (at establishment)			
	≤10 persons	121	54.5
	11–30	47	21.1
	31–50	17	7.7
	≥51	37	16.7

Ownership and industry were the two main focuses of the study, because they are the important indicators of measuring segregation of the labour market and the openness of labour market to migrant workers. The study examined the distribution of ownership and industry in the four Quartiles of migrant workers and incremental migrant workers. It aimed to test the changes of recruitment of migrants throughout this period, and the influences of increment of migrant workers, correlated with industry and ownership. Examining the distribution of enterprises among the four Quartiles of migrant workers indicates the differences and changes of recruitment of migrant workers between 1990 (or at establishment) and 2008. Similarly, the distribution of enterprises among four Quartiles of incremental migrant workers indicates possible changes in recruitment of migrant workers in the near future.

The study also used logistic models to analyse the determinants of enterprises falling into the 4th Quartile (the highest proportion) of migrant workers and incremental migrant workers, in order to further compare the openness of different ownerships and industries in the labour market of metropolitan China.

1.4 Descriptive analysis

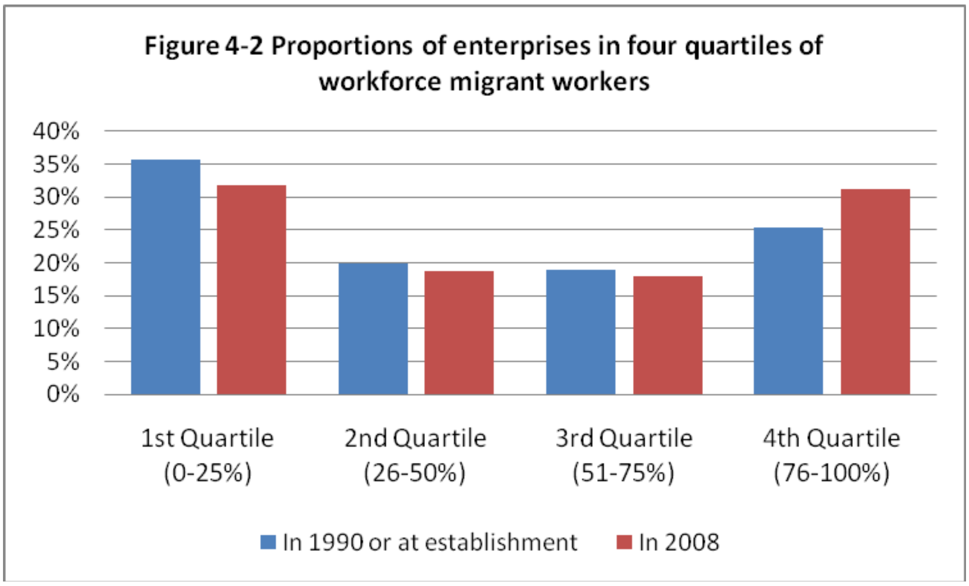
1.4.1 Segregation of ownership and industry in employing migrant workers

The number of migrant workers increased significantly from 1990, or when the enterprises were established, to 2008. Among all 424 surveyed enterprises, 377 (90 per cent) employed migrant workers in 2008, whereas only 221 enterprises (50 per cent) had employed migrant workers in 1990 or at establishment. Figure

4-2 shows the distribution of enterprises in the four Quartiles at the two time periods. In 1990 or at establishment, 35.7 per cent of enterprises fell into the 1st Quartile, 19.9 per cent into the 2nd Quartile, 19.0 per cent into the 3rd Quartile and 25.3 per cent into the 4th Quartile. In 2008, the proportion of enterprises in the 1st, 2nd, 3rd and 4th Quartiles was 31.8 per cent, 18.8 per cent, 18.0 per cent and 31.3 per cent, respectively. In 2008, for nearly half of the enterprises migrant workers made up more than 50 per cent of their employees. For example, the proportion of enterprises employing up to 25 per cent of migrants in their workforce (1st Quartile) had decreased from 35.7 per cent in 1990 (or at establishment) to 31.8 per cent in 2008, whereas the proportion of enterprises with over three-quarters of the workforce consisting of migrants (4th Quartile) had increased from 25.3 per cent in 1990 (or at establishment) to 31.3 per cent in 2008. Overall, it is obvious that enterprises in 2008 employed more migrant workers than in 1990.

Despite the increased proportion of employed migrant workers in urban China, this study found that the urban labour market is still segregated, with migrant workers in a weak position. The following section examines ownership and industry, which represent the two most frequently cited areas of labour market segregation (Z. Zhang, 2004).

Figure 1–2 Proportions of enterprises in four Quartiles of workforce migrant workers



1.4.1.1 Segregation of ownership in employing migrant workers

The questionnaires surveyed eight categories of ownership: State-owned enterprises (SOEs), collective ownership enterprises, joint ventures (*hezi qiye*, *合资企业*), joint stock enterprises (*gufenzhi qiye*, *股份制企业*), listed enterprises (*shangshi gongsi*, *上市公司*), private enterprises, individual industries and commercial household and other. Only the SOEs and collective-owned enterprises existed before the economic reform. We consider segregation of ownerships from two aspects: whether the traditional ownerships—SOEs and collective ownership—become open to migrant workers, and the capabilities of other emerging ownerships to employ migrant workers.

It can be seen from Table 1-3 that most SOEs fall into the two lower Quartiles (up to 50 per cent of the workforce consisting of migrants) and only around 20 per cent of SOEs are distributed in the 3rd and 4th Quartiles (more than half of the workforce consisting of migrants). This probably implies the access to SOEs is still not easy for migrant workers in Chinese metropolises. The high threshold of ownership also includes joint-stock enterprises and listed enterprises, which have higher percentages in the lowest two Quartiles.

On the other hand, it is easier for migrant workers to be employed in collective-owned enterprises and joint ventures. The proportions of the collective-owned enterprises in the 3rd and 4th Quartiles reach 8.3 per cent and 33.3 per cent, respectively, indicating that employed migrant workers account for more than half of the total number of employees in those enterprises. The increase in the number of private and individual business or commercial households after economic reform is evident, with these two ownerships absorbing the largest number of migrant workers. One-third (33.6 per cent) of the private enterprises have a workforce consisting of more than 76 per cent migrant workers, while 60 per cent of individual business or commercial households employ a similar proportion of migrant workers. These findings imply that segmentation among ownerships is still distinctive in the urban labour market.

Among the more recent types of ownership, joint-stock enterprises and listed enterprises employ similar proportions of migrant workers as the SOEs, shown by high percentages of enterprises in the 1st or 2nd Quartiles and low percentages in the 3rd and 4th Quartiles. These findings indicate that smaller percentages of migrant workers enter the joint-stock enterprises and listed enterprises, because the thresholds of these two ownerships are comparatively high. The data show that 48.5 per cent of the joint-stock enterprises have a workforce containing less than 25 per cent of migrant workers, while 71.4 per cent of listed enterprises, employ less than 50 per cent of migrant workers.

Table 1–3 Migrant workers: distribution of ownership

Ownership	**Proportion of migrant workers in workforce**			
	1st Quartile （0–25%）	**2nd Quartile （26–50%）**	**3rd Quartile （51–75%）**	**4th Quartile （76–100%）**
State-owned enterprise (SOEs)	57.6%	21.2%	12.1%	9.1%
Collective ownership	41.7%	16.7%	8.3%	33.3%
Joint venture	27.1%	17.1%	24.3%	31.4%
Joint-stock enterprise	48.5%	13.2%	13.2%	25.0%
Listed enterprise	14.3%	57.1%	14.3%	14.3%
Private enterprise	25.0%	22.9%	18.6%	33.6%
Individual industrial and commercial household	16.0%	12.0%	12.0%	60.0%
Other	22.2%	27.8%	16.7%	33.3%

Thus, the data in Table 4-3 show that segregation of ownerships in employing migrant workers is not only between traditional and emerging ownerships, but also within the emerging ownerships.

1.4.1.2 Segregation of industries in employing migrant workers

Segregation of industries is a new aspect in the labour market of transitional China (Z. Zhang, 2004). In the 1980s, China promulgated a series of regulations on controlling the industries that allowed access of non-SOEs. Since the 1990s, reform of the SOEs and the development of other ownerships have led to less control over industries' access. Basically, non-agricultural industries can be segregated according to difficulty of access: those with little restriction include manufacturing, commerce, construction, service and road transportation; in contrast, industries with restricted access include banking, education, postal service and telecommunication (Z. Zhang, 2004).

The distribution of industries (Table 1-4) suggests that the highest proportion of migrant workers are employed in farming, forestry, husbandry, fishing, mining, manufacturing, construction, commerce, catering, transport and storage, since greater proportions of these industries fall into the 3rd and 4th Quartiles (with higher percentages of migrant workers). These industries are dominated by physical labour and do not necessarily have a high educational requirement. In addition, half of the surveyed enterprises in social services and consultation, and culture, education, health, research and development (R&D) and technical services, which are emergent industries, are also have a high distribution in the 3rd and 4th Quartiles. But unlike the manufacturing or construction industries, they are more accessible for better educated people. The higher proportions of migrant workers in these industries imply a more open urban labour market in Chinese metropolises.

The data further illustrate that government authorities, social organisations and the financial and insurance industry are relatively closed to migrant workers, with the proportion of these industries in the 1st Quartile (with less than 25 per cent migrant workers) reaching over 60%. These findings reflect a transitional feature in industry segregation of the labour market: more traditional industries and newly emergent industries are open to migrant workers, while the acceptance of migrant workers in monopolised industries is still very low.

Table 1–4 Migrant workers: distribution of industries

Industry	Proportion of migrant workers in workforce			
	1st Quartile (0–25%)	2nd Quartile (26–50%)	3rd Quartile (51–75%)	4th Quartile (76–100%)
Farming, forestry, husbandry, fishing, mining and manufacturing	35.1%	18.2%	19.5%	27.3%
Construction	42.1%	15.8%	10.5%	31.6%
Commerce, catering, transport and storage	17.9%	22.1%	13.7%	46.3%
Social services and consultation service	26.1%	30.4%	33.3%	16.7%
Cultural, education, health, R&D and technical service	35.7%	14.3%	33.3%	16.7%
Government, institutions, finance, and insurance	66.7%	0%	0%	33.3%
Other	47.4%	13.2%	15.8%	23.7%

1.4.2 Segregation of ownership and industry in employing incremental migrant workers

The numbers of incremental migrant workers employed in urban enterprises reflect the trend of the demand for migrant workers in the local labour market. In 2008, 334 out of 424 surveyed enterprises recruited new staff (including both local urbanites and migrant workers), among which 303 recruited migrant workers. The method described in the previous section of segregation of ownership and industry was also applied to the analysis of the incremental migrant workers (migrant workers newly recruited in 2008). The percentages of the incremental migrant workers among the newly recruited staff were divided into the same four Quartiles (0–25 per cent, 1st Quartile; 26–50 per cent 2nd Quartile; 51–75 per cent 3rd Quartile; and 76–100 per cent, 4th Quartile). The survey results indicate that in

2008, in 47.2 per cent of enterprises migrant workers made up more than 76 per cent of the newly recruited staff, and in 19.5 per cent of the enterprises migrant workers made up 51–75 per cent of newly recruited staff. This means that in nearly two-thirds (66.7 per cent) of the surveyed enterprises, new employees were more than 50 per cent migrant workers.

1.4.2.1 Segregation of industry by incremental migrant workers

In contrast to the distribution of ownership for the migrant workers (shown above in Table 1-3) that the SOEs, joint-stock enterprises and listed enterprises employed the relatively lower proportions of migrant workers, the distribution of ownerships in the four Quartiles for incremental migrant workers indicates the new trend of recruitment (see Table 1-5). Interestingly, the SOEs, listed enterprises and joint-stock enterprises, all with a relatively lower percentage of migrant workers, have increased their recruitment of incremental migrant workers in 2008. For instance, the proportion of SOEs in the 3rd Quartile was 58.3 per cent, and 12.5 per cent in the 4^{th} Quartile, while the proportions of migrant workers in the 3^{rd} and 4^{th} Quartiles were 12.1 per cent and 9.1 per cent respectively (see Table 1-3). A similar trend also occurred in the joint-stock enterprises and listed enterprises, which also have higher distributions in the 3^{rd} and 4^{th} Quartiles

Table 1–5 Incremental migrant workers: distribution of ownership

Ownership	Proportion of incremental migrant workers in workforce			
	1st Quartile （0–25%）	2nd Quartile （26–50%）	3rd Quartile (51–75%)	4th Quartile （76–100%）
State-owned enterprises (SOEs)	29.2%	0%	58.3%	12.5%
Collective ownership	25.0%	25.00%	0.00%	50.00%
Joint venture	35.9%	9.4%	14.1%	40.6%
Joint-stock enterprise	26.8%	12.5%	19.60%	41.1%
Listed enterprise	12.5%	0%	37.5%	50.0%
Private enterprise	18%	9.9%	16.2%	55.9%
Individual industrial and commercial household	20.0%	0.0%	0.0%	80.0%
Other	19.0%	4.8%	19.0%	57.1%

Indeed, the data show that among all ownerships the new recruitment of migrant workers accounted for half of the whole recruitment in 2008, which indicates two points. First, nearly all ownership enterprises increased their provision of employment opportunities to migrant workers. Second, though traditional ownership enterprises—including SOEs and collective-owned enterprises, or newly emergent ownerships such as joint-stock enterprises and listed enterprises—are not as open as other ownerships, they are now becoming increasingly accessible. If this trends persists, it will probably result in a more substituted and competitive urban labour market.

1.4.2.2 Segregation of industry by incremental migrant workers

The increasing trend of employing migrant workers is quite obvious among industries, as shown in Table 1-6. Farming, forestry, husbandry, fishing, mining, manufacturing, construction, commerce, catering, transport and storage are still dominant in absorbing incremental migrant workers (with the accumulative percentage of the 3rd and 4th Quartiles reaching 66 per cent). As shown in Table 4-4 above, the emergent industries, such as social services and consultation service, culture, education, health, R&D and technical service, are increasing the ratio of recruiting incremental migrant workers, as seen in the higher percentages in the 3rd and 4th Quartiles.

Meanwhile, recruitment of incremental migrant workers is very rare in government, institutions, finance and insurance, which in three metropolises hired less than 25 per cent new migrant workers. Therefore, with the exception of a few monopolised industries, there is in general an increasing trend in most industries of employing migrant workers.

Table 1–6 Incremental migrant workers: distribution of industries

Industry	Proportion of incremental migrant workers in workforce			
	1st Quartile (0–25%)	2nd Quartile (26–50%)	3rd Quartile (51–75%)	4th Quartile (76–100%)
Farming, forestry, husbandry, fishing, mining and manufacturing	26.4%	7.7%	16.9%	49.2%
Construction	21.4%	7.1%	14.3%	57.1%
Commerce, catering, transport and storage	12.5%	6.9%	22.2%	58.3%
Social services and consultation service	18.8%	18.8%	25.0%	37.5%
Cultural, education, health, R&D and technical service	28.6%	14.3%	25.7%	31.4%
Government, institutions, finance, insurance	100%	0%	0%	0%
Other	39.4%	9.1%	18.2%	33.3%

1.4.3 The determinants of enterprises that employ high proportions of migrant and incremental migrant workers

The descriptive analysis above suggests a trend of openness in the urban labour market towards migrant workers. More enterprises employed migrant workers in

2008 than in 1990 or at their time of establishment. The descriptive analysis also indicates an obvious segregation of the labour market in terms of ownership and industry. SOEs, joint-stock enterprises and listed enterprises have lower percentages of migrant workers than other types of ownership. The industries of government institutions, finance and insurance still strictly control migrant workers' access. However, an examination of the incremental migrant workers in 2008 shows that nearly all types of ownership and most industries increased their proportion of migrant employees. This trend is particularly obvious in the SOEs, once the ownership type most closed to migrant workers. All industries increased their employment of migrant workers, except government, institutions, finance and insurance, who have the lowest proportions of incremental migrant workers. Overall, the labour market in Chinese metropolises features some segregation, but it is showing a trend of more openness and competitiveness.

The analysis then focused on the 4th Quartile (greater than 75 per cent) of both total migrant workers and incremental migrant workers in 2008 to further verify these observations. Two logistic models were run to provide more details (see Table 1-7).

The dependent variables were enterprises in the 4th Quartile (greater than 75 per cent) of migrant workers and incremental migrant workers, and the independent variables were ownership, industry and three surveyed cities. The variables of ownerships and industries were re-coded, based on the descriptive analysis. SOEs and collective enterprises were combined, as they were the traditional industries in China. Other ownerships were divided into two categories: (i) individual, private enterprises and others (IPO), and (ii) joint ventures, joint-stock enterprises and listed enterprises. The industries were divided into three categories: (i) agriculture, construction and manufacturing, which absorb mainly low skilled migrants; (ii) all services, as most are the newly emergent industries; and (iii) others, including industries not identified by respondents.

Table 01–7 Determinants of enterprises in the 4th Quartile of migrant workers and incremental migrant workers

Independent variable	Enterprises in the 4th Quartile of migrant workers		Enterprises in the 4th Quartile of incremental migrant workers in 2008	
	Odds Ratio	**S.E.**	**Odds Ratio**	**S.E.**
Ownership (SOEs and collective enterprises =1)				
Individual, private enterprises and others (IPO)	5.861**	0.478	6.454**	0.488
Joint ventures, joint-stock and listed enterprises	3.803*	0.491	3.187*	0.495
Industry (government, finance and public institution[12] =1)				
Farming, forestry, husbandry, fishing, mining, manufacturing and construction	3.904*	0.633	3.319*	0.545
Transport, catering and services[13]	5.280*	0.603	3.127*	0.532
Other	2.330	0.736	1.163	0.651
City (Tianjin=1)				
Beijing	7.287**	0.341	2.690**	0.349
Shanghai	7.129**	0.322	3.330**	0.314
-2 Log likelihood	376.620		369.434	
Nagelkerke R Square	0.300		0.192	

** P <0.01, * P <0.05

[12] Includes cultural, education, health, R&D and technical service.

[13] Includes commerce, catering, transport and storage, and social services and consultation service.

With regard to ownership, the two binary logistic models showed that the odds ratio of an IPO employing migrant workers in the 4th Quartile is 5.9 times more than that of the SOEs and collective enterprises; similarly, the odds ratio of an IPO in being the 4th Quartile of incremental migrant workers is 6.5 times more than that of SOEs and collective enterprises. That the figure for incremental migrant workers is slightly higher than for migrant workers could be regarded as the first derivative of the change of the whole migrant workers. As the first derivative is positive (+), IPOs attracting migrant workers is distinctive over SOEs and collective enterprises. In comparison, the odds ratio of joint ventures, joint-stock and listed enterprises employing migrant workers in the 4th Quartile is 3.8 times more than that of SOEs and collective enterprises, while the odds ratio in the 4th Quartile of incremental migrant workers is 3.2 times more than SOEs and collective enterprises. As the figure for incremental migrant workers is lower than for migrant workers, the first derivative is negative (-). Therefore, migrant workers' access to SOEs and collective enterprises is not more difficult than for joint ventures, joint-stock and listed enterprises. Because the entry into IPO is comparatively lower than for other ownerships, it is predicted that the impact of labour market segmentation is less severe for the migrant workers with higher capital accumulation, and that is has more influence on migrant workers whose human capital accumulation are lower.

In terms of industry, the two binary logistic models showed that the odds ratio of traditional and labour-intensive industries employing migrant workers in the 4th Quartile is 3.9 times more than for government, finance, insurance and R&D industries, and for incremental migrant workers it is 3.3 times. The odds ratio for incremental migrant workers is smaller than for migrant workers, so the first derivative is negative, which means that the industries of government, finance, insurance, and R&D are still more difficult to access than the traditional and labour-intensive industries. The odds ratio of industries of commerce, catering, transport and storage employing migrant workers in the 4th Quartile is 5.3 times more than that of industries of government, finance, insurance and R&D, and for incremental migrant workers it is 3.1 times more. The odds ratios in the two models are distinctly different and the first derivative is negative, which means the industries of government, finance, insurance, and R&D are still more difficult to access than other industries such as commerce, catering, transport and storage.

Considering the impact of the cities, the odds ratio of enterprises employing migrant workers in the 4th Quartile of is 7.3 times for Beijing and 7.1 times for Shanghai more than that of Tianjin, with the corresponding odds for incremental migrant workers being 2.7 times and 3.3 times, respectively, more than that of Tianjian. Clearly the odds ratios for incremental migrant workers are smaller than for migrant workers, and the differences between the two are distinct. This finding means the first derivative is negative; though the labour market of Tianjin seems less open than that of Beijing and Shanghai, which depend heavily on the supply of migrant workers, the trend shows that changes are occurring. As Tianjin is becoming more open than previously and is attracting more migrant workers, it could be predicted that the labour market in Tianjin is becoming more competitive and that migrant workers are playing a more important role in its economy. Overall, contemporary marketisation is greater in Beijing and Shanghai than in Tianjin.

The above discussion highlights how the labour market in Chinese metropolises has gradually been transformed from the earlier situation of complementarities to a mixture of complementarities and substitutions. Until the 1990s, migrant workers were engaged mainly in low-skilled and labour-intensive industries not favoured by local urbanites, such as manufacturing and construction, and ownership of SOEs and collective enterprises was almost closed to outsiders. Therefore, the labour market typically consisted of complementarities and showed severe segregation; obtaining the local urban *hukou* was one of the most important guarantees of stable employment in urban China. The data analysis shows changes in the methods of ownership and the types of industries that now employ migrant workers, and indicates more substitutions and competition in the urban labour market after 2000.

The findings illustrate that migrant workers are being employed in new areas, particularly in the service sector, such as household and individual services, consultation, culture, education and health. Though monopolies in government, finance and insurance still act as barriers, the proportion of migrant workers in most SOEs and collective enterprises is steadily increasing. Indeed, joint ventures, joint-stock enterprises and listed enterprises are employing greater proportions of migrant workers, and earnings in these new ownerships are also more secure than in IPO. The labour market, therefore, appears quite open to the migrant workers, who are now accumulating higher levels of human capital. On the whole, the segmentation of the urban labour market into ownerships and industries is gradually changing from complementarities to competition and substitutions.

1.5 Conclusion and discussion

This study has analysed the proportions of migrant workers and incremental migrant workers employed in Chinese enterprises in 2008, and has found that migrant workers are playing an increasingly important role in metropolitan labour markets. Migrant workers are gaining more opportunities to access the emergent industries and ownerships. However, urban labour market segmentation is still obvious; for example, the proportions of migrant workers employed in SOEs and enterprises in government, finance and insurance remain smaller than those working in other types of ownership and other industries. Overall, the employment trend of migrant workers in the urban labour markets of Beijing, Tianjin and Shanghai is a gradual transition from a situation of complementarities to a co-existence of complementarities and substitutions.

The dynamic changes of employment opportunities of migrant workers in urban China are a further reflection of changes to the policy of social exclusion. This study has shown that employment opportunities of migrant workers are becoming more market-driven. Traditional ownerships and industries are no longer the sole choices for them, and the urban labour market is becoming much more open than previously. Though segmentation in the urban labour market is still affected by institutional factors, such as the *hukou* system, these no longer dictate the employment opportunities for migrant workers in contemporary China. This finding implies that the mechanism of social exclusion in the labour market is changing – from being governed by institutions to being driven by the market. The factors that determine market competition are playing a more important role in stratifying opportunities in the urban labour market.

The empirical findings also suggest a different pace of change in the labour markets of Beijing, Tianjin and Shanghai. Changes occur more slowly in Tianjin than in Beijing and Shanghai, but numbers of migrant workers in Tianjin have recently been increasing. The different pace of opening up the labour market is related to local economic reform and industrial structures, which also probably implies different levels of social exclusion in different regions. Migrant workers are probably more excluded from the labour market in traditional industrial bases dominated by SOEs and collective enterprises than they are in the newly emerging industrial cities.

The increasing importance of market mechanisms in the social exclusion of the labour market in urban China calls for a corresponding change in the role of the state to prevent polarisation between rich and poor, and to protect the legal rights of all competitors in the urban labour market. Improving the welfare system, ensuring equal education rights and supervising the implementation of the New Labour Law are three tasks that the Chinese government needs to seriously consider.

References

Ding, R., & Wu, R. (2006). Migrant workers' employment substitution for urban labors (nongmingong dui chengshi bendi laodongli de jiuye tidai moxing jiqi shizheng fenxi). *Chinese Journal of Population Science, 4*, 43-95.

Guo, F., & Iredale, R. (2004). The impact of hukou status on migrants' employment: findings from the 1997 Beijing migrant census. *International Migration Review, 38*(2), 709-731.

Knight, J., Song, L., & Jia, H. (1999). Chinese Rural Migrants in Urban Enterprises: Three Perspectives. *Journal of Development Studies, 35*(3), 73-104.

Li, C. (2006). Non-institutional paths of migrants status attainment: migrant labors and non-migrant labors in comparison (liudong renkou diwei huode de fei zhidu tujing). *Sociological Research, 5*, 85-106.

Li, J. (2002). Multiple segregation of urban labour market and its impact on supply-demand of labourers (zhongguo laodongli shichang duochong fenge jiqi dui laodongli gongqiu de yingxiang). *Population Science of China, 2*, 1-7.

Li, R. (2004). The changes of the social group of workers in Guangzhou (guangzhou gongren qunti biandong fenxi). *Social Science in Guangdong, 4*, 85-91.

Li, S. (1997). The models of labour migration in transitional China (jingji zhuangui zhong laodongli liudong moxing). *Economic Research Journal, 1*, 23-31.

Li, Z. (2007). Rural-urban labor flows in the segmented market of China: a theoretical model based on labor flow (laodongli shichang fenge xia de nongcun laodongli liudong moxing). *Nankai Economic Studies, 1*, 93-106.

Lian, S. (2009). *Ant tribes: urban villages of university graduates*. Guilin: Guangxi Normal University Press.

Meng, X., & Zhang, J. (2001). The Two-Tier Labor Market in Urban China: Occupational Segregation and Wage Differentials Between Urban Residents and Rural Migrants in Shanghai. *Journal of Comparative Economics, 29*, 485-504.

Net, C. N. (2011). Controling population expansion through tightening the hukou quotos (Beijing jiang tiaokong renkou guimo peizhi jinjing huji zhibiao).

http://news.sina.com.cn/c/2011-01-16/115821823817.shtml, accessed on 16 Jan. 2011.

Solinger, D. (1999). *Contesting Citizenship in Urban China: Peasant Migrants, the State, and the Logic of the Market*. Berleley: University of California Press.

National Bureau of Statistics (2009). *China statistics yearbook*. Beijing: China Statistic Publishing House.

Wang, G., & Shen, J. (2001). Complementary relationship between non-native and native labor in Shanghai. *Population Research, 25*(1), 9-19.

Xie, G. (2007). Migrant workers and urban labor market (nongmingong yu chengshi laodongli shichang). *Sociological Studies, 5*, 84-110.

Xu, W., Tan, K.-C., & Wang, G. (2006). Segmented local labor markets in postreform China: gender earnings inequality in the case of two towns in Zhejiang province. *Environment and Planning A, 38*, 85-109.

Yang, Y. (2003). Urban labour market segmentation: some observations based on Wuhan census data. *The China Review, 3*(2), 145-158.

Yang, Y., & Chen, J. (2000). Segmentation and competition in the labour market during the transformation: based on an empirical analysis of investigations in Wuhan (Zhuanxing laodongli shichang de fenceng yu jingzheng: jiehe wuhan de shizheng fenxi). *Social Sciences in China, 5*.

Yuan, Z. (2006). Rural-urban migration and urban unemployment: an empirical study (Zhongguo chengxiang laodongli liudong yu chengzhen shiye). *Management World, 8*, 38-35.

Zhang, J. (2000). Rural-urban divide of population change in China and relevant policies (zhongguo renkou zhuanbian de chengxiang chayi jiqi zhengce xuanze). *Population Science of China, 79*(4), 46-50.

Zhang, Z. (2004). Sectoral segmentation of labor markets and the labor mobility (laodongli shichang de chanye fenge yu laodong renkou liudong). *Population Science of China, 2*, 33-45.

Zheng, Y. (2004). *Globalization and state transformation in China*. Cambridge: Cambridge University Press.

Zhu, J. (1999). The two stages of rural-urban migration under the context of triple urban labour segregation (zhongguo sanyuan laodongli shichang geju xia de liang jieduan xiang-cheng qianyi lilun). *Population Science of China, 1*, 7-12.