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Migration in the People's Republic of China

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Abstract

This report summarizes the characteristics of migration in the People's Republic of China (PRC) after its reforms and opening up. Rapid urbanization in the PRC has resulted from recent decades of intense rural–urban migration. The scale of migration increased rapidly and long-term migration is the main characteristic. The population characteristics of migration are determined not only by a personal decision, but also a joint decision within households to send members with comparative advantages in manufacturing and services, usually male and young, to work in cities. Coastal regions where manufacturing and services are better developed, especially big cities, are the major destinations. The aspiration for higher-income and better job opportunities is the major force that drives migration, while public services and urban amenities also partly account for population flows. However, in the PRC, there are still major institutional barriers—especially the *hukou* system and related segmentation in the urban labor market, social security, and public services access—that hinder rural–urban and interregional migration. Facing the challenges of fast urbanization and growing urban diseases, local governments still rely on the current system to control the population flow into large cities. Controlling population growth by discriminative policies will lead to more social problems. Policy makers should reconsider the way to achieve efficient and harmonious urbanization by shifting to more pro-market policies and reducing the migration costs embedded in institutional constraints.

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Contents

1. Introduction 3

2. Institutions 3

2.1 Employment 5
2.2 Social Security 6
2.3 Public Services 6

3. Profile of Migration in the People's Republic of China 7

3.1 Scale and Trend 7
3.2 Population Structure of Migrants 8
3.3 Long- or Short-Term Migration 11
3.4 Migration with Families 11
3.5 Flow of Migration 11
3.6 Determinants of Migration 15
3.7 Migration and Natural Growth of Population 20

4. Urbanization and Employment 20

4.1 Employment Growth in Urban Areas 20
4.2 Urbanization and Employment Structure of Migrants 21
4.3 Urbanization and Informalization 23
4.4 City Scale and Job Creation 25

5. Urban Segmentation and Market Integration 25

5.1 Labor Market Segmentation 25
5.2 Social Segmentation 27
5.3 Residential Segregation 28

6. Conclusion and Policy Recommendations 29

References 30

Appendix: Effects of City Characteristics on Labor Migration 35

1. INTRODUCTION

The People's Republic of China (PRC) has been experiencing rapid urbanization for the past few decades. Its urban population accounted for only 20.91% of its total population in 1982, but this increased to 52.6% in 2012.[1] According to the National Bureau of Statistics of China (2013), 236 million people live in a place where they do not have a local *hukou*,[2] and the majority of these people are rural–urban migrants.

Whether urban economic growth creates jobs for migrants and allows them to become permanent residents in cities depends on various institutional constraints. Labor migration in the PRC, like anywhere else in the world, is the result of rational decision making by individuals or households after weighing costs and benefits. Comprehending this decision making is the key to understanding the phenomenon of migration.

This working paper begins with an examination of the institutions related to rural–urban migration. Personal, household, and destination characteristics of migration are then summarized; the third section analyzes the relationship between urbanization and migrant employment. The findings of studies on segmentation and integration in urban societies are then noted.

2. INSTITUTIONS

Before its reforms and opening up, the PRC adopted a "scissors-gap" system that depressed the relative price of agricultural goods and boosted the relative price of industrial goods to achieve capital accumulation in the industrial sector as well as rapid industrialization. At the same time, the wages of the urban industrial sector were artificially suppressed to increase the profit potential and capital accumulation of the industrial sector. Cities had various welfare programs, such as state-sponsored pensions, health care, education, and housing programs.

At this time, the real income of urban residents was much higher than that of rural residents, which created a huge incentive for rural residents to migrate to cities. However, the urban industrial sector's tilt toward heavy industry meant that its job-creation ability was low. Since achieving full employment for urban residents was already difficult, the government also rigorously restricted rural residents from migrating to cities through the *hukou* system and even attempted to alleviate urban employment pressure through the *Shang Shan Xia Siang* (literally, "go to the mountains and countryside") movement.

After the reforms and opening up, the economy began to participate in the globalization process. The comparative advantage of relatively high-quality and low-cost labor enabled the PRC to enter the labor-intensive link of the global supply chain, especially export-processing manufacturing. Since situating export-processing manufacturing near the eastern and southern coastal regions saved transport costs, much foreign capital was and is concentrated in the coastal provinces. Today, most newly created jobs in manufacturing are in these coastal provinces, causing labor to migrate from rural areas to cities, while also migrating from the inland to the coastal regions

[1] The 2011 population census (NBSC 2012) and 2012 population census (NBSC 2013) were used to estimate the urbanization ratio in 1982.

[2] *Hukou* is a registration identity determined according to one's parents' *hukou,* which is usually based on where one's parents originated. *Hukou* is linked to locally financed social security and public services, and often results in discrimination against migrants, as only a few can change their *hukou* status. It is especially difficult to change *hukou* in large cities such as Beijing, Ghangzhou, and Shanghai.

(Duan et al. 2008). Rural–urban and interregional migration provide a lot of labor for manufacturing, help propel economic growth, and are conducive to narrowing urban–rural income gaps.

In the 1980s, labor migration was strictly constrained by the *hukou* system.[3] At that time, since the economy was still in a state of shortage, urban residents purchased grain with *liangpiao* (grain coupons). If rural residents managed to enter a city to find work, they had to bring their own food or obtain *liangpiao* in the city, which made the costs of labor migration very high.

On 1 April 1993, the state increased the purchase and sale prices of grain, while on 10 May, the control over prices of grain and cooking oil were relaxed in Beijing, and *liangpiao* ceased to exist. In fact, Guangdong had already made a stable transition after relaxing grain price controls 1 year earlier. Because *liang you guanxi* (grain and oil rationing registration) was no longer a restraint on labor mobility, the scale of labor migration grew rapidly.

Based on various population censuses over the years, using persons separated from their *hukou* location as a criteria,[4] Duan et al. (2008) estimated the migrant population to be 6.57 million in 1982, 18.10 million in 1987, 21.35 million in 1990, 70.73 million in 1995, 102.29 million in 2000, and 147.35 million in 2005; the most evident acceleration occurred during 1990 and 1995.

Sun (2004) found that migrant workers have made great contributions to the economic development of coastal regions. The gross domestic product (GDP) created by migrant workers is equivalent to 32.0% of Beijing's economic aggregate, 31.0% of Shanghai's, 30.0% of Guangdong's, 11.0% of Jiangsu's, 17.0% of Zhejiang's, and 16.8% of Fujian's. Migrant workers also created one-sixth to one-third of the social wealth in these provinces.

Li (1999) was among the first to use data from sample surveys to study the income growth effect and income distribution effect of labor migration. He pointed out that rural labor migration to cities has a positive impact on income growth and income distribution within the countryside, and can play a positive role in restraining increases in urban–rural, interregional, and even intra-countryside income gaps—something that is not possible for general income redistribution policies to achieve. Correcting unequal income distribution that emerges during economic development through rural labor migration is undoubtedly an effective rational choice that meets the requirements of marketization. Besides, such a choice is not only harmonious with the goal of market-oriented economic reforms but also consistent with the strategic goal of urban–rural economic integration.

However, migrant workers are believed to have caused a shock to the urban labor market in the 1990s. During the mid- to late 1990s, large numbers of migrant workers flooded the cities, and labor market reforms in cities rapidly progressed, with many

[3] Refer to Chan and Zhang (1999) for an introduction to and critique of the *hukou* system.

[4] The definitions of the migrant population have slightly differed in each census, but are largely comparable. In the fifth population census, the migrant population referred to people with two types of *hukou* registration situations (i.e., survey item R6): "have resided over half a year in a specific neighborhood, but *hukou* is in another area's neighborhood" and "have resided less than half a year in a specific neighborhood, and been away from their *hukou* registration area for over half a year", while eliminating people who lived in a place different from their registered residence within a city. According to the 1% sample survey project conducted in 2005, the migrant population referred to a population whose "residence at time of survey" (i.e., survey item R7) is in a specific area, but their "*hukou* registration residence" is beyond that neighborhood, while also eliminating people who live in a place different from their registered residence within a city. See Duan et al. (2008).

enterprises laying off redundant employees. This action led many to believe that migrant workers took away jobs from urban residents. But this squeezing effect has not been supported by empirical studies; if migrant workers have any impact, it is mainly on urban wages. Li (unpublished) showed that rural labor migration's negative impact on the urban economy is infinitesimal, and its employment substitution effect is only around 0.1. In the long run, such migration depresses the trend of urban employee wages rising too fast.

Li (1997) also provided a theoretical model and policy simulation analysis, showing that the entry of rural labor increases the income gap between skilled and nonskilled labor within cities, which is a correction of the traditional wage administration apparatus. Liu and Zhao (2009) employed 1% population census data from 2005 and discovered that the impact of migrant workers on urban wages is larger than their impact on the employment rate, which means that there is a limited reaction of urban labor to migrant labor, mainly reflected in a reduction of reservation wages, not in the loss of job opportunities.

Although the impact of migrant labor on urban employment is exaggerated, labor market segmentation policies according to *hukou* are still formulated and implemented in cities. *Hukou*-based identity discrimination still exists, and the difficulty of obtaining an urban *hukou* varies across different regions. Wu, Zhang, and Chen (2010) constructed the *Hukou* Settlement Threshold Index with four directly administered municipalities, 27 provincial capitals, and 15 cities of other levels, and found that cities with high index readings are mainly situated in the eastern coastal regions, while the cities with low index readings are mainly concentrated in the central regions. One view is that the PRC's current labor mobility is very free, with interregional labor mobility being especially uninhibited. In fact, without local urban *hukous*, migrant workers face at least "three discriminations and one barrier" in cities, which increases the costs of labor migration, thereby restricting labor mobility and urbanization. Specifically, the "three discriminations" include: employment, social security, and public services.

2.1 Employment

At the early stage of the post-reform era, city governments attempted to restrain firms from recruiting migrant labor, usually by levying extra fees on firms that recruited migrant labor, while also limiting migrant labor entrance to a few specific industries. Today, although most discriminatory policies have been rescinded, it is almost impossible for those without local urban *hukous* to enter the civil services and high-income monopolistic industries. By employing China Health and Nutrition Survey data for 2006, it can be observed that good jobs are almost all occupied by labor with urban *hukous*, and even in an inferior labor market, labor with local urban *hukous* are at an advantageous position (Qiao, Qian, and Yao 2009).

Yao and Lai (2004) analyzed data from surveys of Zhejiang firms and rural labor, and discovered that *hukou* discrimination can explain 20%–30% of the difference in labor and capital relations between urban and rural workers. Other than labor contracts, migrant workers face *hukou* discrimination in wages, pension, health care, unemployment insurance, and trade union participation.

Démurger et al. (2009) employed nationwide sample data from 2002 to find that in cities, the annual wage of local residents is 1.3 times that of the long-term rural migrant workers. Further decomposition of this differential showed that the migrant population has a comparative advantage in the private sector, while entering the public sector does not increase their average wages, and vice versa for local residents. The population factor itself is very important, which is reflected in the fact that the wage

differentials between the two groups mainly come from differences before entrance into the labor market (e.g., education opportunities), but not from the market itself.

Further, Zhou and He (2009) found that the attraction of urban regions to rural migrant labor is closely related to the ownership structure of the urban economy. After the 1990s, rural labor that migrated to the cities tended to work outside of the traditional system, and few could squeeze into state-owned enterprises.

The *hukou* system's discrimination is not only reflected in wages but also in job opportunities. Based on survey data on Beijing, Wuxi, and Zhuhai, Zhang (2010) discovered that *hukou*-based discrimination reduces job opportunities for the migrant population and increases the costs that they bear while job hunting and unemployed. Therefore, although short-term migrants may mainly work in jobs that locals are unwilling to do, they change jobs less often and only when they have stayed in the city for a while and have accumulated enough assets.[5]

2.2 Social Security

The PRC's current social security system operates independently on local fiscal support; thus, each city's system mainly serves its local residents. Even if some cities have social security provided especially for nonlocals, the level of security provided is low, and participation by migrant labor is not high.[6] Although the government is endeavoring to make personal endowment insurance accounts transferrable across regions, this has still not been achieved.

For a long period, the general provision was that a nonlocal worker must pay social security contributions for 15 years continuously in the location where he or she works to collect pension insurance in the same place. Since 1 July 2014, a new rule has come into place, whereby workers are allowed to contribute to the pension system and accumulate their personal accounts in different cities.

2.3 Public Services

Some public services provided by the local government are not and inherently cannot be discriminatory, such as greenery and public transport. However, some public services are linked to *hukou*, among which children's education is especially important. Without a local urban *hukou*, migrants cannot send their children to a public kindergarten at the rate charged to local residents. Especially in large cities, local public schools do not admit children of migrant workers, and even if they did, the fee is higher, which led to many schools opening especially for migrant children. Since these schools have limited funds, the educational quality provided is poor.

Recently, however, compulsory education schools have opened up to migrant children, but the schools do not offer them equal treatment. Moreover, cities where higher education resources are concentrated often tend to allocate a much larger university admittance quota to local students. The children of migrant workers must return to their original *hukou* location and participate in higher education entrance examinations there, making them face severe competition, which creates unequal opportunities in

[5] Li (1999) discovered that the first occupational change achieves a large augmentation in occupational status, whereas the second occupational change is horizontal and status augmentation is not attained, mainly due to the lack of status accumulation, status inheritance, and social resources.

[6] Zhang, Gao, and Hou (2007) found that urban–rural segmentation factors and regional segmentation systems form a negative impact on the nonlocal urban population's participation in social security.

higher education, blocking intergenerational income and social mobility.[7] A related result is that high school education in cities (especially large cities) is in reality not equally accessible to the nonlocal population.[8]

Rural–urban and interregional labor mobility also face barriers from the land system. To guarantee food security, a certain amount of farmland must be maintained; thus, a construction-use land quota-rationing system was implemented with a total quota for construction-use land development every year that could not be exceeded. Although the allocation of this quota must consider the different economic development needs of every region, an approach that is inclined toward egalitarianism exists. Coastal regions that need construction-use land more do not have enough quotas, whereas inland regions have land quotas but cannot make sufficient use of them, which results in low land-use efficiency. If a market-exchange mechanism existed in which regions with higher demands for land quotas could buy them from regions with relatively abundant land quotas, then more farmland could be converted into construction-use land. Regions that sold construction-use land quotas could relatively increase the reserves of agriculture-use land. Yet this cross-provincial balance between occupation and compensation of agriculture-use land is prohibited.

Moreover, rural residents who enter a city often have their own rural residential land, which corresponds to the construction-use land quotas by demolishing their housing. Rural residents who enter a city are still prohibited from transferring the construction-use land quotas corresponding to their rural residential land at home. In other words, the rural residential land-use rights that rural residents have at home cannot be traded as assets.

The aforementioned institutional constraints increase the costs of labor migration and create barriers for the integration of migrant workers into cities. The new generation of migrant workers seems to have stronger aspirations than the previous one of becoming urbanized; therefore, the barriers placed by institutional constraints on their integration into cities is even more significant (Liu and Cheng 2008).

3. PROFILE OF MIGRATION IN THE PEOPLE'S REPUBLIC OF CHINA

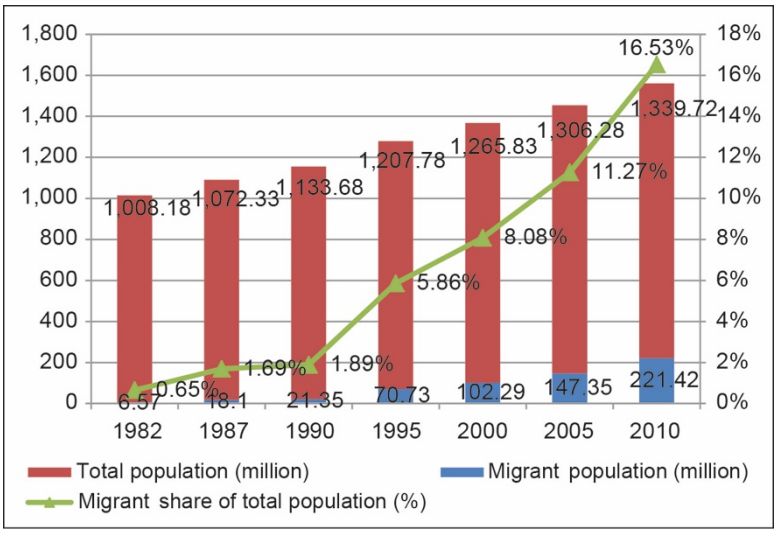
3.1 Scale and Trend

After the reforms and opening up, the scale and share of migrants in the total population increased rapidly, especially after the 1990s. The scale of migrants grew from 6.57 million in 1982 to 221.40 million in 2010—almost 33 times. The PRC's total population only increased 0.3 times during this period. The migrant share of the total population has also risen dramatically, from 0.65% in 1982 to 16.53% in 2010.

[7] There is no unanimous opinion on whether higher education is a public service. Recent research showed that higher education has strong externalities, so government input in higher education has certain public service properties.

[8] For an early critique on the social segmentation between populations with different *hukous* within cities, see Wang and Zuo (1999). Cai, Du, and Wang (2001) also studied the *hukou* system and labor market protection. Regarding the living standards of migrant workers, Sheng (2008) summarized the condition of migrant workers into seven aspects: low compensation, few benefits, poor residential conditions, lack of social security, difficulty in obtaining children's education, heavy urban discrimination, and lack of a spiritual life.

Figure 1: Number and Share of Migrants in the People's Republic of China, 1982–2010



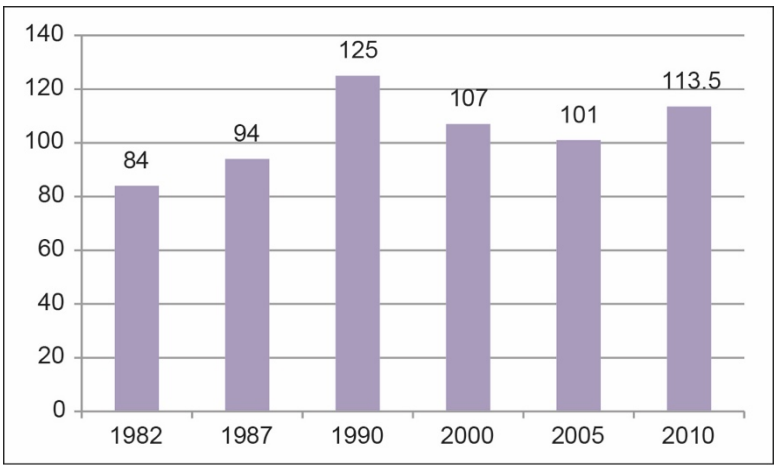
Sources: Data on migrants 1982–2005 are from Duan et al. (2008); data on migrants in 2010 are from NBSC (2011); and data on total population are from NBSC (1983), NBSC (1988), NBSC (1991a), NBSC (1991b), NBSC (1995), NBSC (2006), and NBSC (2011).

3.2 Population Structure of Migrants

3.2.1 Sex Ratio

The sex ratio of migrants fluctuated from 1982 to 2010. Before 1990, female migrants formed the main proportion of migrants due to social reasons such as marriage, moving with others, and joining relatives and friends (Duan et al. 2008). This kind of sex distribution changed fundamentally during the 1990s when the sex ratio became 125, which meant that male migrants comprised the largest share of migrants. This change occurred because nonagricultural industries demanded a large number of male workers.

Figure 2: Sex Ratio of Migrants, 1982–2010



Note: The sex ratio refers to the male–female ratio.

Sources: Data from 1982 to 2005 are from Duan et al. (2008) and 2010 data are from Duan, Yuan, and Guo (2013).

In the 21st century, the sex ratio fell to 107 in 2000 and then to 101 in 2005. The number of female migrants increased rapidly for two main reasons. First, the labor demand of nonagricultural industries had increased continuously, especially in services. Second, many female migrants left home to reunite with their husbands.

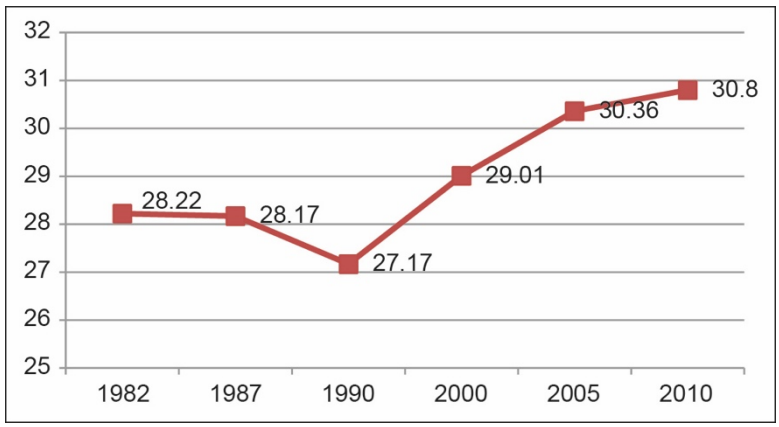
In 2010, the sex ratio rose again. The reason for this could be that some female migrant workers went back home because of the 2008 global financial crisis or that the construction industry needed more male workers after the government launched a stimulus package.

3.2.2 Age

The average age of migrants increased from 28.22 years in 1982 to 30.08 years in 2010, although with little decrease during 1987 to 1990 (Figure 3). This is relative to the declining fertility rate, the result of the one-child family-planning policy implemented in the 1980s.

With the increasing age of migrants, many were worried that young migrants will become fewer, and that the supply of labor will be insufficient. However, the population share of labor aged 15–64 years among migrants rose from 57.89% in 1982 to 85.53% in 2010 (Duan, Yuan, and Guo 2013). As such, the working-age population is still the main component of migrants, and the number of working-age migrants is increasing. However, if the low fertility rate is maintained in the future, the working-age population will eventually fall.

Figure 3: Average Age of Migrants, 1982–2010
(years)



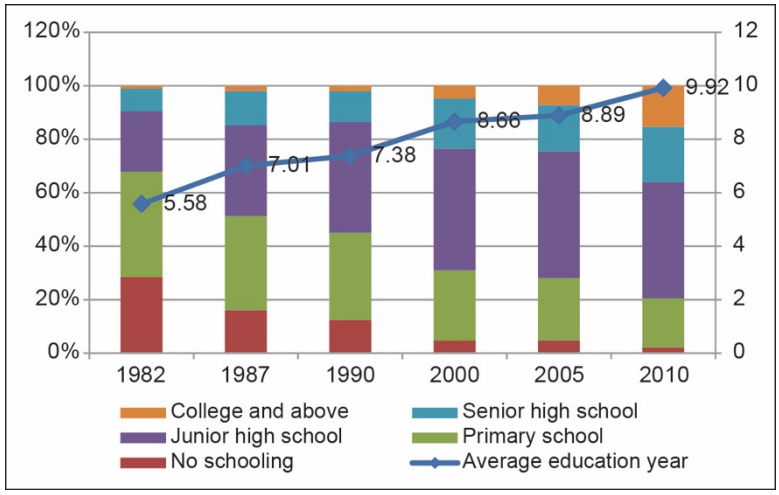
Source: Duan, Yuan, and Gao (2013).

3.2.3 Education

The average education level of migrants has improved gradually, and has moved from the compulsory education stage (≤9 years) into the senior middle school stage. The average education years attained increased by 4.34 years between 1982 and 2010 (Figure 4). The average number of education years for migrants in 2010 was 9.92 years, which is higher than the 8.85 years of the total population and the 7.75 years of the rural population.[9] This indicates that migrants can be regarded as "educated elites" in rural areas, and that human capital as a driving force of the PRC's migration has improved greatly.

[9] The average education years of the total population was calculated from data in NBSC (2011).

Figure 4: Average Education Years of Migrants Aged Above 6 Years, 1982–2010



Source: Duan, Yuan, and Guo (2013).

The ratio of migrants with higher education has also increased, while the ratio of migrants with low education has fallen. The ratio of high school graduates to total migrants increased from 8.41% in 1982 to 20.63% in 2010. The ratio of college graduates to total migrants increased from 1.04% in 1982 to 15.37% in 2010.

According to the PRC's *hukou* policy in previous years, when one went to college, he or she could obtain a nonagricultural *hukou*, and when he or she graduated, he or she would usually be assigned a job in a city. The graduate then obtained *hukou* in that city and would not be counted as a migrant in the census. For this reason, before 1990, there were almost no college graduates among migrants. However, after 1990, college graduates could no longer obtain assigned jobs. At the same time, more college graduates agglomerated to cities, especially big ones, and many could not get *hukou* in those cities, and thus were counted as migrants.

Table 1 shows that migrants with college educations prefer intraprovincial migration to interprovincial migration.

Table 1: Proportion of Interprovincial and Intraprovincial Migrants, 2010
(%)

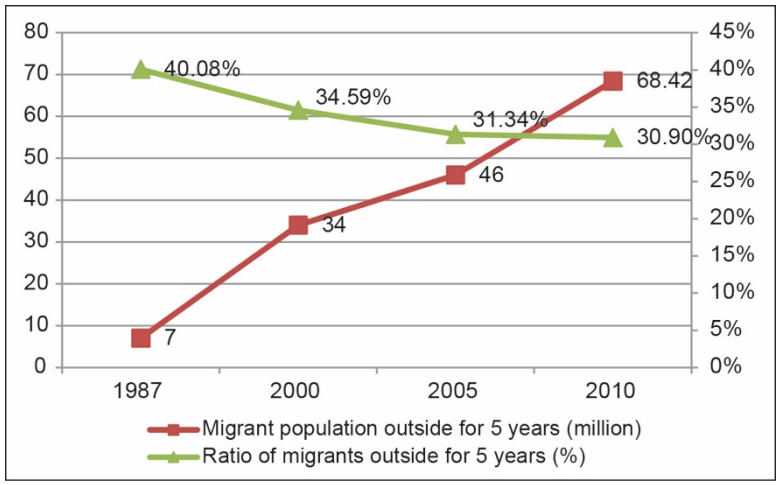
	Intraprovicincial	Interprovincial
Total population	66.94	33.06
No schooling	74.08	25.92
Primary school	65.02	34.98
Junior high school	57.37	42.63
Senior high school	75.55	24.45
College	79.79	20.21
Bachelor	77.86	22.14
Postgraduate	75.19	24.81

Source: Ma and Chen (2012).

3.3 Long- or Short-Term Migration

Figure 5 shows that the ratio of migrants that has worked outside of their hometowns for 5 years or more fell between 1982 and 2010, but increased from 7.0 million in 1982 to 68.2 million in 2010—almost 9 times. The reason for the ratio falling is that there are more migrants every year who are regarded as short term (i.e., less than 5 years outside of their hometowns). Gradually, these new migrants will become long term (i.e., more than 5 years outside of their hometowns).

Figure 5: Scale and Share of Migrants Working Outside of Their Hometowns for More than 5 Years, 1982–2010



Source: Duan, Yuan, and Guo (2013).

3.4 Migration with Families

According to the monitoring survey on national rural–urban migrant workers by NBSC (2015), the ratio of rural-urban migrants with families outside their town remained steady at around 20% from 2008 to 2014, and migrants like "migrant birds" leaving families behind are still the most common. There are 61 million "left-behind" children, who do not live with their parents, but stay in their rural hometowns to study (National Women's Federation Research Group 2013). Duan and Yang (2009) estimated there were 10.85 million left-behind married women according to the fifth population census in 2000, of which women aged 20–49 years accounted for 82.11%.

Apart from left-behind children and women, there is another large group that is left behind—the elderly. They often stay in rural areas because they need to take care of their grandchildren who have been left behind by their parents or because they have lost the ability to work in urban areas. In 2012, there were 50 million left-behind elderly, leading to serious concerns about disease and disability problems (Wu 2013).

3.5 Flow of Migration

3.5.1 Origins

Table 2 shows that migrant workers who migrate outside of their hometowns mainly come from the middle and western regions. Migrant workers who were engaged in nonagricultural activities in their hometowns mostly come from the eastern region.

Table 2: Origins of Rural–Urban Workers, 2008–2012
(%)

	2008		2009		2010		2011		2012	
Region	Outside	Local	Outside	Local	Outside	Local	Outside	Local	Outside	Local
Eastern	30.8	63.6	31.9	63.7	31.8	62.9	31.6	61.4	31.5	60.8
Middle	37.0	22.3	36.5	21.9	36.6	22.5	36.6	22.7	36.7	22.9
Western	32.2	14.1	31.6	14.4	31.6	14.6	31.8	15.9	31.8	16.3

Note: Outside migrant workers refer to those who migrate outside of their hometowns for more than 6 months. Local migrant workers refer to those who were engaged in nonagricultural activities for more than 6 months in their hometowns.

Source: NBSC (2010), NBSC (2012), NBSC (2013), and NBSC (2014).

Table 3: Scale of Outmigrants in Interprovincial Migration

	1995–2000		2005–2010	
Province	Scale of Outmigration (10,000)	Share of Total Nation (%)	Scale of Outmigration (10,000)	Share of Total Nation (%)
Beijing	17.44	0.54	40.60	0.74
Tianjin	10.43	0.32	21.34	0.39
Hebei	87.22	2.70	201.74	3.67
Shanxi	33.36	1.03	79.37	1.44
Inner Mongolia	44.11	1.37	64.76	1.18
Liaoning	37.99	1.18	68.54	1.25
Jilin	52.93	1.64	85.39	1.55
Heilongjiang	93.98	2.91	146.32	2.66
Shanghai	16.29	0.50	40.10	0.73
Jiangsu	124.10	3.84	189.35	3.44
Zhejiang	96.98	3.00	133.94	2.44
Anhui	289.30	8.96	552.56	10.05
Fujian	62.45	1.93	111.37	2.03
Jiangxi	268.06	8.30	348.33	6.33
Shandong	87.82	2.72	201.50	3.66
Henan	230.90	7.15	543.04	9.87
Hubei	221.02	6.85	380.42	6.92
Hunan	326.12	10.10	459.19	8.35
Guangdong	43.80	1.36	161.29	2.93
Guangxi	183.81	5.69	282.05	5.13
Hainan	12.96	0.40	23.59	0.43
Chongqing	110.31	3.42	184.41	3.35
Sichuan	439.55	13.62	498.81	9.07
Guizhou	123.19	3.82	268.08	4.87
Yunnan	39.81	1.23	108.91	1.98
Xizang	3.54	0.11	6.25	0.11
Shaanxi	71.93	2.23	134.75	2.45
Gansu	56.08	1.74	104.69	1.90
Qinghai	12.32	0.38	15.00	0.27
Ningxia	8.74	0.27	15.07	0.27
Xinjiang	21.68	0.67	28.67	0.52
Total nation	3,228.21	100.00	5,499.39	100.00

Source: Wang et al. (2012).

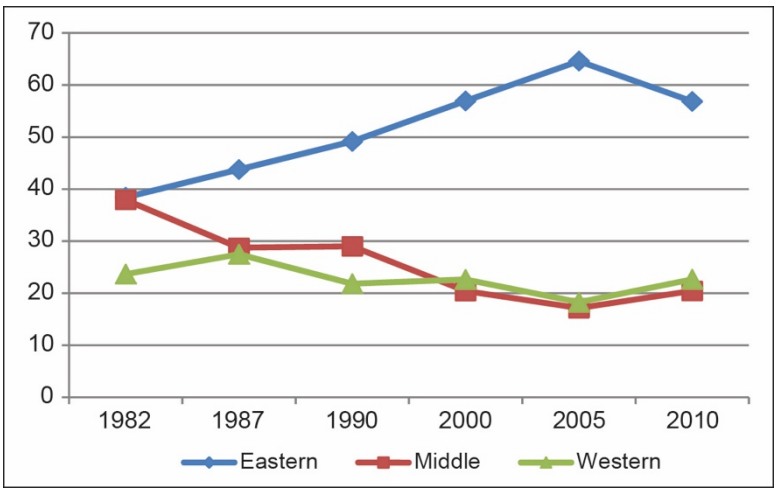
According to data on interprovincial migration after 1995, provinces with the most significant numbers of outmigrants in the middle and western regions have been Anhui, Guangxi, Henan, Hubei, Hunan, Jiangxi, and Sichuan. The proportion of outmigrants of the total nation's inter-provincial migrants in each of these provinces exceeds 5%. Among them, the proportion of outmigrants of the total nation's inter-provincial migrants in Anhui, Hunan, and Sichuan was around 10% of the national population, and the number of outmigrants in these three provinces was 2.89 million (Anhui), 3.26 million (Hunan), and 4.49 million (Sichuan) during 1995–2000, increasing to 5.52 million (Anhui), 4.59 million (Hunan), and 4.98 million (Sichuan) during 2000–2005. Sichuan had the largest number of outmigrants during 1995–2000, while during 2000–2005, Anhui had the most.

3.5.2 Destinations

In the last 30 years, the most prominent feature of migration is that migrants have become more concentrated, flowing into the southeast coastal areas, especially the Yangtze River Delta and Pearl River Delta. In the 1980s, migrants were drawn to the traditional industrial regions, with the old industrial base in the northeast region absorbing 38.14% of total migrants in 1982 (Duan and Yang 2009). After the 1990s, the southeast coastal areas absorbed more migrants, while the number of migrants flowing to the old industrial base in the northeast declined.

Guangdong Province absorbed the most migrants in 2005. Migrants to Guangdong accounted for 5.23% of total migrants in 1982, rising to 22.37% in 2005. The proportion of migrants to the Yangtze River Delta region of Jiangsu, Shanghai, and Zhejiang rose from 11.27% to 20.58% during the same period (Duan and Yang 2009).

Figure 6: Destination Regions of Migrants, 1982–2010
(%)



Sources: Data from 1982 to 2005 are from Duan and Yang (2009), and data in 2010 are from Duan, Lv, and Zou (2013).

For this working paper, the migrant population of the PRC's 287 prefecture-level cities was calculated using data from the 2000 and 2010 population censuses (Xia, Su, and Huang 2015). The number of cities with more than 1 million migrants increased from 12 in 2000 to 41 in 2010. In terms of the spatial distribution of migrants, after 2000, the

trend of most migrants agglomerating in the eastern coastal areas, a few provinces, and a few cities did not change.[10]

As shown in Table 4, the provinces where migrants accounted for the highest proportion remain Guangdong, Jiangsu, Shanghai, and Zhejiang. However, some changes in the spatial distribution of migrants in cities did take place between 2000 and 2010. Shanghai and Beijing—rather than Shenzhen and Dongguan—became the cities with the largest numbers of migrants. The scale of migrants in Tianjin and Chongqing also increased at a fast pace, while the proportion of the country's total migrants in the southeast coastal cities somewhat declined. The scale of migrants in some large western cities and their proportion rose significantly as well.

Table 4: Scale of Migrant Population in the Top 50 Cities and Proportion in the National Migrant Population

	2000			2010		
Rank	**City**	**Migrant Population** (10,000)	**Ratio** (%)	**City**	**Migrant Population** (10,000)	**Ratio** (%)
1	Shenzhen	585	7.85	Shanghai	1,102	6.68
2	Dongguan	492	6.61	Beijing	892	5.41
3	Shanghai	436	5.85	Shenzhen	828	5.02
4	Guangzhou	331	4.45	Dongguan	639	3.87
5	Beijing	260	3.49	Guangzhou	542	3.29
6	Foshan	221	2.96	Suzhou	452	2.74
7	Wenzhou	135	1.82	Chengdu	387	2.35
8	Quanzhou	129	1.74	Tianjin	386	2.34
9	Chengdu	126	1.69	Foshan	358	2.17
10	Suzhou	115	1.55	Wenzhou	324	1.96
11	Kunming	113	1.52	Hangzhou	285	1.73
12	Zhongshan	104	1.40	Chongqing	280	1.70
13	Wuhan	98	1.32	Wuhan	277	1.68
14	Hangzhou	96	1.29	Ningbo	259	1.57
15	Ningbo	94	1.26	Quanzhou	241	1.46
16	Huizhou	91	1.23	Nanjing	225	1.36
17	Chongqing	88	1.19	Wuxi	214	1.30
18	Wuxi	86	1.15	Zhenzhou	200	1.21
19	Fuzhou	83	1.12	Xiamen	199	1.21
20	Nanjing	80	1.07	Xi'an	180	1.09
21	Tianjing	79	1.06	Qingdao	179	1.09
22	Xiamen	75	1.00	Fuzhou	176	1.07
23	Dalian	63	0.85	Shenyang	169	1.02
24	Zhenzhou	62	0.83	Huizhou	167	1.01
25	Urumqi	60	0.81	Kunming	167	1.01
26	Changzhou	60	0.80	Zhongshan	165	1.00
27	Guiyang	58	0.78	Dalian	165	1.00
28	Zhuhai	58	0.78	Jinhua	148	0.90

continued on next page

[10] The authors' calculation based on NBSC (2001) and NBSC (2011).

Table 4 *continued*

	2000			2010		
Rank	City	Migrant Population (10,000)	Ratio (%)	City	Migrant Population (10,000)	Ratio (%)
29	Jinhua	57	0.77	Hefei	148	0.90
30	Taizhou	55	0.73	Changzhou	143	0.87
31	Qingdao	54	0.73	Taizhou	143	0.86
32	Shenyang	52	0.70	Changsha	142	0.86
33	Changsha	52	0.70	Urumqi	131	0.79
34	Xi'an	49	0.66	Jiaxing	130	0.79
35	Harbin	49	0.66	Nanning	128	0.78
36	Shijiazhuang	47	0.63	Jinan	123	0.74
37	Jiangmen	46	0.62	Guiyang	118	0.71
38	Nanning	46	0.62	Harbin	113	0.69
39	Liuzhou	40	0.54	Taiyuan	110	0.67
40	Taiyuan	38	0.51	Hohhot	110	0.67
41	Changchun	36	0.48	Shaoxing	110	0.67
42	Hohhot	36	0.48	Changchun	97	0.59
43	Yantai	34	0.46	Nanchang	92	0.56
44	Hefei	34	0.46	Shijiazhuang	91	0.55
45	Baotou	33	0.44	Baotou	80	0.48
46	Shaoxing	33	0.44	Lanzhou	78	0.47
47	Baoding	33	0.44	Yantai	78	0.47
48	Nanchang	33	0.44	Jiangmen	76	0.46
49	Jiaxing	32	0.43	Ordos	76	0.46
50	Lanzhou	32	0.43	Haikou	74	0.45
	Total		69.84	Total		72.74

Note: Migrants refer to migrants moving from other provinces, cities, or towns.
Sources: NBSC (2001) and NBSC (2011).

If the leading 50 cities by the scale of migrants are ranked, migrants tended to agglomerate in the cities with higher rankings in 2000, while they were more scattered across these leading 50 cities in 2010 than in 2000. This is further reflected in the Herfindahl–Hirschman Index of these 50 cities' migrant populations, which decreased from 2.27 in 2000 to 1.96 in 2010.

3.6 Determinants of Migration

3.6.1 Personal and Family Characteristics

Education. If the returns on education are higher in industry and services, one can infer that education can increase the tendency for labor to migrate from the countryside to a city. Early studies found that formal education's impact on increasing the probability of labor migration is insignificant, although it has a positive impact on increasing the probability of employment in local nonagricultural industries (Zhao 1997, Zhao 1999b). Moreover, Zhao (2003) found that educational level does not have a significant impact on labor migration.

Nevertheless, many empirical studies have shown that education significantly impacts labor migration. Du and Park (2003) found that a high educational level of a household does have a positive impact on migration; Zhu (2004) discovered that education only has a positive impact on the relocation decisions of males, not females.

Employing CHIPS 2002[11] data for this working paper, it was found that, after controlling for other individual, household, and village characteristics, different levels of education have various positive effects on migrant workers. If illiteracy was used as a reference, middle-school education increases the probability that rural labor will work out of their hometowns (7.13% more), followed by primary education (5.25%). Compared with those who are illiterate, the tendency for individuals with relatively higher educations to work out of their hometowns actually shows small increases.[12] Of course, this could be because rural residents with middle-school educations and above find it easier to obtain urban *hukous*; therefore, they are no longer classified as rural residents who "work out of town" (Chen et al. 2014).

Age. Wang and Liu (2007) found that due to the strong constraints imposed by dual institutions, such as the *hukou* system, on population migration, interprovincial migration is, to a large extent, mainly reflected in young laborers working as migrant labor and the age distribution being highly concentrated in the aged 20–30 years bracket. The impact of age on labor migration is both positive and negative. On the one hand, an increase in age brings experience, which enables higher returns to be gained; on the other, older migrants have higher psychological costs, and the period in which they benefit from migration is short (Zhao 1999b). At the same time, the lack of social security and public services that migrant workers face in a city causes bigger problems as age increases.

If these effects are taken into account comprehensively, the impact of age on the probability of migration may be an inverted U, first ascending and then descending. Studies by Zhu (2002) and Sheng (2008) discovered that age does display an inverted-U relationship with the probability of labor migration. Using CHIPS 2002 data for this working paper, this inverted-U relationship is noticed again. After controlling for other factors, 33-year-old labor has the highest probability of migration (Chen et al. 2014).

Gender and marriage. Empirical studies have consistently found that the impact of gender and marriage on reallocation decisions is significant. Females and married people have higher migration costs, including monetary and psychological. In household decision making, males and singles have an obvious comparative advantage when it comes to working out of a hometown.

Zhao (1997) discovered that the migration probability for females is lower than that for males by 7%. Zhao (1999b) pointed out that compared with the average level, 37.6% of married rural labor is unwilling to reallocate. Similarly, Zhu (2002) discovered that marital status has a significant negative impact on labor migration.

[11] CHIPS refers to the Chinese Household and Income Project Survey conducted by the Chinese Academy of Social Sciences.

[12] The figure for technical schools or higher education schools is 4.75%, while that for high-school education is 4.9%.

Employing CHIPS 2002 data, this working paper found that the migration probability for females is 4.45% lower than that for males, and compared with people of other marital status, the migration probability for the married group is 11.76% lower (Chen et al. 2014). Since the data employed are newer than Zhao (1997, 1999b) and Zhu (2002), it can be concluded that the effect of gender and marital status on labor migration is declining. This is consistent with the aforementioned trend that the relocation of females and entire families in labor migration are generally increasing.

Land. All else being equal, more laborers and less land per household imply that the relationship between population and land is tense, and the probability of labor migration will increase. Studies by Zhao (1997, 1999a) and Zhu (2002) found that households with more land per capita have a lower probability of labor migration. Du and Park's (2003) study on labor migration of the poor also found that household land per capita has a negative impact on migration.

For this working paper, employing CHIPS 2002 data, it was found that for every extra laborer in a household, the individual labor migration probability decreases by 4.01%. For every *mu*[13] increase in household land per capita, the individual tendency to migrate decreases by 1.25% (Chen et al. 2014).

Government policy. Government policy variables affect the relative gain between working in agricultural production in one's hometown and working outside of it, and are important parameters that affect labor migration decisions. Zhao (1997, 1999a) showed that during one period in the 1990s, the burden of agricultural taxes lowered the real income of agricultural production, causing a portion of capable and strong labor to flow into nonagricultural industries, affecting agricultural production.

In recent years, however, the government has emphasized the "three agricultural" issues (i.e., agriculture, rural residents, and rural areas) and abolished agriculture taxes for the first time in thousands of years, with some grain farmers even receiving subsidies. These policy measures conducive to increasing income from agricultural production have brought some migrant workers back to farming. Meng (2010) discovered that policy adjustments after 2004 indeed reduced the tendency for migrant workers to work out of their hometowns, although the strength of the policies is limited.

Conclusion. Although labor migration is largely the result of household decisions, aforementioned factors, such as personal characteristics, household land–person ratio, and policy variables, still make their impact felt.

Differing from orthodox theory that assumes individuals as the decision-making entity, new economic migration theory emphasizes the importance of households as decision-making entities, as households determine the relocation or migration of their members in accordance with the principles of maximizing expected income and minimizing risk (Stark and Bloom 1985). This theory has three core concepts:

(i) Risk transfer. Household income is unstable in a hometown, and to hedge risks and to diversify income sources, a household will decide to make some of its members work out of town or to migrate to reduce the dependence of the household on traditional or single-income sources.

(ii) Economic constraints. Many households face monetary constraints in their hometowns, such as not having crop insurance, unemployment insurance, or enough credit support. To break through these constraints to development, households will decide for some members to work out of a hometown to obtain the necessary money and skill.

[13] *Mu* is a unit of area. 1 *mu* = 666.7 square meters.

(iii) Relative deprivation. When making migration decisions, households not only take into account the absolute expected income level but also the income level relative to a reference group in a hometown. Even if a household's income level in its hometown sees a large increase, as long as the degree of the increase is below that of the reference group, the household will still feel relatively deprived, and its tendency to migrate will increase.

3.6.2 Remittances

In studies on labor migration in the PRC, the fact that labor migration is the result of household decisions is critically reflected in two aspects: diversifying risks and remittances. Du (2001) employed agricultural household survey data and discovered that after inputting the "1996 household asset value" variable into the determinant model of labor's time supply for nonagricultural work, the coefficient of this variable is significantly positive. He believed that the greater the value of household assets, the higher the ability to withstand risk, and the higher the time supply for nonagricultural work. Since the rural labor market is underdeveloped in poor regions, further labor migration is often restricted, making it necessary to reduce welfare losses by effectively enhancing marginal labor productivity by cutting down barriers to labor mobility.

Remittances exhibit the fact that labor migration is the result of household decisions even more clearly.[14] Li (2001) observed that the proportion of migrant workers remitting earnings is higher in the PRC than in other countries and areas, and the ratio of urban migrant worker remittances to rural resident household income is rather high as well. Du and Park (2003) employed agricultural household survey data on poor countryside areas in the western region, and discovered that income transfer of migrant labor is an important factor in alleviating poverty. The proportion of relatively poor households that transfer income among households with migrant workers is higher than that of rich households, which shows that the altruistic nature of migrants has a positive impact on alleviating poverty. In fact, Ma et al. (2004) examined the trend of population migration and its impact on local labor and rural income growth, and their results showed that labor migration has already become a new source of rural income growth for undeveloped regions and is increasingly playing the role of eliminating poverty and checking regional disparities. In addition, since most rural areas do not have medical insurance, many families become poor as a result of illnesses, and remittances from migrant workers play a significant role in paying for their households' medical expenses.

Yet remittances may also have a darker side. The younger generation in rural areas is increasingly yearning for a modern way of life, and most remittances are used for day-to-day consumption expenditures such as weddings and birthday parties similar to urban residents, and renovating their homes. To this end, they often undertake arduous, dangerous jobs in the cities for a long time. These jobs generally do not have labor contracts, and wages are usually settled at the Spring Festival.

In terms of lifestyle, remittances and the acceptance of such has already become an important element of migrant worker and rural household life. In a poor Sichuan township in the mid-1990s, the money posted back home by migrant workers every year was 5 times greater than that of the town government's fiscal revenue.

[14] Dustmann and Mestres (2010) found that short-term migrants make remittances, which matches the PRC's situation of migrants mostly being short term.

It is important also to note that remittances are only a portion of the money migrants send back home. Relatively speaking, among those who work out of their hometowns, those working in sectors such as transport, communications, and industry send more money home, while those working in agriculture send the least home. The closer the location of work and residence to a hometown, the greater the amount of money sent home; the higher the education level, the larger the remittances (Huang 1997). Hu and Qiwen (2007) discovered that the larger the variables of migrant worker income, rural hometown nonremittance income, size of rural hometown's farmland, and migrant worker age, the larger the amount of remittances. Migrant workers with higher reallocation costs (e.g., transport expenses), their entire family working out of the hometown together, unemployment experience, and university education are associated with smaller remittances.

As time passes, remittance behavior changes as well. A recent small-scale survey showed that compared with first-generation migrant workers, second-generation migrant workers send less money home, and a smaller proportion of them do so. It showed that 30.3% of second-generation migrant workers send back CNY100–300 every month, and 25.8% send CNY301–500, while 25.8% send no money at all or their family members back home do not need them to send money back. In such cases, their income is entirely disposable (Liu and Cheng 2008).

3.6.3 Destination Characteristics

Before 2005, the scale of economies was an important factor for a place to attract migrant labor (Wang 1996). Xiao and Liu (2007) found that regions that had a bigger nonagriculture industry, had higher expected earnings, and were at a shorter distance to the migrants' hometowns were more likely to be chosen by migrants. Duan (2001) found that provinces that had higher fixed-asset investment absorbed more migrants, and Zhu and Zeng (2004) found that provinces with a mainly export-oriented economy absorbed more migrants.

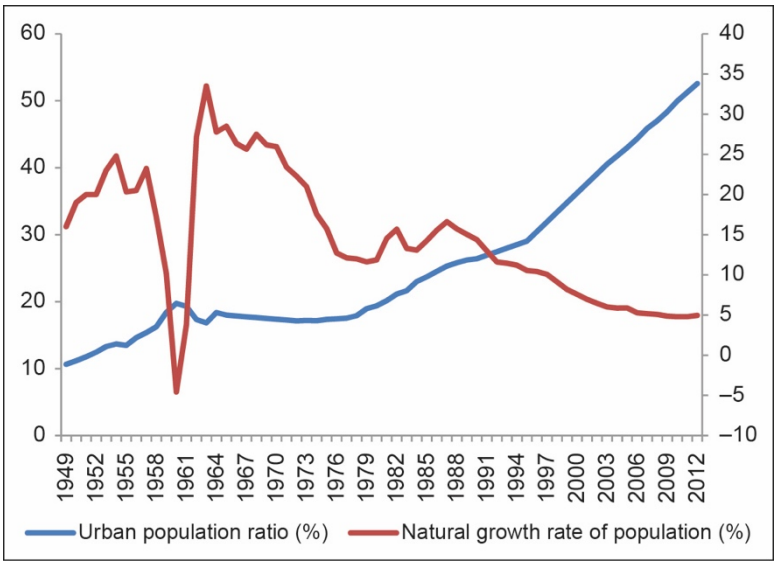
However, in 2010, there were some new changes to the PRC's migrant destinations. The level of economic development has a positive impact on the number of a city's migrants, but the degree of influence declined between 2000 and 2010. Fixed-asset investment and foreign direct investment had significant positive effects in attracting migrants in 2000; however, this effect disappears in 2010. Between 2000 and 2010, the tertiary (service) sector replaced the secondary (manufacturing and construction) sector to be the main force that attracts migrants to cities. Further, the floating population has increased with the expansion of the city population size, but the speed at which the city population size increased descended in 2000 and then ascended in 2010 (Xia, Su, and Huang 2015).

Along with the factors already discussed, people also migrate for public services and human capital externalities (Xia and Lu 2015). Using the micro data of the 1% population census in 2005 and characteristics of 220 prefecture-level cities, the influence of city characteristics, including public services and wages, on labor flow was studied. It was found that people tend to migrate to a city where they can demand higher wages and job opportunities and better basic education and medical services (although in inflow cities, migrants cannot enjoy the same public services as local residents because of the constraints of the *hukou* system). Migrants are also more likely to flow to cities with higher average educational years of the population and larger populations. This means cross-regional equalization of public services can mitigate, but not stop, agglomeration in large cities. The regression results are presented in the Appendix.

3.7 Migration and Natural Growth of Population

Figure 7 presents the growth trend of the urbanization rate and natural growth rate of the population in the PRC. In a region, the increased population comes from two sources: natural growing population and migrants. In the PRC, the natural growth rate of population in urban areas is usually lower than that in rural areas. Thus, when the natural growth rate of the national population declined after the 1970s, the natural growth rate of population in urban areas had a bigger decline. However, after 1970, and especially after 1995, the urbanization rate rose rapidly, which can be attributed to rural–urban migrants.

Figure 7: Urbanization Ratio and Natural Growth Rate of Population since 1949



Note: The urban population ratio is the urban population at the end of year to the total population at the end of year.
Source: NBSC, http://data.stats.gov.cn/easyquery.htm?cn=C01

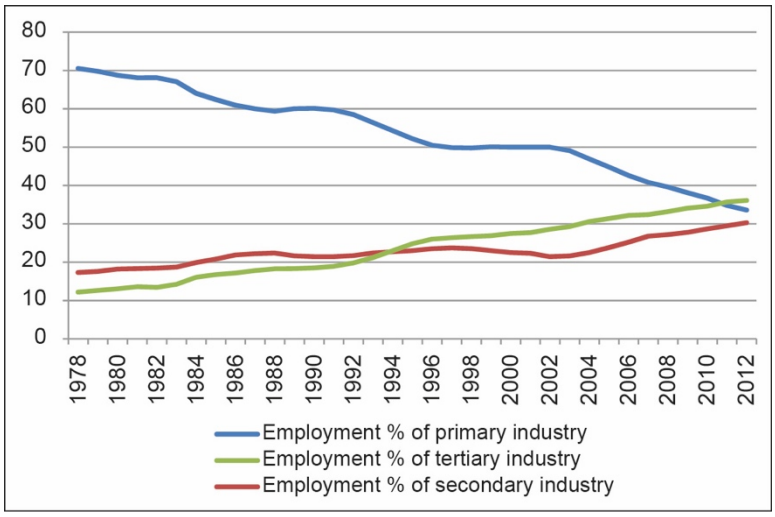
4. URBANIZATION AND EMPLOYMENT

4.1 Employment Growth in Urban Areas

After the reforms and opening up, the number of those employed increased rapidly from 401.52 million in 1978 to 767.00 million in 2012. Significant changes took place in the employment structure of the three main sectors. As shown in Figure 9, the proportion of employment in the primary sector declined from 71% in 1978 to 34% in 2012. Labor in the secondary and tertiary sectors, however, has expanded rapidly since 1978. The increasing speed of employment in the tertiary sector has been much faster than that in the secondary sector, first surpassing it in 1995 and then exceeding that in the primary sector in 2011. In 2012, the tertiary sector became the largest absorbing employment.

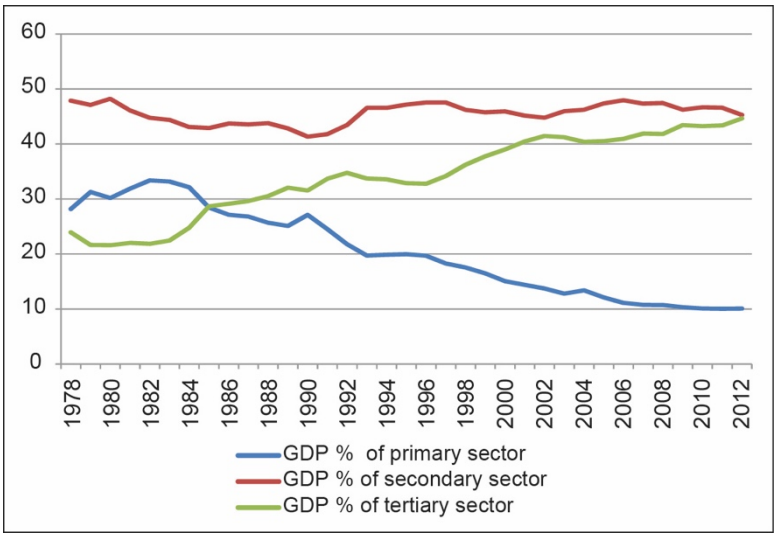
According to Figure 8 and Figure 9, the proportion of employment and the proportion of GDP in the primary sector have the same declining trends. The rapid development of the secondary and tertiary sector helps absorb large quantities of the rural surplus labor force.

Figure 8: Proportion of Employment in the Three Main Sectors since 1978
(%)



Source: NBSC, http://data.stats.gov.cn/easyquery.htm?cn=C01

Figure 9: Proportion of Gross Domestic Product in the Three Main Sectors since 1978
(%)



Note: GDP = gross domestic product.
Source: NBSC, http://data.stats.gov.cn/easyquery.htm?cn=C01

4.2 Urbanization and Employment Structure of Migrants

Although employment in the tertiary sector surpassed that in the secondary sector in 1995, migrants are still mainly working in the secondary sector (Table 5). The two largest industries within the secondary sector in which migrants work are manufacturing and construction. The proportion of migrants working in manufacturing was above 30% before 2008, but then this proportion started declining. Construction is the second-biggest industry in which migrant workers are engaged, and the proportion of migrants in construction took a big leap from 13.8% in 2008 to 22.2% in 2010, perhaps as a result of the massive investment in infrastructure after the stimulus package.

The proportion of migrants working in services has changed little in the last 6 years, staying around 34%. A remarkable change is that in 2013 services surpassed manufacturing and became the largest industry to absorb migrants. This is consistent with this working paper, which found that cities with a higher ratio of secondary industrial output compared with tertiary industrial output had a stronger ability to absorb migrants in 2000; however, cities with a higher ratio of tertiary industrial output compared with secondary industrial output had a stronger ability to absorb migrants in 2010 (Xia, Su, and Huang 2015).

The employment structure of migrants varies across different regions. In the eastern region, migrants mainly work in manufacturing, followed by services and construction. In the middle and western regions, migrants work mainly in services and least in manufacturing. The proportion of migrants working in construction is largest in the western region, and smallest in the eastern region. There is a similar pattern in the proportion of migrants working in services. Differences in the employment structures of migrants are probably caused by most infrastructure investment being concentrated in the middle and western regions as a result of the stimulus package.

Table 5: Industry Distribution of Rural–Urban Migrant Workers
(%)

Industry	2008	2009	2010	2011	2012	2013
Manufacturing	37.2	36.1	36.7	36.0	35.7	31.4
Construction	13.8	15.2	16.1	17.7	18.4	22.2
Services	33.1	35.5	35.6	34.2	33.8	34.1
Transport, storage, and post	6.4	6.8	6.9	6.6	6.6	6.3
Wholesale and retail trade	9.0	10.0	10.0	10.1	9.8	11.3
Accommodations and catering	5.5	6.0	6.0	5.3	5.2	5.9
Resident and other services	12.2	12.7	12.7	12.2	12.2	10.6
Other industries	15.9	13.2	11.6	12.1	12.1	12.3

Source: NBSC's Annual Report of Monitoring Survey on National Rural–urban Migrant Workers (NBSC, 2010–2014).

Table 6: Industry Distribution of Rural–Urban Migrant Workers
(%)

	2011			2012			2013		
Industry	Eastern	Middle	Western	Eastern	Middle	Western	Eastern	Middle	Western
Manufacturing	44.8	23.0	15.4	44.6	23.2	15.4	43.1	20.1	13.2
Construction	13.4	24.7	27.4	13.9	25.5	28.4	17.5	28.5	30.0
Services	31.0	38.5	41.3	30.9	37.9	40.4	30.4	37.5	41.7
Transport, storage, and post	5.5	8.1	9.3	5.6	8.2	8.8	5.3	7.3	8.2
Wholesale and retail trade	8.7	13.1	12.5	8.5	12.6	11.9	10.2	12.9	13.2
Accommodations and catering	4.5	5.9	7.3	4.4	5.8	7.6	5.0	6.2	8.1
Resident and other services	12.3	11.4	12.2	12.4	11.3	12.1	9.9	11.1	12.2
Other industries	10.8	13.8	15.9	10.6	13.4	15.8	9.0	13.9	15.1

Source: NBSC's Annual Report of Monitoring Survey on National Rural–urban Migrant Workers (NBSC, 2010–2014).

4.3 Urbanization and Informalization

4.3.1 Wages

After 2008, the wages of migrants increased rapidly. Monthly earnings almost doubled during 2008–2013, from CNY1,340 to CNY2,609. The earnings of migrants exhibited no significant difference across regions; thus, it is difficult to discern why people still migrate to the eastern region even if earnings do not differ much. Similar earnings may just be the result of labor mobility across regions, and the probability of getting a job is higher in the eastern region. Further, labor migrates for other amenities, such as public services or externalities of human capital, as already discussed.

Table 7: Monthly Earnings of Rural–Urban Migrant Workers
(CNY)

Region	2008	2009	2010	2011	2012	2013
Nation	1,340	1,417	1,690	2,049	2,290	2,609
Eastern	1,352	1,422	1,696	2,053	2,286	n.a.
Middle	1,275	1,350	1,632	2,006	2,257	n.a.
Western	1,273	1,378	1,643	1,990	2,226	n.a.

n.a. = not available.

Source: NBSC's Annual Report of Monitoring Survey on National Rural–urban Migrant Workers (NBSC, 2010–2014).

4.3.2 Social Security

In the PRC, a clear definition of informal employment does not exist. However, whether a worker is covered by social security is an important characteristic of the informalization and instability of jobs. In the last 6 years, migrant participation in every type of social security has increased significantly, although the level of participation is still very low (Table 8). Among the five types of social insurance, the participation rate in occupational injury insurance is the highest, while the participation rate in health care insurance and pension insurance rank second and third. The lowest participation is in birth insurance.

Table 8: Participation Rate in Social Security of Rural–Urban Migrants
(%)

Insurance	2008	2009	2010	2011	2012	2013
Pension insurance	9.8	7.6	9.5	13.9	14.3	15.7
Occupational injury insurance	24.1	21.8	24.1	23.6	24.0	28.5
Health care insurance	13.1	12.2	14.3	16.7	16.9	17.6
Unemployment insurance	3.7	3.9	4.9	8.0	8.4	9.1
Birth insurance	2.0	2.4	2.9	5.6	6.1	6.6

Source: NBSC's Annual Report of Monitoring Survey on National Rural–urban Migrant Workers (NBSC, 2010–2014).

4.3.3 Self-Employment

Self-employment constitutes a major portion of informal jobs. According to the national monitoring survey on rural–urban migrant workers in 2013, 83.5% of migrant workers were employed, and 16.5% were self-employed. Among employed migrant workers, 61.4% were working in manufacturing and construction. Among self-employed migrant workers, 76.3% were working in services.

Table 9: Distribution of Employed and Self-Employed Migrants, 2013

Industry	Employed	Self-Employed
Manufacturing	35.8	10.7
Construction	25.6	5.9
Services	25.3	76.3
Transport, storage, and post	5.5	39.6
Wholesale and retail trade	4.5	15.1
Accommodations and catering	5.3	8.5
Resident and other services	10.0	13.1
Other industries	13.3	7.1
Total	100.0	100.0

Source: NBSC (2014).

4.3.4 Occupational Mobility

In cities, most migrant workers work in the secondary sector in jobs with low wages, long working hours, poor working environments, and low occupational status (Li 2006). Most migrants work as unskilled workers in manufacturing, services providers in sales and trade, and construction (Li 1999; Fu, Tang, and Jiang 2012).

Migrant workers change jobs frequently. In investigating 728 migrants in Beijing, Bai and Li (2008) found that 63.25% changed jobs, and the average number of changes was 2.06 after working outside of their hometowns. Accordingly, Zhang (2010) found that the mobility rate of migrants (42.3%) greatly exceeds that of urban residents (19.9%). Using an urban household survey for 1999, Knight and Yueh (2004) found that urban residents have the longest average tenure in a job at 19.9 years, while migrants have the shortest at 4.5 years.

Although migrants change jobs frequently, their earnings have not improved significantly, and some migrants even suffer income decline after job changes (Bai and Li 2008). Their occupational status change is insignificant (Li 1999), and they face significant obstacles in moving to occupations with a higher social status (Fu, Tang, and Jiang 2012). Due to limited possibilities of upward mobility, most migrants want to be self-employed and own private enterprises in the future (Xia unpublished).

4.3.5 Living Conditions

Renting houses is common for migrants (Table 10). Half of such migrants shares a rented accommodation with others, while the other half rents houses independently. The second form of accommodation is dormitories of employer units; the proportion of migrants in these was 28.6% in 2013. In Table 10, the data show that fewer migrants purchase houses in their working areas.

The living conditions of migrants vary according to the size of a city. In large cities, the proportions of migrant workers living in dormitories, sheds, and rented houses are higher than those in small cities or towns. The proportion of migrant workers living at home and working outside is very high in small towns.

Table 10: Accommodation Distribution of Migrant Workers, 2013
(%)

Accommodation	National	Municipality or Provincial Capital City	Prefecture City	Small Town
Dormitories	28.6	30.4	33.0	23.0
Sheds at construction sites	11.9	14.9	10.9	10.4
Work sites	5.8	5.9	5.8	5.6
Rent houses with others	18.5	21.6	20.5	13.9
Rent houses alone	18.2	20.4	19.9	14.9
Purchase houses at work sites	0.9	0.7	0.9	1.2
Live at home, work outside	13.0	3.2	6.4	27.3
Other	3.1	3.0	2.7	3.8

Source: NBSC (2014).

4.4 City Scale and Job Creation

The relationship between city scale and employment probability is an important topic in urban economics. If increases in city population raise one's employment probability, unemployment is not a major concern in urban population expansion. Using individual-level data from CHIPS 2002 and 2007, Gao, Lu, and Sato (2015) estimated probit models of employment determination. Instrumental variable regression results showed that it is more likely for individuals to be employed in big cities. Every 1% growth in a city's scale increases one's employment probability by 0.039–0.041 percentage points. Besides, there is a scale advantage of big cities being heterogeneous among individuals with different human capital.

Both the most and least educated workers benefit from city scale, with the least skilled workers benefiting the most. However, employment prospects of medium-skilled workers are not affected. Therefore, restricting urban population growth, especially the migration of low-skilled workers, will harm both efficiency and equity, and thus undermine inclusive urban growth (Gao, Lu, and Sato 2015).

Gao (2014) estimated the effect of city scale on income using individual-level data from the 2002 and 2007 Chinese Household Income Project surveys. Every 1% increase in a city's population leads to approximately 0.189%–0.190% increase in one's nominal income. Even when cities' price differences were considered, city expansion still raises individual incomes. Gao used two different price indexes to deflate nominal income, and found that when city population grows by 1%, individuals' real incomes rise by 0.082%–0.143%.

5. URBAN SEGMENTATION AND MARKET INTEGRATION

5.1 Labor Market Segmentation

Another manifestation of dual society segmentation in cities is the various segmentations or discrimination seen in the labor market. As Knight and Yueh (2004) pointed out, job stability is worse for nonlocal people than urban locals, and their job turnover is approximately six times that of urban locals. Even if only the urban locals who entered the labor market after the iron rice bowl system was smashed are

taken into consideration, job turnover for nonlocals is still twice that of urban locals. Knight and Yueh also discovered that compared with urban locals, job changes for nonlocals are more voluntary. Moreover, education and job experience both increase job turnover, as an increase in human capital indeed provides more employment opportunities for nonlocals (Knight and Yueh 2004).

However, it is difficult to view the higher proportion of voluntary job changes for nonlocals as evidence of any advantage that they hold in the labor market. One explanation for this finding is that urban locals do not want to give up a job with which they are satisfied unless enterprise reforms cause them to face unemployment. A study by Zhang (2010) on the job turnover of Beijing, Wuxi, and Zhuhai found that institutional discrimination reduces the job options of nonlocals, increasing their costs of job hunting and unemployment. Further, compared with urban locals and the mobile population who have been long-term urban residents, temporary migrants tend to work longer in a firm and experience shorter unemployment. This should not be viewed as evidence of any advantage enjoyed by temporary urban residents, as nonlocals who have just arrived in an unfamiliar environment must accept work even if the working conditions are bad. Indeed, Zhang (2010) found that nonlocals switch jobs more once they have accumulated enough assets.

Of course, migrant workers from rural areas are at a disadvantage even before entering the urban labor market. In Démurger et al.'s (2009) decomposition of the annual income disparity between urban residents and nonlocals who have been employed in a city for a long period shows that the population effect before entering the labor market is the most important and robust factor in explaining the income disparity between the two groups. Although they argued that the source of urban–rural worker income gaps is mainly due to disparities in aspects such as educational opportunities before entering the labor market, it cannot be denied that such human resources endowment disparity before entering the labor market is also a result of urban–rural segmentation, discussed in more detail in the next section.

More studies have stressed the discrimination that nonlocal workers face in the cities. For example, Cai, Du, and Wang (2003b) discovered that discrimination in the labor market is caused by differences in urban and rural identities. Specifically, in the income disparity between rural migrant labor and urban local labor, only 24% is explained by the variation in personal characteristics and the remaining 76% is explained by discrimination. This implies that under the current system, increasing migrant workers' level of education cannot fully eliminate the income disparity between rural migrants and urban residents.

However, due to the existence of segmentation in the labor market, the gap between labor with local *hukous* and labor without local *hukous* may continue to expand. Beginning in the mid-1990s, during the next 10 years when rural labor began to work in cities on a massive scale, wages for migrant workers in a few relatively developed regions did not change, but within cities, from 1994 to 2004, the average urban employee's real average salary rose from CNY4,538 to CNY11,902 (1994 prices).[15] Meng and Bai (2007) employed payroll data from seven Guangdong enterprises between 2000 and 2004 and found that the gap between the wage for migrant workers and Guangdong's average employee wage kept increasing, and during this period, migrant workers' wages did not see a significant gain.

[15] Data are from NBSC (2005).

Similarly, Yan (2007) employed data from four major surveys in Shanghai to discover that during 1995 and 2003, the pace at which the rate of return on human capital increased differed for nonlocal labor and local residents, and the gap between the two paces is likely to continue to increase. Zhang and Meng (2007) compared data from 1999 and 2002, showing that the income gap between rural migrant workers and urban residents is increasing and that this is mainly caused by the relative decline in the educational return of migrant workers.

These studies all illustrate that the increased income gap between workers with different *hukou* identities within a city is not just due to the gap in human capital. It is also, to a certain extent, related to the increase in the gap between returns on human capital. Cai and Du (2011) argued that there is some evidence indicating wage convergence between local and migrant workers based on a comparison between the wage growth rage of local and migrant workers. However, as Figure 2 in their paper shows, only migrant workers at the bottom of wage distribution have experienced faster wage growth, while migrant workers at the top of wage distribution have much lower wage growth than local workers. This could be the result of pro-agriculture policies, which increased the reservation wage of low-income migrant workers, rather than the evidence of wage convergence.

Other than income gaps and gaps between the returns on human capital, dual segmentation exists in professions, jobs, and industries in the urban labor market. Labor market segmentation abroad is often related to factors such as sex, race, and union membership (Ashenfelter 1997; Altonji and Blank 1999), while dual segmentation in the PRC labor market is connected to *hukou*. Meng and Zhang (2001) found that significant disparities in professional status and income levels exist between nonlocals and urban residents, and these disparities mostly cannot be explained by the differences in productivity of the two types of labor.

Moreover, employing data from the fifth population census as well as survey data from five cities, Wang (2005) classified jobs for urban residents and nonlocals into five categories: self-employed, public sector worker, public sector administrative and technical personnel, nonpublic sector worker, and nonpublic sector administrative and technical personnel. The results showed that of the income gap between nonlocal labor and urban local labor, 59% is caused by the income disparity between different jobs, and 41% is caused by the income disparity within the type of job. However, 43% of income disparity is caused by unexplainable factors such as discrimination, reflecting that nonlocals enter into jobs that are relatively low paid.

5.2 Social Segmentation

Due to the dual society segmentation within cities, establishing new urban–rural integrated social networks for migrant workers can be difficult, and this may even result in mutual distrust between urban and rural residents. Generally, migrant workers use kinship or geographical connections to choose their destination and to obtain information regarding employment. Such a social network formed in the countryside is brought to the city, and the individual ability of migrant workers to withstand risk is increased through mutual help.

However, the existence of the *hukou* system often prevents social organizations, social activities, and social services of urban communities from sufficiently serving migrant workers. Trade unions do not cover migrant workers, either. This causes the urban social capital of migrant workers to be limited to the migrant worker community, and no integration between urban residents and migrant workers is generated in terms of social capital.

The dual society segmentation in cities also fosters distrust among migrant workers toward urban residents and municipal governments, increasing the difficulty of implementing and administering public policies, creating immense social losses. Wang, Chen, and Lu (2009) analyzed the determinants of resident trust based on survey data from Shanghai with an emphasis on the impact of *hukou* identity. The study found that, all other conditions being equal, residents without a local *hukou* are more distrustful of their neighbors in the community and most people, and their trust in the government is even lower. Moreover, *hukou* segmentation's negative impact on trust levels do not decline or disappear with the nonlocal *hukou* residents' increase in income or educational level. That is to say, enabling nonlocals with relatively higher educational levels and technical skills to work in cities is unlikely to resolve the problem of social discord. Even if nonlocals have higher incomes than local residents, if they are not given the same treatment as urban residents, they will still have a significantly lower trust level than urban locals with the same characteristics.

Moreover, studies on individual satisfaction found that nonlocal *hukou* has a significant negative impact on individual satisfaction (Chen, Xu, and Liu 2011; He and Pan 2010). The dissatisfaction of the nonurban *hukou* population mainly comes from income and education gaps between people with different *hukou* identities. The income gap between people with different *hukou* identities also has a negative impact on the satisfaction of urban residents with an advantaged status. The explanation is that if identity-induced income gaps lead to problems such as conflict or crime, it will generate negative impacts on urban *hukou* residents as well (Jiang, Lu, and Sato 2012).

5.3 Residential Segregation

In terms of residential space, the dual society segmentation in cities is strongly reflected in the existence of "urban villages." The urban village itself is a product of the urban–rural segmentation system. Due to the difference between land institutions in the countryside and the city, when rapid urbanization produces large amounts of urban land through changing land usage from agricultural to nonagricultural, such land begins to surround what used to be villages. While urban villages have become "urban," they are still under the management of their former rural collective land institutions. Dirty and messy urban villages with densely packed, although cheap, housing naturally become the residential areas of low-income migrant workers. Thus, residential segregation between people with or without local urban *hukou* is strikingly evident.

Even without urban villages, residential segregation of people with different *hukous* in cities still exists. Since most migrant workers belong to the low-income group in cities, their residential location is often clustered in the margins of the urban area. These are often low-cost communities where the environment is poor and the density of buildings high. In time, residential segregation within a city will naturally intensify. Under such residential segregation, in low-income communities, the interaction between residents can cause various social problems such as unemployment, poverty, and crime, generating great difficulties for the city's administration.

Such residential segregation has economic and sociopsychological reasons as well. The high price of housing and services in high-class communities has a squeezing effect on low-income individuals, which means the average person cannot enter this market. Among the various amenities surrounding high-class communities, the most important are quality and expensive schools, hospitals, and public security, and only high-income individuals can bear the corresponding costs. Residence in high-class communities also gives people a superior feeling and usually results in more favorable social networks. In fact, even developed countries have faced the negative effects of

residential segregation during economic development. In the PRC, the higher the position of a community, the more a developer tends to choose locations where the environment is good, and high-income individuals cluster there. Meanwhile, the high price of housing forces low-income individuals to migrate toward the margins of the urban area, creating residential segregation. In Shanghai, empirical analysis has shown that significant residential segregation exists between people with and without local *hukou* (Chen, Lu, and Chen 2012; Chen and Hao 2014).

6. CONCLUSION AND POLICY RECOMMENDATIONS

Rapid urbanization in the PRC has resulted from recent decades of intense rural–urban migration. Based on various empirical studies on the determinants of migration, migration is not only a personal decision but also a joint decision within households to send members with comparative advantages in manufacturing and services, usually male and young, to work in cities. Coastal regions where manufacturing and services are better developed, especially big cities, are the major destinations. The aspiration for higher-income and better job opportunities is the major force that drives migration, while public services and urban amenities also partly account for population flows.

However, in the PRC, there are still major institutional barriers—especially the *hukou* system and related segmentation in the urban labor market, social security, and public services access—that hinder rural–urban and interregional migration. Facing the challenges of fast urbanization, and growing urban diseases, local governments still rely on the current system to control the population flow into large cities, especially megacities. Contrary the view of the government that migration has generated social problems in cities, the problems are largely a result of the current discriminative policies rather than urban population growth itself.

As other chapters argue, even if urban population growth is partly the cause of urban diseases, technological progress and management need to be improved to deal with these diseases. Controlling population growth by discriminative policies will only lead to more social problems, as existing studies have shown. Policy makers should be fully aware of the negative effects of current policies against market forces, which is leading to both inefficiency and unfairness. It is time to reconsider the way to achieve efficient and harmonious urbanization by shifting to more pro-market policies and reducing the migration costs embedded in institutional constraints.

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APPENDIX: EFFECTS OF CITY CHARACTERISTICS ON LABOR MIGRATION

City Characteristics	Model 1	Model 2	Model 3	Model 4 (standardized)
Basic education	0.414***	0.237***	0.110***	0.116***
	(0.00748)	(0.00843)	(0.00955)	(0.0101)
Medical services	0.362***	0.0131***	0.0820***	0.118***
	(0.00135)	(0.00389)	(0.00901)	(0.0130)
Wage		0.000105***	0.0000335***	0.151***
		(0.00000157)	(0.00000193)	(0.00866)
Unemployment rate		–7.181***	–2.687***	–0.137***
		(0.200)	(0.207)	(0.0105)
Fixed-asset investment ratio		–0.540***	1.137***	0.156***
		(0.0524)	(0.0617)	(0.00850)
Industrial structure		–0.742***	–1.746***	–0.514***
		(0.0239)	(0.0330)	(0.00972)
Distance to nearest seaport		–0.0018***	–0.00411***	–1.630***
		(0.0000643)	(0.0000709)	(0.0281)
Distance to regional large city		–0.00234***	–0.000866***	–0.207***
		(0.0000759)	(0.0000764)	(0.0182)
Scale of population			0.00295***	0.885***
			(0.0000422)	(0.0127)
Average educational years			0.629***	0.474***
			(0.0158)	(0.0119)
House price			0.0000815***	0.0703***
			(0.0000135)	(0.0117)
Distance to *hukou* city			–0.407***	–1.343***
			(0.0240)	(0.00731)
Outside province			–0.00225***	–1.435***
			(0.0000123)	(0.0156)
Capital of province (yes = 1)			–1.435***	–0.407***
			(0.0156)	(0.0240)
Province fixed effect	Yes	Yes	Yes	Yes
Chi2	358,831.4	370,373.1	465,278.7	465,278.7
Pseudo R2	0.3288	0.3393	0.4263	0.4263
Observations	22,260,260	22,260,260	22,260,260	22,260,260
Number of cities	220	220	220	220
Number of individuals	101,183	101,183	101,183	101,183

Notes:

1. ***, **, and * represent coefficients significant at the levels of 1%, 5%, and 10%, respectively.
2. Basic education refers to primary school teachers per student and middle school teachers per student. Medical services refer to hospitals per capita, hospital beds per capita, and doctors per capita. These two variables are constructed using a principal component analysis.
3. Fixed-asset investment ratio refers to the ratio of the value of fixed-asset investment to gross domestic product.
4. Industry structure refers to the ratio of the production value of the tertiary sector to that of the secondary sector.
5. Distance to nearest seaport means a city's nearest distance to Hong Kong, China; Shanghai; or Tianjin—the major seaports in the People's Republic of China.
6. Distance to a regional large city measures a city's distance to the nearest regional large city among the 14 cities that had a population of more than 4 million permanent residents.
7. Distance to hukou city refers to the distance of the destination city from the city in which the migrant holds hukou.
8. Outside province means that the destination city does not belong to the migrant's original province.
9. The estimation method is the conditional logit model. Model 4 is based on standardized data using the standard deviation of each variable.