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January 2011

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
of Labor

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IZA Discussion Paper No. 5421
January 2011

ABSTRACT

Evolution of the Chinese Rural-Urban Migrant Labor Market from 2002 to 2007*

The paper studies the dynamic change of the migrant labor market in China from 2002 to 2007 using two comparable data sets. Our focus is on the rural-urban migration decision, the wage structure of migrants, the urban labor market segmentation between migrants and urban natives, and the changes of these aspects from 2002 to 2007. We find that prior migration experience is a key factor for the migration decision of rural household members, and its importance keeps increasing from 2002 to 2007. Our results show that there is a significant increase in wages among both migrants and urban natives over this 5-year period, but migrants have enjoyed faster wage growth, and most of the increase of wages among migrants can be attributed to the increase of returns to their characteristics. We also find evidence suggesting convergence of urban labor markets for migrants and for urban natives during this 5-year period.

JEL Classification: J21, J61, O15

Keywords: rural-urban migration, labor market, wage structure, migration decision, segmentation, China

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* We would like to acknowledge helpful comments from Xin Meng, Shi Li, and participants in the 1st CIER/IZA Annual Workshop: Research in Labor Economics in 2009 and the 2009 International Symposium on Contemporary Labor Economics at Xiamen University. The China Household Income Project (CHIP) data set used in this paper is provided by Research Center for Income Distribution and Poverty at Beijing Normal University. Collection of the Rural Urban Migration in China (RUMIC) data used in this paper is financed by IZA, ARC/AusAid, the Ford Foundation, and the Ministry of Labor and Social Security of China. Zhong Zhao is supported by the Fundamental Research Funds for the Central Universities and by the Research Funds of Renmin University of China under the project entitled "Labor Market Behavior of the Chinese Rural-Urban Migrants" (project no. 10XNJ016). Zhaopeng Qu is supported by the Funds of Humanities and Social Science of Ministry of Education in China (10YJC790209), and the Young Scholar Research Funds of Business School, Nanjing University. We are responsible for all views and the remaining errors in this paper.

I. Introduction

Along with economic reform and social transition in China during the past 30 years, the Chinese labor market has undergone tremendous change. Since the beginning of economic reform in China in 1978, and especially since 1988, rural-urban migration in China has become an important social and economic phenomenon. More and more of the rural population has joined in the migration flow to find better opportunities in the relatively developed urban areas and coastal areas. According to the National Bureau of Statistics of China (NBS), there were around 140 million rural migrants in China in 2008,[1] which is probably the largest domestic migration flow in human history (Cai, 2008).

The rural-urban migrants (hereafter we refer to them simply as "migrants") have become the main labor force in the Chinese manufacturing sector, and are one of the major factors behind China's rapid economic growth.[2] Many economists are wondering whether the rapid growth in China is sustainable, not only because the demand in international markets is shrinking, but also because the cost of production is increasing, especially the labor cost, on account of the rise in the migrants' wages. The recent global economic downturn is exacerbating this concern, but actually the migrant labor market was gradually changing even before the crisis (Cai, 2008).

While there are many studies of the Chinese labor market and rural-urban migration in China, most of them concentrate on three aspects. The first strand of studies is on the transition of the urban native labor market during the reform period, and includes contributions by such as Knight and Song (2003), Appleton, Song, and Xia (2005), and Dong and Xu (2009). The second strand of research is on the labor market segmentation between urban natives and migrants in wages, social welfare, and other aspects, e.g., Meng and Zhang (2001), Knight and Yueh (2008), Demurger, Gurgand, Li, and Yue (2009), and Deng and Li (2010). The last strand of the literature is focused on the rural-urban migration decision, and includes Zhao (2001, 2003) and Zhu (2002), among many others. Zhao (2005) provides a review of the Chinese rural-urban migration literature.

Many people have supposed that there have been many changes in the rural-urban migration population in China in the past decade, but due to the scarcity of data, there are few studies on the dynamics of the migrating

[1] See National Bureau of Statistics (2009).

[2] In China, the official household registration system (the *hukou* system) separates the Chinese population into rural population (with a rural *hukou*) and urban population (with an urban *hukou*). Under this system, an individual also has an official domicile – city or village. If an individual lives in her domicile, she has a local *hukou*; otherwise, she has a nonlocal *hukou*. The rural-urban migrants are the people who have a rural *hukou* but are working in urban areas. They may or may not have a local *hukou*. The urban natives are the people with a local urban *hukou*.

population and the migrant labor market.[3] Since the urban natives and migrants are still segmented in the labor market, the migrant labor market may have its own characteristics, and also, because of the increasing importance of the migrants in Chinese society, knowledge of the evolution of the migrant labor market is crucial for grasping the whole story behind the Chinese economic miracle.

In this paper, we investigate the change in the migrant labor market from 2002 to 2007. Our study is based on two comparable data sets: the 2002 wave of the China Household Income Project (CHIP) data, and the 2007 wave of the Rural-Urban Migration in China (RUMiC) data. Both data sets have a separated sample for migrants along with the standard urban sample and rural sample, which affords us a unique opportunity to systematically examine the change and evolution of the migrant labor market from 2002 to 2007. Our goal in this paper is to document fundamental facts and trends in the migrant labor market from 2002 to 2007, and to investigate the sources and causes of these facts and trends. Namely, we examine the rural-urban migration decision, the wage structure of migrants, urban labor market segmentation between migrants and urban natives, and the changes of these aspects from 2002 to 2007.

Our main findings are: First, during this 5-year period, there were dramatic changes in personal characteristics, working conditions, and migration behaviors of migrant workers. Recent migrants are younger, are more likely to be female, and have higher educational level. They are more likely to work in the manufacturing, wholesale and retail, restaurant, and hotel sectors. They also are likely to have more stable jobs and to hold longer-term labor contacts.

Second, rural people with prior migration experience have higher probability to migrate again, and the importance of prior migration experience increased from 2002 to 2007.

Third, the wages of both migrants and urban natives increased significantly from 2002 to 2007, but migrants have enjoyed faster wage growth. The average monthly wage increased about 61.4% and 60.5%, and the hourly wage increased about 69.7% and 55.2%, for migrants and urban natives, respectively. Our across-time decomposition analysis shows that the increase of wages from 2002 to 2007 among migrants and urban natives was mainly due to the price effect, i.e., the increase of coefficients of the characteristics.

Last, we also find evidence suggesting convergence of the urban labor markets for migrants and for urban natives during this 5-year period.

The remainder of the paper is structured as follows. In Section II, we describe our data sets in detail, and compare the profiles of the migrants in 2002 and in 2007. Section III analyzes the migration decision. In Section IV, we

[3] Migrants had been missing or underrepresented in most official statistics in China until the NBS conducted the 1% mini-census in 2005, which attempted to cover the migration population.

investigate the wage structure of the migrants, compare their wage structure with its urban counterpart, and examine the wage change from 2002 to 2007. In Section V, we look into the labor market segmentation between migrants and urban natives, and document their convergence from 2002 to 2007. Section VI concludes the paper.

II. Data, Descriptive Statistics, and Profile of Migrants

1. The CHIP and the RUMiC Data Sets

The data sets used in this paper come from two different sources. The first one is the China Household Income Project (CHIP), which was carried out by the Institute of Economics at the Chinese Academy of Social Sciences with assistance from the NBS in China for the reference periods of 1988, 1995, and 2002. Besides the urban sample and rural sample, the 2002 wave of the CHIP also has a separated supplemental survey for rural-urban migrants in the cities.[4]

The second one is the Rural-Urban Migration in China (RUMiC) survey, which is conducted by an international team headed by researchers at Australian National University, with cooperation from Chinese scholars, and also with assistance from the NBS. The RUMiC survey is aimed to construct the first representative panel data sets on rural-urban migrants in China among its surveyed cities. Like the CHIP 2002 data, the RUMiC data also comprise three samples: rural, urban, and migrant.[5] In this paper, we use the first wave (2007 wave) of the RUMiC data.

Both surveys record detailed information, such as income and expenditure, demographic characteristics, and work and employment information. We use the two data sources to construct a unique repeated cross-section data set to study the Chinese migrant labor market from 2002 to 2007.

2. Comparability of the CHIP and the RUMiC Data Sets

In this paper, we use all three samples from both sources. For the urban and rural samples, since both the CHIP and the RUMiC have carried out their urban and rural surveys with the help of the NBS, and drawn their observations from the NBS sampling frame, comparability is less a problem than it might have been.

However, it is important to note that the sampling frames for migrant samples are different in these two surveys. In the CHIP 2002, sampling is based on the residence of migrants. Migrants living in a dormitory or a workplace (such as a construction site) are not included in the sample. In the RUMiC 2007,

[4] For the details about the CHIP data and the supplementary survey, see Li et al. (2008).
[5] For the details about the RUMiC data, see Kong (2010).

sampling is based on workplaces, and it covers migrants living in a dormitory or workplace. In order to make these two migrant data sets comparable, we exclude those migrants living in a dormitory or workplace. The remaining migrants, who have fixed residences, represent the better-off part of the migrant population, so we have to stipulate that our analysis is based on a more prosperous than average migrant population, and our results should be interpreted accordingly.[6]

3. Selection of the Samples

For the urban and migrant samples, we limit our observations to persons residing in the same city in both 2002 and 2007. There are seven cities presented in both waves; they are Wuxi, Hefei, Zhengzhou, Wuhan, Guangzhou, Chongqing, and Chengdu. We further restrict our data to people with ages from 16 to 60 for men and from 16 to 55 for women, since according to Chinese regulations, the retirement age for males is 60, and for females is 55. For the wage structure analysis, we only keep the employed individuals with a positive wage.[7]

We follow a similar procedure to deal with the rural samples. First, we restrict our observations to the provinces presented in both 2002 and 2007. Nine provinces are covered in our final rural data; they are Hebei, Jiangsu, Zhejiang, Anhui, Henan, Hubei, Guangdong, Chongqing, and Sichuan. To make the rural, urban, and migrant samples comparable, we also impose the same age restrictions on the rural sample, even though a lot of rural people still work beyond age 60 in China.

4. Descriptive Statistics and the Profile of Migrants

A. Comparison of Urban Natives and Migrants

Appendix Table 1 presents summary statistics on household and individual characteristics, work-related variables, etc., for both migrants and urban natives.

On the individual level, the distribution of genders is very similar for urban natives and migrants; both have fewer females. The migrants are younger than their native counterparts. From 2002 to 2007, both migrants and urban natives decreased in average age. The average age was 34.6 in 2002 and 32.1 in 2007 for migrants, and 40.7 in 2002 and 38.8 in 2007 for urban natives.

From this table, we can also see that migrants are more likely to be married and to belong to a minority.[8] The percentages of married and of

[6] The migrants who live in a dormitory or workplace are younger, are less likely to be married, earn less, and are less likely to be self-employed. Detailed descriptive statistics are available upon request.

[7] We tabulate the unemployment rate of migrants, but the number is quite small and shows almost no change during the period, so we only analyzed the working sample.

[8] The higher marriage rate in the migrant sample reflects the fact that we only include the migrants with fixed residence in our analysis.

minority status for urban natives remained very stable from 2002 to 2007. However, these percentages have decreased for migrants during this period.

As to education, it is no surprise that migrants have less schooling than urban natives do, and the educational level for both natives and migrants has increased significantly from 2002 to 2007, especially for the migrants. The table also presents self-reported health status. Most migrants think their health is good, and their share of good health is much higher than that of the urban natives in 2002, but the time trends are different for these two groups. While the share of good health among migrants became smaller from 2002 to 2007, it increased for urban natives.

The table also summarizes information on work-related variables, such as the types of labor contract, industries, ownership, and location. There are five types of labor contract that the workers hold. Generally, the share of migrants who have a permanent or long-term labor contract is very low. By contrast, the share of self-employed is much higher among migrants. There are also large differences in industries of employment and in ownership status between migrants and urban natives.[9]

From the table, it is obvious that the wages of migrants are significantly lower than the wages of urban natives in both years. However, there is significant wage increase for both groups during this 5-year period. The monthly wages of migrants and urban natives have increased from 873.8 to 1410.5 Chinese yuan (increased by 61.4%) and from 1172.8 to 1883.0 Chinese yuan (increased by 60.5%), respectively; the hourly wages of these two groups have increased from 3.2 to 5.5 yuan (increased by 69.7%) and from 6.8 to 10.5 yuan (increased by 55.2%).

B. Migrants vs. Nonmigrants, Based on the Rural Sample

Since the migrant sample only contains migrants by definition, we also utilize the rural sample to compare the migrants and nonmigrants in the rural population.

Appendix Table 2 gives summary statistics of the rural samples in 2002 and 2007. We further divide the samples into migrant and nonmigrant groups. Generally, people in the migrant group are likely to be male, younger, and unmarried. From 2002 to 2007, there are some changes in both groups. As to gender composition, the share of males dropped from 66.7% to 63.2% in the migrant group, while it increased from 49.4% to 52.3% in the nonmigrant group. The two groups also show different patterns in age variation. From 2002 to 2007, migrants became younger: their average age decreased from 30.2 to 28.6, while that of nonmigrants increased from 37.4 to 40.5.

More importantly, there is a significant difference in prior migration

[9] We will come back to these points in detail in the next section.

experience between these two groups. In the migrant group, the share having prior migration experience was about 38.9% in 2002, but was only 11.2% in the nonmigrant group in the same year. By 2007, the share had increased greatly, to 97%, in migrant group. In the nonmigrant group, however, it had only increased to 19.5%.

C. Profiles of Migrants in 2002 and 2007, Based on Migrant Samples

The profiles of migrants in 2002 and 2007 exhibit some differences. We highlight the key changes in age, educational attainment, employment industries, and types of labor contract.

Figure 1 shows the age structure and its change from 2002 to 2007 by male and female and by migrants and urban natives. In general, migrants are younger than urban natives. The remarkable fact is that the shares of migrants with ages 16–20 and 21–25 have increased a lot, especially for women. However, these shares for their urban counterparts have only increased a little. This is consistent with the fact that the migrant workers are getting younger.

<Figure 1 Here>

The educational level for both migrants and urban natives has improved. However, for the migrants, the improvement comes from the fact that more people finished high school; for the urban natives, more of them received a college education. See Figure 2.

<Figure 2 Here>

Figure 3 shows the distribution of migrants and urban natives among industries. A majority of migrants work in the service sector, such as wholesale, retail, restaurants, and hotels. A large portion of migrants also work in the manufacturing sector. Urban natives are more evenly distributed among industries, though manufacturing is the largest one, and its share is about 20%–30%. From 2002 to 2007, the employment distributions of migrants and urban natives follow different trends. The share of employment in the manufacturing sector increased significantly for migrants; however, for urban natives it dropped by 10%. In the service sector, the opposite change happened, i.e., we see a decreased share of migrants employed in the service sector, but an increased share of urban natives.

<Figure 3 Here>

For the types of labor contract, the most dramatic change is that the percentage of migrants who hold long-term contracts increased drastically, from 5% to 26%; see Figure 4. For the urban natives, the shares of different types of labor contract are more evenly distributed. From 2002 to 2007, most of the change happened in the group holding long-term contracts; the share of this group increased from 27% to almost 40%.

<Figure 4 Here>

Figure 5 and Figure 6 are about the migration duration and job mobility of migrants. The migration duration decreased from 2002 to 2007; meanwhile, the migrants showed a decrease in job mobility, i.e., their jobs were more stable in 2007, which is consistent with the increase of long-term labor contracts among migrants.

<Figure 5 and Figure 6 Here>

III. Migration Decision

1. Migration Decisions in 2002 and 2007

There are many changes in the profile of migrants from 2002 to 2007. To examine these changes during the 5-year period, it is useful to explore the migration decisions among the rural households during this period. In this analysis, we utilize the rural household samples in 2002 and 2007; these samples allow us to identify the migrants and nonmigrants.[10]

We use a logit model to study the effect of personal, household, and village characteristics on the migration decisions in 2002 and 2007. Appendix Table 3 presents the results for all individuals, for men, and for women. This table also presents marginal effects of explanatory variables on the probability of migration.[11]

As can be seen from this table, there are several important factors that affect the migration decisions of rural population. At the personal level, the most important one is prior migration experience, and it shows a huge positive effect on migration decisions. Specifically, for those with prior migration experience, the migration probabilities were 23.5% and 46.1% greater than for those with no such experience in 2002 and 2007, respectively. Gender and age are also important. A male had higher probability to migrate than a female did – by 9.5% in 2002, but only by 1.9% in 2007. After controlling for age squared, age had a positive effect on migration decisions, but the effect went down from 2002 to 2007. Marriage reduced the probability of migration by 11.9% in 2002 and by 3.7% in 2007. The coefficients of educational level do not show the same patterns. In 2002, individuals with complete primary schooling or middle schooling were more likely to migrate than were people with less than complete primary schooling. But in 2007, the effects of education became insignificant.

As to the household characteristics, the number of preschool negatively

[10] We have to note that the migrants in rural samples might be different from those in the migrant samples; see Appendix Table 1 and Appendix Table 2. Part of the reasons are that the migrant samples only cover seven cities, and only include migrants with a fixed resident place.

[11] The marginal effect for a continuous variable is evaluated at the sample mean, and that for a categorical variable is evaluated against the reference category.

affected mother's migration decision, but not father's. The number of in-school children (age from 7 to 16) has a negative effect on migration decisions of both their mother and father, but the effect was diminished from 2002 to 2007, especially for the mother. The household size has a positive effect on migration probability, and this effect remained relatively stable during that 5-year period.

We now consider the village-level characteristics. Living in different geographic areas leads to different probabilities of migration with different time trends. Relative to living in a hilly area (reference group), living in a mountain area has a negative effect on migration in 2002 but a positive effect in 2007. Living in a traditional revolutionary area or a minority village has a positive effect on migration, while living in a village in a suburb of a city has a negative effect. With regard to infrastructure, telephone access had a strong effect on migration in 2007; the distance to the city had a strong effect in 2002, but by 2007 the effect had totally disappeared.

2. Decomposition across Time

To understand the change in migration decisions from 2002 to 2007 better, we use the decomposition method proposed by Yun (2004) to investigate the change over time. That method is an extension of classical Oaxaca-Blinder decomposition to nonlinear models, such as logit or probit models.

Based on Oaxaca (1973) and Blinder (1973), we can make the following decomposition:

$$E[Y_A^i] - E[Y_B^i] = (E[X_A^i] - E[X_B^i])'\beta_A^i + E[X_B^i]'(\beta_A^i - \beta_B^i) \quad (1)$$

where Y denotes the outcome, X is a vector of variables determining the outcome, and β can be seen as a vector of effects of these variables on the outcome. A and B denote any two groups between which there is a difference to be decomposed, such as black and white, or men and women. As indicated in the equation above, in the empirical implementation, the decomposition makes use of the sample mean of all characteristics and coefficients from the OLS for these characteristics. The first term on the right-hand side of this equation is the effect of differences in mean characteristics of the two groups for identical returns (coefficients): if the group A had the endowment of the group B, what would the difference in outcome look like? This is usually termed the *endowment effect*. The second term is typically interpreted as the part of the gap of the outcome that is associated with differences in returns (coefficients) to the characteristics between the two groups, i.e., the *coefficient effect*, aka the *price effect*.

Following the spirits of Oaxaca-Blinder decomposition, Fairelie (1999 and 2005), Yun (2004), and Thomas and Mathias (2006) extend the decomposition to nonlinear models.

In this paper, we apply the decomposition framework in Yun (2004). His

method not only allows calculating the endowment effect and the coefficient (price) effect, but also can isolate the endowment effect associated with an individual variable or a group of variables. His method is as follows:

$$\overline{Y_A} - \overline{Y_B} = \sum_{i=1}^{K} W_{\Delta X}^{i} [\overline{F(X_A \beta_A)} - \overline{F(X_B \beta_A)}] + \sum_{i=1}^{K} W_{\Delta \beta}^{i} [\overline{F(X_B \beta_A)} - \overline{F(X_B \beta_B)}] \quad (2)$$

where

$$W_{\Delta X}^{i} = \frac{(\overline{X}_A^i - \overline{X}_B^i)\beta_A^i f(\overline{X}_A \beta_A)}{(\overline{X}_A - \overline{X}_B)\beta_A f(\overline{X}_A \beta_A)} = \frac{(\overline{X}_A^i - \overline{X}_B^i)\beta_A^i}{(\overline{X}_A - \overline{X}_B)\beta_A} \quad (3)$$

$$W_{\Delta \beta}^{i} = \frac{\overline{X}_B^i (\beta_A^i - \beta_B^i) f(\overline{X}_B \beta_B)}{\overline{X}_B (\beta_A - \beta_B) f(\overline{X}_B \beta_B)} = \frac{\overline{X}_B^i (\beta_A^i - \beta_B^i)}{\overline{X}_B (\beta_A - \beta_B)} \quad (4)$$

where the superscript $i = 1, \cdots, K$ indicates the ith group of variables, and where $W_{\Delta X}^{i}$ and $W_{\Delta \beta}^{i}$ are weights for the xs in the ith group and their coefficients, with $\sum_{i=1}^{K} W_{\Delta X}^{i} = \sum_{i=1}^{K} W_{\Delta \beta}^{i} = 1$.

Table 1a reports the decomposition results. The first two rows report the share of migrants, and thus the propensity to migration, in 2002 and 2007. In 2002, the share of migrants is 0.207, and this number increases to 0.252 in 2007. If we investigate the migration propensity for males and females separately, we can see that males have a higher migration propensity in both years; however, the migration propensity of females increased faster during this period.

<Table 1a Here>

We decompose the total change of the migration propensity into the price effect and the endowment effect. These two effects have different signs. The endowment effect, such as that of changes in human capital, household characteristics, and village characteristics, increases the probability of migration; the price effect, due to the changes of coefficients from 2002 to 2007, reduces the probability of migration.

To further understand the change in migration decisions, we isolate the contribution of every variable; see Tables 1b for the endowment effect and 1c for the price effect. Migration experience, household size and age are the three most important factors. The endowment effects for both migration experience and age are positive, and the endowment effect for household size is negative; however, migration experience has a positive coefficient effect, and age has a negative one.

<Table 1b and Table 1c Here>

IV. Wage

1. Wage Structure and Inequality

Table 2 describes the wages (both monthly and hourly) of migrants and urban natives in 2002 and 2007. The monthly wage of both urban natives and migrants increased sharply, by about 60.5% and 61.4% over this 5-year period, respectively. It is clear that the migrants have enjoyed a faster growth of hourly than of monthly wage.

The table also shows what happened to wage inequality over the 5-year period. We calculate different measures of inequality, such as the Gini coefficient, the Theil index, and Kuznets ratios (such as the wage ratio of the 90th to the 10th percentile). We find a very interesting phenomenon: the trends of inequality are strikingly different for migrants and urban natives. While earnings inequality among urban natives increased from 2002 to 2007, it decreased among migrants.[12]

<Table 2 Here>

2. Wage Equation

To explain the increase of wages for urban native and migrant groups, we first estimate wage functions for the migrants and urban natives, including the usual explanatory variables, such as education, age, minority, marital status, health status, ownership of place of employment, industry of employment, type of labor contract, and province dummies in the wage equations. The dependent variable is the logarithm of the hourly wage.

Appendix Table 4 presents the OLS estimates of wage functions for both migrants and urban natives in 2002 and 2007 for the whole sample and for the male and female samples. It can be seen that there are important differences in the coefficients for the genders. For males, the coefficients for both urban natives and migrants are significant in 2002, but the coefficient becomes insignificant for urban natives in 2007, while it is still very significant for migrants in 2007, and even increases a little. This might mean that there is still gender discrimination in the migrant labor market.

The coefficients on educational level are one of our focuses. For both urban natives and migrants, the rates of return to education in both years are significant and positive; however the rate of return increased a little for migrants, and decreased by around 3% for urban natives, over the 5 years.[13] Thus, human capital is getting more and more important for migrants, along with the marketization of the Chinese labor market. Combined with the previous

[12] In a separate project, we examine this phenomenon in detail.

[13] The decrease of the rate of return to education among urban natives is an important phenomenon, and worth further investigation. We also run classical Mincerian wage equations, i.e. only include education, experience and experience squared (proxied by age and age squared) in the model, the fact that the rate of return to education decreased remains unchanged.

migration decision analysis, this suggests that education is becoming more important in wage determination, but is becoming less important in migration decision.

3. Decomposition of the Wage Equation from 2002 to 2007

To understand the factors behind the wage increase, we use the Oaxaca-Blinder decomposition method to study the hourly-wage change over this 5-year period. Specifically, we apply the following decomposition equation:

$$E[\ln Y^i_{2007}] - E[\ln Y^i_{2002}] = (E[X^i_{2007}] - E[X^i_{2002}])'\beta^i_{2007} + E[X^i_{2002}]'(\beta^i_{2007} - \beta^i_{2002}) + (E[X^i_{2007}] - E[X^i_{2002}])'(\beta^i_{2007} - \beta^i_{2002}) \quad (5)$$

where Y denotes the hourly wage, X is a vector of characteristics, and β is a vector of returns to these characteristics; $i = 1$ or 2 denotes migrants or urban natives, respectively.

Table 3 shows the decomposition results on the log of hourly wage. We find that the changes of endowments can only explain a small part of the wage increase (about −5% for urban natives and 28% for migrants); most of the increase is due to changes of coefficients (91% for urban natives and 100% for migrants). If we examine the decomposition results for men and women separately, the basic description remains unchanged.

<Table 3 Here>

To further explore the cause of the wage increase, we isolate the contributions of individual variables. As can be seen from Table 4, the endowment effects for both migrants and urban natives are positive, especially those from education. The change of the labor market segmentation favors the migrants, and the endowment effect for this change accounts for 29.1% of the migrants' wage increase. However, the urban natives do not benefit from the change of the labor market segmentation.

The coefficient effects from human capital are strikingly different for migrants and urban natives. The migrants benefit a lot from the increase of returns to age and education; however, the coefficient effects of both age and education are negative for urban natives. The former fact reflects that the return to seniority for Chinese urban natives has decreased significantly, which is consistent with the findings in Appleton, Song, and Xia (2005). The later is consistent with the observation that along with the expansion of higher education in China, the return to education, especially among the younger cohorts, shows a decreasing trend.

Though urban natives do not benefit from the change of the labor market segmentation itself, they do benefit from changes in coefficients associated with variables on the market segmentation, as do the migrants. That

is consistent with the story that China is moving toward a functional labor market; see Dong and Xu (2009).

The last observation in our analysis is that the constant term is much more important for urban natives than for migrants. It hints that the wage of migrants is much less influenced by unobserved factors, such as nonmarket and labor market institutional factors. This also highlights the puzzling observation that the return to education among urban natives decreased over the period.

<Table 4 Here>

V. Labor Market Segmentation

This section investigates the segmentation between urban natives and migrants in the labor market. We calculate the traditional index of dissimilarity proposed by Duncan and Duncan (1955). That *Duncan index* measures the evenness with which two groups, urban natives and migrants in our case, are distributed across the different industries. If the fractional distribution of migrants employed in all industries is the same as that of urban natives, the Duncan index gets score 0, which means that there is no segmentation at all in the labor market. On the contrary, if the distribution of migrants employed in all industrials is extremely different from that of urban natives, the Duncan index gets score 1, which means that the labor market is totally segmented. The formula for the Duncan index is

$$D = \frac{1}{2}\sum_{j=1}^{J} \left| \left(\frac{U_i}{U}\right) - \left(\frac{M_i}{M}\right) \right| \tag{6}$$

where j=1, 2,…,J denotes the jth industry, U_i represents the number of urban natives employed in the jth industry, U represents the population of urban natives employed in all industries, and M_i and M have corresponding meanings for migrants.

The results are shown in Table 5. For the whole sample, the Duncan index decreased significantly, from 0.48 in 2002 to 0.38 in 2007. This suggests that the labor market is turning more competitive over time.

<Table 5 Here>

We also calculated the Duncan index by gender, age, and educational level groups. In 2002, males had a higher degree of segmentation, and the Duncan index is 0.52 for males and 0.44 for females; but in 2007, the Duncan indices were similar for males and females, around 0.39.

For age groups, in 2002 the index increased along with age. For example, the index for the group of ages 16–25 was only 0.37, while the index for 45–60 was 0.57. In 2007, however, the index had become much more even. The index

for older groups had decreased more. For example, for the group of ages 16–25, the index remained unchanged while the indices for the other groups changed from 0.46 to 0.42, 0.49 to 0.41, and 0.57 to 0.42 for 26–35, 36–45, and 45–60, respectively.

The last part of the table gives the Duncan index by educational level group. There are some differences by educational level. In 2002, the group with the highest value of the index is the group with full primary education or less, and the value is 0.50. But the group with the lowest value is not the group with college or graduate education; it is the group with high school education. In 2007, except for the group with college or graduate education, the indices for most groups had decreased. The group with middle school education had become the group with the lowest segmentation, and its index was 0.34.

In a word, the analyses show that the labor market segmentation between migrants and urban natives in industry became weaker. There is a trend of convergence of labor markets for migrants and urban natives. The convergent rates are faster for males, older people, and people with middle school education

VI. Conclusions

Based on a newly acquired unique data set (RUMiC), along with the CHIP data, this paper studies the dynamics of the migrant labor market in the beginning of the 21st century.

We find that during the 5-year period, there were many changes in the profile of migrants. The new migrants are younger, are more likely to be female, and have higher education level than the old cohort. The new migrants are more likely to work in the manufacturing, wholesale and retail, restaurant, and hotel sectors. They also are more likely to hold more stable jobs and have longer labor contracts.

Our decomposition exercise shows that the increase of the probability of migration in driven by the endowment effect. Indeed, the coefficient effect is negative. Prior migration experience was a key factor for migration decisions in 2002 and 2007, and its importance is increasing over time.

From 2002 to 2007, the wages of both migrants and urban natives increased significantly. Our across-time decomposition analysis shows that the increase mainly results from the coefficient effect for both groups.

We further look into different categories of explanatory variables. The endowment effects of human capital are positive for both migrants and urban natives. However, the coefficient effects from human capital are quite different for migrants and urban natives. The migrants benefit a lot from the increase of returns to age and education; meanwhile, the coefficients effects of age and education are negative for urban natives.

The change of the labor market segmentation favors the migrants; the urban natives do not benefit from this change. Though urban natives do not benefit from the change of the labor market segmentation itself, they do benefit from changes in coefficients associated with variables connected with market segmentation, as do the migrants.

We also find evidence suggesting that the segmentation between migrants and urban natives in the labor market is becoming weaker. There is a convergence of urban labor markets for the migrants as well as for the urban natives during this 5-year period.

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Figure 1. Age: Migrants vs. Urban Natives: 2002–2007

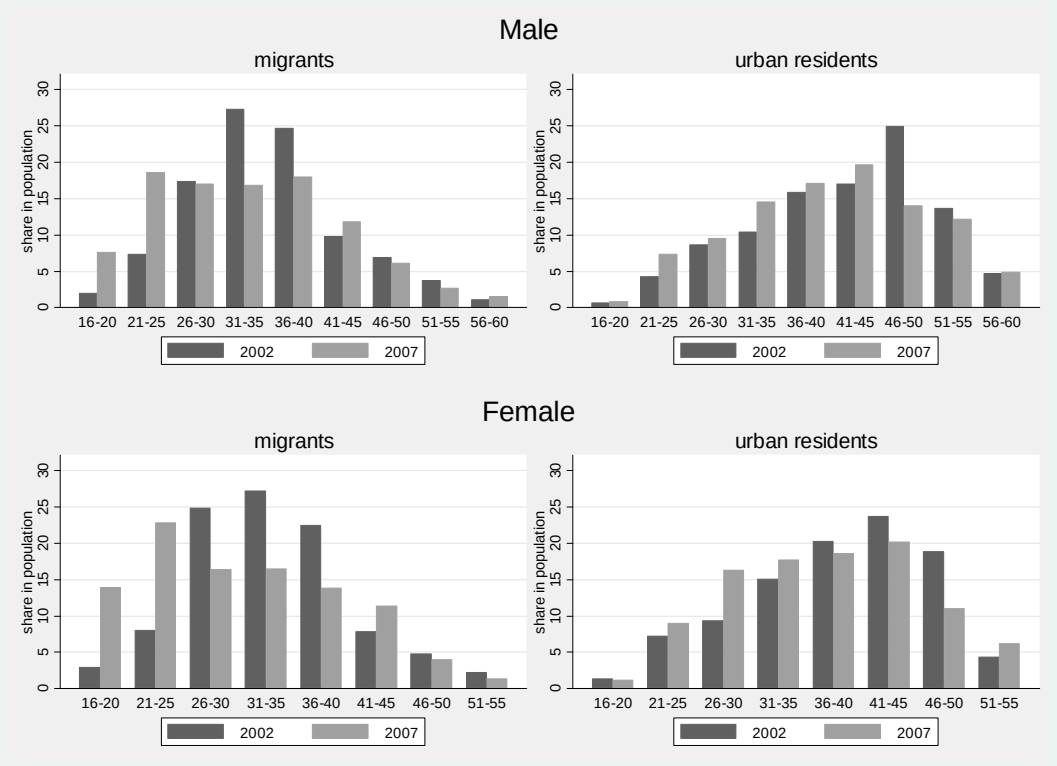


Figure 2. Education: Migrants vs. Urban Natives: 2002–2007

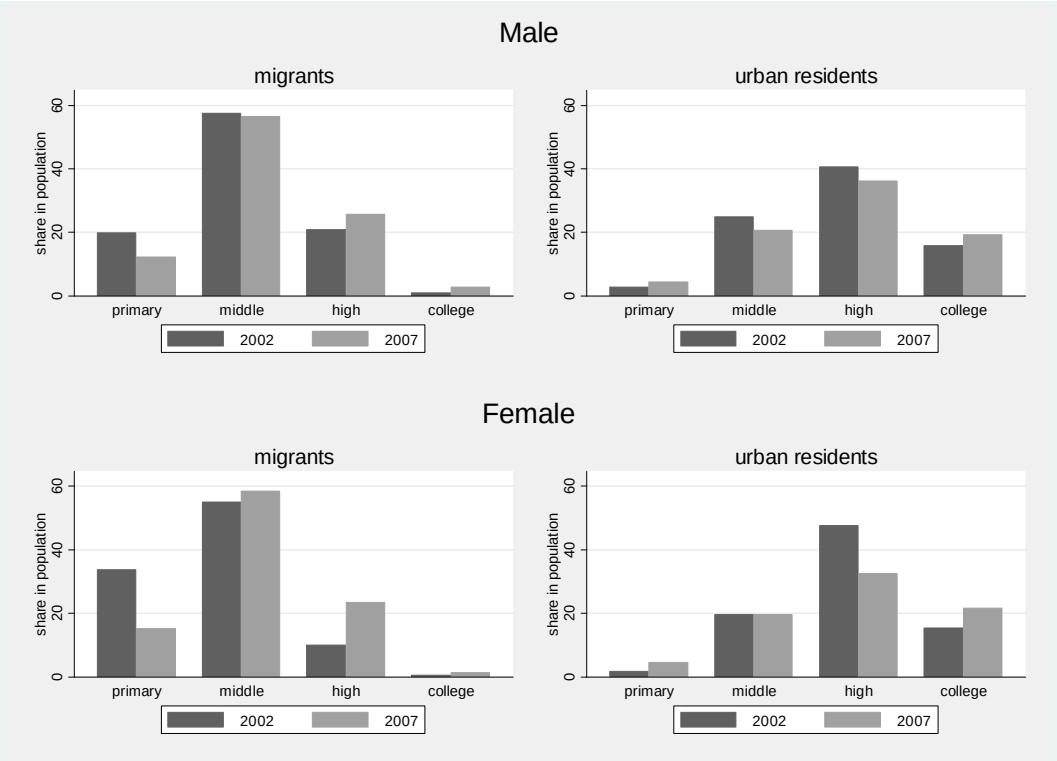
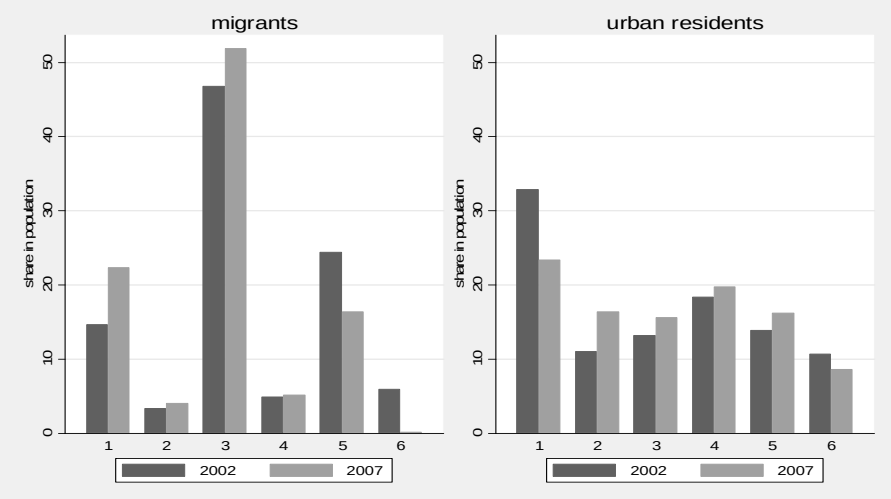
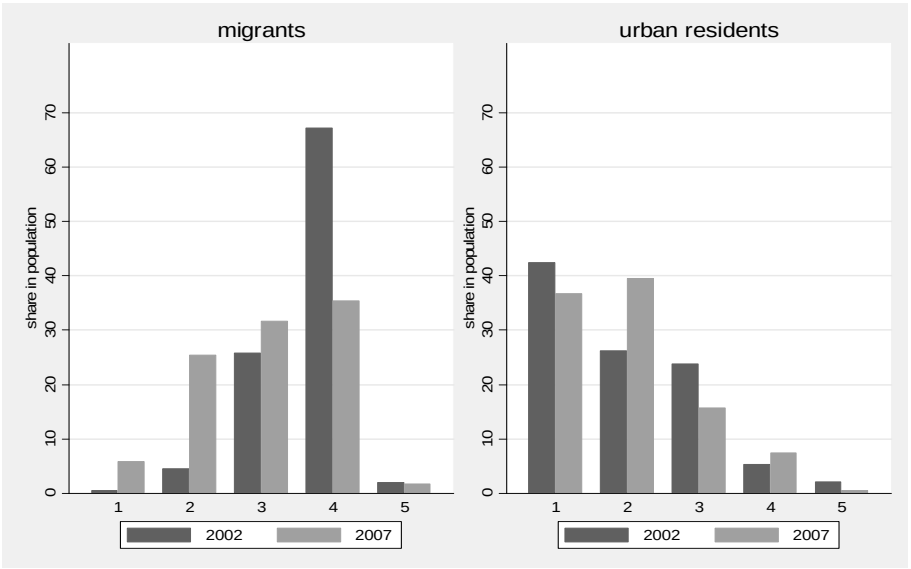


Figure 3. Industry: Migrants vs. Urban Natives: 2002–2007



Note: 1, agriculture+mineral+manufacturing+construction; 2, electricity, gas, and water and transportation and IT; 3, wholesale and retail, restaurant, and hotel; 4, finance + real estate, health and social security + education, arts and media + science and technical services; 5, services; 6, goverment and public administration and others.

Figure 4. Type of Labor Contract: Migrants vs. Urban Natives: 2002–2007



Note: 1, permanent; 2, long-term temporary; 3, short-run temporary or no contract; 4, self-employed; 5, others

Figure 5. Migration Duration: 2002–2007
(Year)

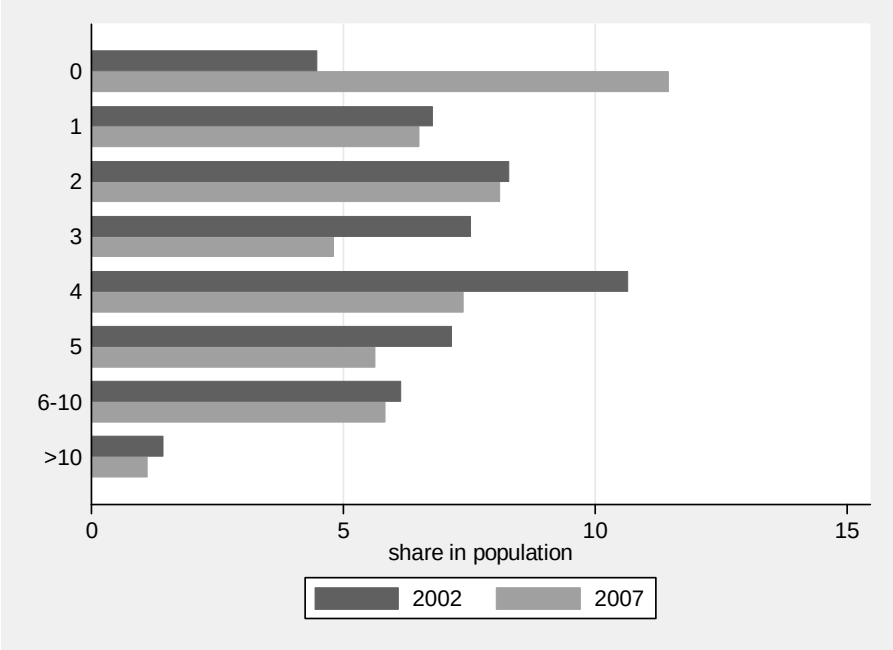


Figure 6. Mobility of Migrants: 2002–2007

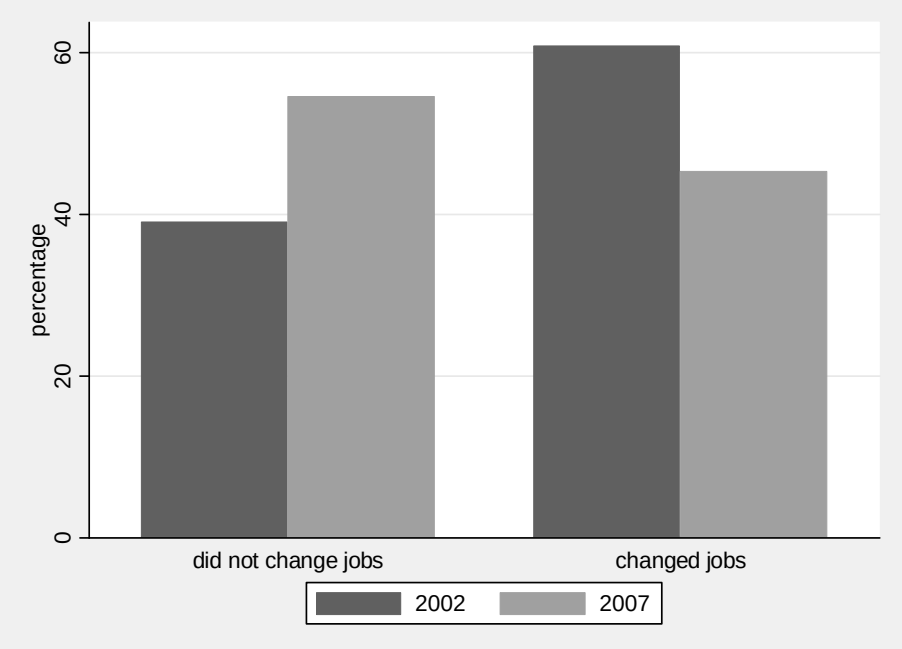


Table 1a. Decomposition for Migration Decision: 2002-2007

	All		Male		Female	
Share of Migrants						
2002	0.207		0.261		0.146	
2007	0.252		0.289		0.206	
Difference btween 2002 and 2007	0.045		0.028		0.06	
	Coef.	**Share**	**Coef.**	**Share**	**Coef.**	**Share**
Endowment Effect	0.134	299.70%	0.14778	519.99%	0.11456	192.20%
	[0.003]		[0.004]		[0.004]	
Coefficient Effect	-0.089	-199.70%	-0.11936	-419.99%	-0.054958	-92.20%
	[0.004]		[0.007]		[0.006]	
Number of Observations	30748		16702		14046	

Note: Numbers inside square brackets are standard errors;

Table 1b. Endowment Effect for Migration Decision: 2002-2007

	All		Male		Female	
	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error
Male	0.001	0				
Migration experience	0.142	0.006	0.162	0.007	0.116	0.01
Human Capital						
Age	0.024	0.005	0.033	0.007	0.017	0.007
Age squared	-0.035	0.005	-0.049	0.007	-0.022	0.006
Primary school	0.001	0.001	-0.001	0.001	0.002	0.001
Middle school	0	0	0	0	0.003	0.001
High school	0	0	0	0	0	0
Household Characteristics						
Married	-0.005	0.001	-0.003	0.001	-0.007	0.001
Child between 0-6	0.004	0.004	0	0.005	0.009	0.006
Child between 7-16	0.019	0.006	0.023	0.007	0.015	0.009
Household size	-0.036	0.004	-0.035	0.005	-0.04	0.007
Village Characteristics						
Plain area	0.001	0.001	0	0.001	0.003	0.002
Mountain area	0.001	0	0.001	0	0.001	0
Revolution area	0.002	0	0.002	0.001	0.002	0.001
Minority village	0.001	0	0.001	0	0.001	0
Suburb village	0	0	0	0	0	0
Road access	-0.001	0.001	-0.002	0.001	0	0.001
Telephone access	0.001	0.001	0.002	0.001	0.001	0.001
Distance to the city:						
2-5 km	0.001	0.001	0.002	0.001	0	0.001
5-10 km	0.001	0.001	0.002	0.001	-0.001	0.001
10-20 km	0	0	0	0	0	0
Over 20 km	0.001	0.001	0	0.002	0.004	0.002
Province						
Jiangsu	0.004	0	0.004	0	0.004	0.001
Zhejiang	-0.001	0	-0.001	0	-0.002	0.001
Anhui	-0.002	0	-0.001	0	-0.003	0
Henan	-0.002	0	-0.002	0	-0.003	0.001
Hubei	0.005	0	0.004	0.001	0.006	0.001
Guangdong	0	0	0	0	0	0
Chongqing	0.004	0	0.003	0	0.005	0.001
Sichuan	0.004	0	0.004	0	0.005	0.001
Number of Observations	30748		16702		14046	

Table 1c. Coefficient Effect for Migration Decision: 2002-2007

	All		Male		Female	
	Coef.	Std. Error	Coef.	Std. Error	Coef.	Std. Error
Male	-0.009	0.002				
Migration experience	0.023	0.001	0.04	0.002	0.011	0.001
Human Capital						
Age	-0.26	0.049	-0.391	0.081	-0.272	0.075
Age squared	0.127	0.027	0.191	0.044	0.154	0.043
Primary school	-0.002	0.002	-0.002	0.003	0.001	0.003
Middle school	-0.007	0.004	-0.01	0.007	0.001	0.004
High school	0	0.001	0.001	0.002	0.001	0.001
Household Characteristics						
Married	0.007	0.004	-0.001	0.007	0.017	0.006
Child between 0-6	-0.001	0.002	-0.001	0.002	0	0.002
Child between 7-16	0	0.003	-0.003	0.004	0.005	0.003
Household size	0.031	0.007	0.058	0.011	0.014	0.009
Village Characteristics						
Plain area	0.004	0.002	0.009	0.004	0	0.003
Mountain area	0.003	0.001	0.003	0.001	0.004	0.001
Revolution area	-0.002	0.001	-0.004	0.002	-0.002	0.001
Minority village	0.001	0	0.001	0	0.001	0
Suburb village	-0.002	0.001	-0.002	0.001	-0.001	0.001
Road access	-0.012	0.013	-0.023	0.02	0.006	0.017
Telephone access	0.045	0.031	0.045	0.052	0.05	0.036
Distance to the city:						
2-5 km	-0.003	0.001	-0.005	0.001	-0.003	0.001
5-10 km	-0.005	0.002	-0.007	0.002	-0.005	0.002
10-20 km	-0.008	0.003	-0.012	0.005	-0.005	0.005
Over 20 km	-0.005	0.006	-0.009	0.009	-0.006	0.008
Province						
Jiangsu	0.005	0.001	0.008	0.002	0.002	0.002
Zhejiang	0.002	0.001	0.005	0.002	-0.002	0.002
Anhui	0.005	0.001	0.007	0.002	0.002	0.002
Henan	0.005	0.001	0.006	0.002	0.003	0.002
Hubei	0.01	0.001	0.015	0.002	0.005	0.002
Guangdong	0.008	0.002	0.012	0.002	0.002	0.002
Chongqing	0.002	0.001	0.003	0.001	0.001	0.001
Sichuan	0.007	0.001	0.011	0.002	0.003	0.002
Constant	-0.058	0.043	-0.063	0.071	-0.044	0.054
Number of Observations	30748		16702		14046	

Table 2. The Structure of Wage of Urban Residents and Migrants in 2002 and 2007

	Monthly Wage						Hourly Wage					
	Urban Native			Migrant			Urban Native			Migrant		
	Wage		Wage Growth (%)	Wage		Wage Growth (%)	Wage		Wage Growth (%)	Wage		Wage Growth (%)
	2002	2007	2002-07	2002	2007	2002-07	2002	2007	2002-07	2002	2007	2002-07
Mean	1172.8	1882.64	60.53	873.8	1410.39	61.41	6.76	10.5	55.19	3.23	5.49	69.72
10th percentile	400	654.6	63.65	400	684.6	71.15	2.07	3.25	57.18	1.11	2.19	97.48
Median	973.63	1456.99	49.65	650	1166.53	79.47	5.47	7.84	43.42	2.22	4.36	96.38
90th percentile	2166.67	3548.32	63.77	1500	2243.32	49.55	12.72	20.39	60.3	5.34	9.54	78.53
Ratio of 90th to 10th percentile	5.42	5.42	0	3.75	3.28	-12.53	6.16	6.28	1.99	4.81	4.35	-9.6
Ratio of 90th to median	2.23	2.44	9.42	2.31	1.92	-16.88	2.33	2.6	11.77	2.41	2.19	-9.09
Ratio of median to 10th percentile	2.43	2.23	-8.23	1.63	1.7	4.29	2.65	2.42	-8.75	2	1.99	-0.56
	2002	2007	Change	2002	2007	Change	2002	2007	Change	2002	2007	Change
Gini coefficient	0.36	0.37	0.01	0.36	0.31	-0.05	0.38	0.4	0.02	0.43	0.33	-0.09
Theil index	0.22	0.23	0.01	0.32	0.2	-0.12	0.25	0.28	0.03	0.44	0.2	-0.22
Number of Observations	1848	2315		1315	2221		1848	2315		1315	2221	

Table 3. Oaxaca Decomposition of log Wage: 2002-2007

	All				Male				Female			
	Urban Native		Migrant		Urban Native		Migrant		Urban Native		Migrant	
	Coef.		Coef.		Coef.		Coef.		Coef.		Coef.	
Differential												
Prediction_1	2.079		1.51		2.071		1.598		2.089		1.393	
	[0.016]		[0.01]		[0.022]		[0.017]		[0.022]		[0.018]	
Prediction_2	1.656		0.863		1.725		0.986		1.569		0.711	
	[0.017]		[0.019]		[0.023]		[0.028]		[0.026]		[0.023]	
Difference	0.423		0.648		0.346		0.612		0.519		0.683	
	[0.023]		[0.021]		[0.032]		[0.033]		[0.034]		[0.03]	
		Share		Share		Share		Share		Share		Share
Endowments	-0.021	-5%	0.179	28%	-0.036	-10%	0.099	16%	0.003	1%	0.215	31%
	[0.02]		[0.04]		[0.026]		[0.047]		[0.032]		[0.065]	
Coefficients	0.385	91%	0.649	100%	0.339	98%	0.649	106%	0.448	86%	0.635	93%
	[0.023]		[0.027]		[0.031]		[0.043]		[0.035]		[0.04]	
Interaction	0.059	14%	-0.18	-28%	0.043	12%	-0.137	-22%	0.068	13%	-0.168	-24%
	[0.02]		[0.048]		[0.026]		[0.055]		[0.033]		[0.071]	
Number of Obs.	4149		3524		2289		1994		1860		1530	

Note: Numbers inside square brackets are standard errors;
***, **, * represent significant at 1%. 5% and 10% level, respectively.

Table 4. Oaxaca Decomposition of log Wage from 2002 to 2007

	All		Male		Female	
	Urban Native	Migrant	Urban Native	Migrant	Urban Native	Migrant
Endowment total	-4.93%	27.59%	-10.53%	16.24%	0.67%	31.53%
Human capital	3.69%	6.19%	4.59%	-0.53%	3.07%	12.43%
Education	8.27%	5.32%	8.94%	2.59%	7.67%	7.01%
Age	-6.61%	0.27%	-7.26%	-3.62%	-6.06%	5.20%
Health	2.03%	0.60%	2.91%	0.50%	1.46%	0.22%
Discrimination	-0.17%	-0.71%	-0.06%	-1.26%	-0.04%	-0.30%
Married	-0.02%	-0.38%	-0.10%	0.48%	0.00%	-0.38%
Gender	-0.17%	0.62%				
Minority	0.02%	-0.95%	0.04%	-1.74%	-0.04%	0.08%
Segmentation	-8.47%	29.06%	-15.07%	17.98%	-2.37%	19.28%
Contract	3.80%	-0.88%	-1.97%	1.41%	9.07%	-6.24%
Ownership	-1.95%	23.30%	-2.52%	21.43%	-1.79%	23.50%
Industry	0.52%	2.14%	-2.35%	1.94%	2.85%	-0.29%
City	-10.84%	-1.99%	-8.23%	-6.80%	-12.50%	2.31%
Coefficient total	91.00%	100.20%	98.09%	106.10%	86.26%	93.09%
Human capital	-264.00%	72.71%	-315.19%	4.91%	-105.47%	165.11%
Education	-87%	9.68%	-103.78%	9.62%	-70.60%	12.71%
Age	-198.23%	64.28%	-264.12%	-14.75%	-36.99%	153.68%
Health	20.56%	-1.25%	46.60%	-1.03%	2.12%	-1.28%
Discrimination	15.81%	-1.17%	-0.09%	-2.66%	30.89%	-11.79%
Married	23.93%	-1.61%	6.02%	8.41%	30.94%	-12.15%
Gender	-8.11%	1.80%				
Minority	-0.01%	-1.36%	-0.09%	-2.66%	-0.05%	0.36%
Segmentation	33.19%	62.15%	2.12%	89.83%	3.49%	-19.48%
Contract	23.61%	61.15%	-28.07%	65.76%	-17.90%	15.13%
Ownership	8.34%	4.98%	6.90%	-0.69%	9.47%	7.72%
Industry	-11.00%	11.34%	-19.74%	17.17%	-3.22%	-5.26%
City	12.24%	-15.32%	5.83%	7.59%	15.14%	-37.07%
Constant	353.61%	-33.47%	448.98%	12.66%	156.80%	-34.33%
Interaction	13.93%	-27.78%	12.44%	-22.34%	13.08%	-24.62%
Number of Observations	4149	3524	2289	1994	1860	1503

Table 5. Duncan Index between Migrants and Urban Natives

		2002	2007
All		0.48	0.381
Gender			
	Male	0.516	0.395
	Female	0.441	0.39
Age			
	16-25	0.365	0.362
	26-35	0.457	0.415
	36-45	0.489	0.41
	45-55 or 60	0.565	0.422
Education			
	Primary school and below	0.501	0.439
	Middle school	0.448	0.34
	High school	0.323	0.373
	College and above	0.451	0.459

Appendix Table 1. Descriptive Statistics of Urban and Migrants Samples

	Migrant				Urban Native			
	2002		2007		2002		2007	
Variable	Mean	Std. Dev.	Mean	Std.Dev.	Mean	Std. Dev.	Mean	Std.Dev.
Male	0.552	0.497	0.573	0.495	0.558	0.497	0.545	0.498
Age	34.594	7.596	32.07	9.318	40.686	8.925	38.81	9.303
Married	0.935	0.247	0.731	0.444	0.892	0.31	0.888	0.315
Minority	0.043	0.204	0.009	0.092	0.014	0.116	0.011	0.103
Education	7.924	2.67	9.032	2.608	11.617	2.769	12.25	3.628
Good	0.917	0.276	0.852	0.355	0.653	0.476	0.788	0.409
Normal	0.074	0.261	0.133	0.339	0.31	0.463	0.197	0.398
Bad	0.009	0.095	0.015	0.123	0.037	0.188	0.015	0.12
Permanent	0.005	0.073	0.058	0.234	0.425	0.494	0.368	0.482
Long term temporary	0.045	0.207	0.253	0.435	0.261	0.439	0.396	0.489
Short term temporary or no contract	0.258	0.438	0.317	0.465	0.239	0.426	0.157	0.364
Self-employed	0.672	0.47	0.354	0.478	0.054	0.225	0.074	0.263
Others	0.02	0.139	0.018	0.131	0.022	0.146	0.005	0.072
Mineral ,Manufactory and Construction	0.147	0.354	0.224	0.417	0.328	0.47	0.234	0.423
Electricity, Gas, Transportation and IT	0.033	0.18	0.041	0.198	0.11	0.313	0.164	0.371
Sales and Hotel	0.468	0.499	0.519	0.5	0.131	0.338	0.156	0.363
Finance, Estate, Health and Education	0.049	0.215	0.052	0.221	0.184	0.388	0.198	0.398
Service	0.244	0.43	0.164	0.37	0.139	0.346	0.162	0.369
Government and Public Administration	0.059	0.236	0.002	0.042	0.107	0.309	0.086	0.281
State Owned and State Controlled	0.078	0.268	0.045	0.206	0.345	0.476	0.18	0.385
Collective	0.041	0.199	0.01	0.099	0.063	0.243	0.023	0.15
Private	0.076	0.265	0.298	0.457	0.046	0.21	0.107	0.309
Individual	0.729	0.445	0.463	0.499	0.048	0.214	0.123	0.328
Foreign and Joint Venture	0.006	0.078	0.09	0.286	0.035	0.183	0.051	0.22
Other Shared	0.022	0.147	0.06	0.237	0.074	0.262	0.096	0.295
Others	0.049	0.215	0.035	0.183	0.287	0.453	0.338	0.473
Wuxi	0.179	0.383	0.112	0.316	0.095	0.294	0.087	0.282
Hefei	0.132	0.339	0.141	0.348	0.08	0.271	0.209	0.407
Zhengzhou	0.116	0.321	0.158	0.365	0.124	0.33	0.128	0.334
Wuhan	0.139	0.346	0.141	0.348	0.174	0.379	0.148	0.355
Guangzhou	0.138	0.345	0.148	0.355	0.174	0.379	0.149	0.356
Chongqing	0.148	0.356	0.172	0.377	0.221	0.415	0.168	0.374
Chengdu	0.147	0.354	0.127	0.334	0.133	0.339	0.111	0.314
Monthly wage	873.8	1186.8	1410	1207	1172.8	876.5	1883	1471
Hourly wage	3.233	5.13	5.488	4.494	6.763	5.418	10.5	9.993
Number of Observations	1848		2315		1315		2221	

Appendix Table 2. Descriptive Statistics of Rural Samples

	Migrant				Non Migrant			
	2002		2007		2002		2007	
Variable	Mean	Std. Dev.	Mean	Std.Dev.	Mean	Std. Dev.	Mean	Std.Dev.
Male	0.667	0.471	0.632	0.482	0.494	0.5	0.523	0.499
Age	30.228	10.084	28.642	9.002	37.429	12.587	40.468	11.531
Married	0.57	0.495	0.573	0.495	0.771	0.42	0.857	0.35
Migration experience	0.389	0.488	0.97	0.171	0.112	0.316	0.195	0.396
Household size	4.433	1.215	3.911	1.206	4.282	1.192	3.305	1.127
Child between 0-6	0.181	0.385	0.021	0.144	0.16	0.367	0.015	0.123
Child between 7-16	0.459	0.498	0.067	0.25	0.503	0.5	0.068	0.251
Schooling year	8.29	2.26	8.691	2.217	7.331	2.897	7.677	2.558
Schooling level								
Below primary school	0.061	0.239	0.032	0.175	0.166	0.372	0.092	0.289
Primary school	0.186	0.389	0.179	0.383	0.274	0.446	0.33	0.47
Middle school	0.608	0.488	0.635	0.481	0.445	0.497	0.461	0.498
High school	0.145	0.352	0.154	0.361	0.116	0.32	0.118	0.322
Revolution area	0.311	0.463	0.333	0.471	0.231	0.422	0.276	0.447
Minority village	0.005	0.069	0.014	0.117	0.009	0.093	0.013	0.114
Suburb village	0.046	0.211	0.025	0.156	0.058	0.234	0.072	0.258
Road access	0.969	0.173	0.989	0.106	0.969	0.173	0.993	0.084
Telephone access	0.991	0.093	0.999	0.032	0.989	0.105	0.999	0.033
Distance to the city								
Less than 2km	0.02	0.14	0.02	0.14	0.029	0.169	0.036	0.185
2-5 km	0.081	0.273	0.038	0.191	0.065	0.246	0.05	0.218
5-10 km	0.135	0.342	0.081	0.273	0.126	0.332	0.105	0.306
10-20 km	0.282	0.45	0.242	0.428	0.288	0.453	0.299	0.458
Over 20 km	0.482	0.5	0.619	0.486	0.491	0.5	0.511	0.5
Geographic area								
Plain area	0.494	0.5	0.369	0.483	0.561	0.496	0.449	0.497
Hill area	0.367	0.482	0.447	0.497	0.3	0.458	0.399	0.49
Mountain area	0.139	0.346	0.184	0.388	0.14	0.347	0.151	0.358
Province								
Hebei	0.046	0.211	0.021	0.142	0.098	0.298	0.073	0.26
Jiangsu	0.109	0.312	0.105	0.307	0.1	0.3	0.121	0.326
Zhejiang	0.104	0.306	0.036	0.187	0.123	0.328	0.133	0.34
Anhui	0.171	0.376	0.156	0.363	0.099	0.299	0.092	0.288
Henan	0.119	0.324	0.101	0.302	0.141	0.348	0.132	0.338
Hubei	0.104	0.305	0.184	0.387	0.133	0.34	0.127	0.333
Guangdong	0.164	0.37	0.178	0.382	0.151	0.358	0.146	0.353
Chongqing	0.048	0.214	0.061	0.239	0.042	0.201	0.055	0.229
Sichuan	0.135	0.341	0.158	0.365	0.112	0.316	0.122	0.327
Number of Observations	2303		4947		8830		14697	

Appendix Table 3. Migration Decision in 2002 and 2007

	All				Male				Female			
	2002		2007		2002		2007		2002		2007	
	Coef.	Marginal Effect	Coef.	Marginal Effect	Coef.	Marginal Effect	Coef.	Marginal Effect	Coef.	Marginal Effect	Coef.	Marginal Effect
Male	0.747***	0.095***	0.367***	0.019***								
	[0.056]	[0.007]	[0.054]	[0.003]								
Age	0.268***	0.035***	0.106***	0.006***	0.305***	0.051***	0. 120***	0. 009***	0.335***	0.023***	0.104***	0.004***
	[0.021]	[0.003]	[0.021]	[0.001]	[0.026]	[0.004]	[0. 026]	[0. 002]	[0.043]	[0.003]	[0.040]	[0.001]
Age squre	-0.004***	-0.001***	-0.002***	-0.000***	-0.005***	-0.001***	−0. 003***	−0. 000***	-0.006***	-0.000***	-0.002***	-0.000***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0. 000]	[0. 000]	[0.001]	[0.000]	[0.001]	[0.000]
Married	-0.815***	-0.119***	-0.592***	-0.037***	-0.377***	-0.066***	−0. 404***	−0. 033***	-1.617***	-0.162***	-0.918***	-0.041***
	[0.102]	[0.017]	[0.085]	[0.006]	[0.126]	[0.023]	[0. 110]	[0. 010]	[0.178]	[0.025]	[0.139]	[0.009]
Migration Experience	1.375***	0.235***	4.412***	0.461***	1.068***	0.208***	4. 362***	0. 476***	1.822***	0.226***	4.457***	0.428***
	[0.061]	[0.013]	[0.088]	[0.008]	[0.075]	[0.016]	[0. 116]	[0. 010]	[0.111]	[0.022]	[0.137]	[0.016]
Child between 0-6	-0.066	-0.008	-0.112	-0.006	0.072	0.012	0. 041	0. 003	-0.413***	-0.026***	-0.356	-0.012
	[0.085]	[0.011]	[0.174]	[0.009]	[0.105]	[0.018]	[0. 232]	[0. 017]	[0.153]	[0.008]	[0.271]	[0.009]
Child between 7-16	-0.290***	-0.037***	-0.265***	-0.014***	-0.263***	-0.044***	−0. 334***	−0. 025***	-0.526***	-0.037***	-0.19	-0.006
	[0.059]	[0.008]	[0.090]	[0.005]	[0.074]	[0.012]	[0. 116]	[0. 009]	[0.103]	[0.008]	[0.147]	[0.005]
Household size	0.126***	0.016***	0.289***	0.016***	0.044	0.007	0. 282***	0. 021***	0.225***	0.016***	0.325***	0.011***
	[0.026]	[0.003]	[0.025]	[0.001]	[0.032]	[0.005]	[0. 031]	[0. 003]	[0.045]	[0.003]	[0.041]	[0.002]
Primary school	0.287**	0.039**	0.098	0.005	0.006	0.001	−0. 144	−0. 01	0.197	0.014	0.277	0.01
	[0.113]	[0.016]	[0.134]	[0.007]	[0.154]	[0.026]	[0. 184]	[0. 013]	[0.183]	[0.014]	[0.198]	[0.007]
Middle school	0.428***	0.056***	0.107	0.006	0.089	0.015	−0. 224	−0. 017	0.301*	0.021*	0.408**	0.014**
	[0.108]	[0.014]	[0.128]	[0.007]	[0.147]	[0.024]	[0. 177]	[0. 013]	[0.177]	[0.013]	[0.191]	[0.007]
High school	0.005	0.001	0.051	0.003	-0.265	-0.042*	−0. 187	−0. 013	-0.353	-0.022*	0.122	0.004
	[0.128]	[0.017]	[0.143]	[0.008]	[0.166]	[0.025]	[0. 191]	[0. 013]	[0.225]	[0.012]	[0.226]	[0.008]
Plain area	-0.225***	-0.029***	-0.064	-0.003	-0.271***	-0.046***	0. 013	0. 001	-0.195*	-0.014	-0.214**	-0.007**
	[0.067]	[0.009]	[0.064]	[0.003]	[0.083]	[0.014]	[0. 081]	[0. 006]	[0.118]	[0.008]	[0.106]	[0.004]
Mountain area	-0.335***	-0.040***	0.188**	0.011**	-0.234**	-0.037**	0. 161	0. 012	-0.582***	-0.034***	0.256*	0.009*
	[0.092]	[0.010]	[0.081]	[0.005]	[0.116]	[0.018]	[0. 104]	[0. 008]	[0.159]	[0.008]	[0.132]	[0.005]
Revolution area	0.573***	0.081***	0.351***	0.020***	0.596***	0.108***	0. 325***	0. 026***	0.645***	0.052***	0.392***	0.014***
	[0.076]	[0.012]	[0.066]	[0.004]	[0.096]	[0.019]	[0. 084]	[0. 007]	[0.129]	[0.012]	[0.109]	[0.004]

Appendix Table 3. Migration Decision in 2002 and 2007 (Cont.)

	All				Male				Female			
	2002		2007		2002		2007		2002		2007	
	Coef.	Marginal	Coef.	Marginal	Coef.	Marginal	Coef.	Marginal	Coef.	Marginal	Coef.	Marginal
Minority village	-0.333	-0.038	1.127***	0.099***	-0.246	-0.038	0. 902***	0. 096**	-0.794	-0.04	1.594***	0.115**
	[0.365]	[0.037]	[0.246]	[0.032]	[0.430]	[0.062]	[0. 300]	[0. 043]	[0.746]	[0.026]	[0.430]	[0.054]
Surburb village	0.355**	0.051**	-0.258*	-0.013*	0.332*	0.060*	−0. 226	−0. 015	0.443*	0.036	-0.288	-0.009
	[0.140]	[0.022]	[0.156]	[0.007]	[0.179]	[0.035]	[0. 200]	[0. 012]	[0.232]	[0.022]	[0.252]	[0.007]
Road access	-0.062	-0.008	-0.325	-0.02	-0.032	-0.005	−0. 446	−0. 04	-0.35	-0.028	-0.169	-0.006
	[0.155]	[0.021]	[0.244]	[0.017]	[0.184]	[0.031]	[0. 308]	[0. 032]	[0.290]	[0.026]	[0.418]	[0.017]
Telephone access	0.025	0.003	1.034*	0.036***	0.275	0.042	1. 057	0. 051**	-0.54	-0.047	0.979	0.022*
	[0.290]	[0.037]	[0.627]	[0.013]	[0.349]	[0.049]	[0. 836]	[0. 024]	[0.513]	[0.055]	[0.958]	[0.013]
Distance to the city												
2-5 km	0.796***	0.128***	-0.337*	-0.016*	0.667***	0.129**	−0. 632**	−0. 037***	1.203***	0.130**	0.056	0.002
	[0.212]	[0.041]	[0.199]	[0.008]	[0.255]	[0.056]	[0. 258]	[0. 012]	[0.410]	[0.063]	[0.321]	[0.011]
5-10 km	0.727***	0.112***	-0.206	-0.01	0.512**	0.095*	−0. 494**	−0. 031**	1.227***	0.126**	0.187	0.007
	[0.202]	[0.036]	[0.185]	[0.009]	[0.243]	[0.049]	[0. 241]	[0. 013]	[0.393]	[0.056]	[0.298]	[0.012]
10-20 km	0.618***	0.087***	0.021	0.001	0.459*	0.081*	−0. 29	−0. 02	1.015***	0.086**	0.495*	0.019
	[0.198]	[0.030]	[0.176]	[0.010]	[0.236]	[0.044]	[0. 228]	[0. 015]	[0.387]	[0.040]	[0.284]	[0.012]
Over 20 km	0.457**	0.059**	0.211	0.011	0.303	0.051	−0. 02	−0. 001	0.911**	0.065**	0.547**	0.018*
	[0.194]	[0.025]	[0.173]	[0.009]	[0.232]	[0.039]	[0. 225]	[0. 017]	[0.380]	[0.028]	[0.279]	[0.010]
Other controls: Province Dummies												
Number of Obs.	11104	11104	19644	19644	5885	5885	10817	10817	5219	5219	8827	8827

Note: Numbers inside square brackets are standard errors;
***, **, * represent significant at 1%. 5% and 10% level, respectively.

Appendix Table 4. Wage Equations of Natives and Migrants in 2002 and 2007

	All				Male				Female			
	Urban Resident		Migrant		Urban Resident		Migrant		Urban Resident		Migrant	
	2002	2007	2002	2007	2002	2007	2002	2007	2002	2007	2002	2007
Male	0.059**	-0.002	0.182***	0.203***								
	[0.028]	[0.027]	[0.035]	[0.024]								
Education	0.055***	0.024***	0.029***	0.036***	0.051***	0.020***	0.020*	0.027***	0.060***	0.029***	0.033***	0.044***
	[0.005]	[0.004]	[0.007]	[0.005]	[0.007]	[0.005]	[0.011]	[0.007]	[0.008]	[0.006]	[0.009]	[0.007]
Age	0.043***	0.019	0.009	0.031***	0.053**	0.023	0.042	0.039***	0.022	0.037*	-0.023	0.031**
	[0.015]	[0.013]	[0.018]	[0.010]	[0.021]	[0.018]	[0.026]	[0.014]	[0.026]	[0.020]	[0.026]	[0.015]
Age squared	-0.000**	-0.000*	0	-0.000***	-0.001**	0	-0.001*	-0.001***	0	-0.001**	0	-0.000**
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Minority	-0.033	-0.034	0.174**	-0.027	-0.094	-0.12	0.278**	-0.069	0.042	0.026	-0.02	0.044
	[0.115]	[0.126]	[0.084]	[0.122]	[0.170]	[0.181]	[0.120]	[0.175]	[0.157]	[0.174]	[0.115]	[0.165]
Married	0.019	0.132**	0.011	0.001	0.036	0.059	-0.016	0.057	0.007	0.187**	0.005	-0.077
	[0.068]	[0.054]	[0.088]	[0.039]	[0.095]	[0.078]	[0.122]	[0.056]	[0.101]	[0.075]	[0.126]	[0.052]
Normal	0.074	0.183	0.121	-0.03	0.099	0.292*	-0.199	-0.028	0.04	0.073	0.464**	-0.034
	[0.073]	[0.113]	[0.171]	[0.034]	[0.114]	[0.168]	[0.264]	[0.049]	[0.096]	[0.151]	[0.212]	[0.046]
Good	0.125*	0.207*	0.049	-0.14	0.166	0.317*	-0.224	-0.058	0.083	0.084	0.351*	-0.161
	[0.072]	[0.110]	[0.162]	[0.092]	[0.112]	[0.165]	[0.249]	[0.144]	[0.093]	[0.148]	[0.201]	[0.114]
Long temporary	-0.048	-0.239***	-0.252	0.027	-0.069	-0.231***	-0.252	-0.004	-0.035	-0.246***	-0.034	0.07
	[0.036]	[0.032]	[0.239]	[0.053]	[0.048]	[0.046]	[0.288]	[0.073]	[0.054]	[0.045]	[0.532]	[0.075]
Short temporary or no contract	-0.342***	-0.642***	-0.611***	-0.094*	-0.345***	-0.640***	-0.651**	-0.135*	-0.357***	-0.649***	-0.248	-0.049
	[0.042]	[0.045]	[0.227]	[0.052]	[0.060]	[0.062]	[0.270]	[0.072]	[0.059]	[0.066]	[0.516]	[0.073]
Self-employed	-0.459***	-0.046	-0.259	0.104*	-0.292***	-0.126	-0.274	0.1	-0.683***	0.036	0.031	0.104
	[0.077]	[0.067]	[0.229]	[0.055]	[0.106]	[0.095]	[0.276]	[0.075]	[0.114]	[0.095]	[0.510]	[0.078]
Others	-0.276***	-0.288	-0.424*	-0.141	0.044	-0.307	-0.569*	-0.119	-0.516***	-0.269	0.017	-0.14
	[0.103]	[0.182]	[0.257]	[0.098]	[0.164]	[0.270]	[0.320]	[0.141]	[0.132]	[0.245]	[0.542]	[0.131]
Collective	-0.164***	0.091	-0.005	-0.025	-0.170*	-0.027	0.07	-0.009	-0.179**	0.199*	-0.045	-0.101
	[0.057]	[0.089]	[0.103]	[0.125]	[0.090]	[0.139]	[0.150]	[0.183]	[0.075]	[0.114]	[0.138]	[0.168]
Private	-0.042	0.012	0.363***	-0.017	0.052	0.005	0.415***	-0.032	-0.168*	0.018	0.260**	-0.045
	[0.068]	[0.048]	[0.086]	[0.058]	[0.094]	[0.070]	[0.118]	[0.075]	[0.100]	[0.067]	[0.130]	[0.096]

Appendix Table 4. Wage Equations of Natives and Migrants in 2002 and 2007 (Cont.)

	All				Male				Female			
	Urban Resident		Migrant		Urban Resident		Migrant		Urban Resident		Migrant	
	2002	2007	2002	2007	2002	2007	2002	2007	2002	2007	2002	2007
Individual	-0.170**	-0.076	-0.156*	-0.064	-0.189*	-0.028	-0.127	-0.05	-0.125	-0.126	-0.178	-0.126
	[0.074]	[0.055]	[0.082]	[0.060]	[0.100]	[0.077]	[0.117]	[0.078]	[0.111]	[0.079]	[0.112]	[0.098]
Foreign and Joint Venture	0.095	0.149**	0.219	0.103	0.134	0.172*	0.176	0.13	0.039	0.128	0.269	0.05
	[0.075]	[0.062]	[0.223]	[0.069]	[0.098]	[0.091]	[0.310]	[0.094]	[0.120]	[0.086]	[0.320]	[0.108]
Other stock	-0.085	0.042	0.261**	0.069	-0.142**	-0.058	0.281	0.034	-0.012	0.142**	0.251	0.081
	[0.053]	[0.049]	[0.127]	[0.071]	[0.072]	[0.070]	[0.203]	[0.096]	[0.079]	[0.068]	[0.156]	[0.110]
Others	-0.045	-0.035	-0.067	-0.037	-0.076	-0.03	-0.034	0.009	-0.008	-0.052	-0.099	-0.165
	[0.056]	[0.051]	[0.099]	[0.082]	[0.085]	[0.069]	[0.145]	[0.109]	[0.075]	[0.076]	[0.130]	[0.128]
Electricity, Gas, Transportation and IT	0.142***	0.119***	0.208**	-0.164***	0.147**	0.08	0.211*	-0.151**	0.143*	0.155**	0.049	-0.243**
	[0.047]	[0.042]	[0.101]	[0.062]	[0.058]	[0.059]	[0.123]	[0.076]	[0.085]	[0.060]	[0.218]	[0.113]
Sales and Hotel	-0.076	-0.114**	-0.257***	-0.138***	-0.094	-0.135**	-0.378***	-0.172***	-0.059	-0.086	-0.027	-0.095**
	[0.047]	[0.046]	[0.053]	[0.033]	[0.067]	[0.066]	[0.075]	[0.046]	[0.067]	[0.064]	[0.076]	[0.048]
Finance, Estate, Health and Education	0.290***	0.112***	-0.242***	-0.112*	0.328***	0.097*	-0.321**	-0.109	0.228***	0.130**	-0.063	-0.103
	[0.042]	[0.041]	[0.089]	[0.058]	[0.056]	[0.058]	[0.127]	[0.084]	[0.064]	[0.058]	[0.121]	[0.078]
Service	-0.149***	-0.168***	-0.259***	-0.131***	-0.154**	-0.219***	-0.357***	-0.200***	-0.146**	-0.114*	-0.063	-0.039
	[0.047]	[0.043]	[0.056]	[0.039]	[0.072]	[0.061]	[0.079]	[0.055]	[0.064]	[0.061]	[0.080]	[0.056]
Government and Public Administration	0.189***	0.157***	-0.094	-0.224	0.170**	0.105	-0.190*	-0.308	0.228***	0.221***	0.146	0.076
	[0.050]	[0.054]	[0.083]	[0.269]	[0.067]	[0.076]	[0.112]	[0.336]	[0.078]	[0.076]	[0.122]	[0.473]
Constant	-0.057	1.438***	1.207***	1.048***	-0.214	1.340***	1.258**	1.113***	0.341	1.155***	0.939	1.084***
	[0.294]	[0.266]	[0.413]	[0.185]	[0.417]	[0.384]	[0.579]	[0.257]	[0.470]	[0.401]	[0.703]	[0.279]
Other controls: City Dummies												
Number of Observations	1848	2301	1315	2209	1032	1257	726	1268	816	1044	589	941

Note: Numbers inside square brackets are standard errors;
***, **, * represent significant at 1%. 5% and 10% level, respectively.