【論文】

Economic Transition and Self-employment of Migrants in Urban China

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1. Introduction

Transition economists view the rise of self-employment a sign of the growing importance of markets relative to the state (Hanley, 2000; Hanley 2000; Catherine, Gang and Yun 2005; Dimova and Gang 2007; Jackson and Mach 2009). Along with the economic transition in urban China, the number of self-employed workers[1] increased from 150,000 in 1978 to 21.36 million in 2000, and then to 52.27 million in 2011 (NBS, 2012).

Why was there a large change in the size of the self-employed sector in urban China during the economic transition period? There are two primary possible explanations. The first is the great increase in the number of migrants along with economic development and the deregulation of the registration system after the 1980s. The second explanation is that along with the transition from a planned to a market economy, the government enforced ownership reform of state-owned enterprises (SOEs) from the 1980s onward. A section of employees with urban registration in the SOEs

1 There is no unified definition of self-employed workers in previous studies in China. Based on the survey data used in the paper and firm classification rules published by Chinese government, we defined self-employed workers as those who work in a small firm with less than eight employees or who work in a firm made up entirely of the self-employed worker and unpaid family members.

became laid–off workers and some of them are re–employed in the informal sector (e.g., becoming self–employed workers). In addition, a section of workers voluntarily left SOEs to become owners in the private sector. This paper discusses the determining factors for the self–employment of migrants in urban China[2].

There are two hypotheses about self–employment discussed in previous studies. One is the "disguised unemployment hypothesis," which is indicated in the dualism theory of Todarro (1969) and Harris and Todarro (1970)[3]. Migrants to the informal sector can be explained by this hypothesis. Self–employment may result from forced recourse to the informal sector, in which the individual's activities and wage slightly differ from what they would be if they were unemployed. It is thought that self–employed workers barely make a living from working, receiving lower wages and working longer hours than those in the formal sector.

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2   For the latest empirical study on determinants of self–employment of local urban residents please see Ma (2016a).

3   According to the dualism theory in development economics, in the prior period of economic development, there exist surplus labors in traditional sector (e.g., agriculture sector), when modern sector (e.g., manufacture sector) offer wage closed or a little more than subsistence wage level, migration from the rural region to the urban region will occur until the economy pass the Lewis's turning point (Lewis, 1954). Todarro (1969), Harris and Todarro (1970) developed Lewis model and pointed out that migrants expect the high wage of modern sector in urban market, so when he doesn't find the job in the formal sector immediately, he always worked in the informal sector (such as self–employed sector) to wait (or do a job search) for the formal sector job. ILO (1972) indicated that working in the informal sector also can contribute economic development for developing countries.

Conversely, self–employed workers may also be successful business owners who create new business opportunities and many innovative new products ("business creation hypothesis").

As a result, a high percentage of self–employed workers may reflect an environment that encourages risk–taking, business creation, and market development ("business creation hypothesis") , or it may be a result of the lack of jobs in the formal sector in which wages are set just above the market–clearing level ("disguised unemployment hypothesis").

Which hypothesis can explain self–employment of migrants in urban China? In this paper, we provide some evidence to answer this question. In the previous empirical studies on this issue, although Earle and Sakova (2000), Hanley (2000) and Dimova and Gang (2007) utilized microdata of Central and Eastern European economic transition countries to test these two hypotheses, Ma (2016a) test these two hypothesis for the local urban residents in China, there has not been an empirical study for migrants in urban China. One of the purposes of this paper is to resolve this dearth.

This paper is structured as follows. Part II reviews the literature, and Part III describes estimation methods, including introduction to the microdata and models. Part IV states descriptive statistics and estimated results, and Part V presents the main conclusions.

2. Literature Review

First, for the determinants of self–employment, it is indicated that individual attributes should affect the choice to become a self–employed worker. For example, gender, human capital, and family background are often used as control variables in previous studies (e.g., Amit et al., 1990; Evans and

Leighton, 1989; Yamada, 1996; Bruce, 1999; Hamilton, 2000; Dunn and Holtz–Eakin, 2000; Zhang and Pan, 2012). In addition, Evans and Jovanovic (1989), Lentz and Laband (1990), Holtz–Eakin et al. (1994), Dunn and Holtz–Eakin (2000) indicated that liquidity constraints also affect the entry to the self–employed.

Reviewing empirical studies on the determinants of self–employment in China beyond the factors of human capital, family background, and liquidity constraints, the effects of party membership and social capital are also pointed out (Wu 2006; Yueh 2009a, 2009b; Zhang and Zhao 2015, Ma 2016a). For examples, Yueh (2009a) examined three tranches of the self–employed in urban China (i. those who are self–employed only, ii. those who are self–employed as a second job, and iii. a sub–sample who have experienced unemployment and then became self–employed), and found that social networks significantly predict self–employment except for those who are working for themselves as a second job. Yueh (2009b) estimated the determinants of the self–employed, and pointed out that fewer are communist party members and more have experienced unemployment, however, women, party members, more educated and older workers are less likely to become entrepreneurs, and social networks, motivation and drive, and attitudes toward risk, are all significant factors associated with entrepreneurship. Zhang and Zhao (2015) tested the hypothesis that individuals with a larger social–family network are more likely to choose self–employment for temporary rural–urban migrants, and they found that the estimation results support the hypothesis. Otherwise, Wu (2006) examined the patterns of entry into self–employment in urban and rural China and across different reform stages, focusing on how communist cadres have responded to new market opportunities, and found that both education and cadre status deter people from entry into self–employment in urban areas but not in rural areas.

Regarding the determinants of the self–employment in economic transition countries, Earle and Sakova (2000), Hanley (2000) and Dimova and Gang (2007) pointed out the two previous hypotheses ("disguised unemployment hypothesis" and "business creation hypothesis") and tested them for Central and Eastern European transition countries. Earle and Sakova (2000) showed that for both own–account workers and self–employed employers in almost every country (Bulgary, Czech Republic, Hungary, Poland, Russia and Slovakia), the probabilities are estimated to be negatively affected by wage differentials between own-account workers and employees and positively affected by wage differentials between the self–employed employer and employees. This corroborated the disguised unemployment hypothesis. Hanley (2000) also tested these hypotheses to estimate wage differentials between self–employed employers, own-account workers, and employees, pointing out that the disguised unemployment hypothesis is supported by the observations for the Czech Republic, Poland, and Slovakia. Ma (2016a) revealed that compared with employees, self–employed employment or own–account worker is seemingly not a better choice for local urban residents–being self–employed is similar to disguised unemployment in urban China.

In comparison with these previous studies, the main features of this paper are the following.

First, we utilized the model of Earle and Sakova (2000) to verify the business creation and disguised unemployment hypotheses for

migrants in China. To the author's knowledge, this paper is the first study to test these hypotheses for migrants in China, and these results can be compared with estimated results of other transition countries[4] and Ma (2016a) for local urban residents in China.

Second, although Earle and Sakova (2000) used wage differentials among self-employed employer, own-account worker, and employee, employee wages between the public and private sectors were not distinguished. The most remarkable feature in Chinese urban labor market is that the labor market is segmented by these two sectors, so it is necessary to test the two hypotheses including wage differentials between the public and private sectors[5]. It is thought that the expected wage of self-employed workers in the formal sector is close to the wage level achievable in the private sector, but this is not the case for public sector. We also calculate wage levels in the private sector to perform a robust check of hypothesis tests.

3. Methodology and Data

3.1 Models

Firstly, to explicate the determinants of the self-employed in urban China, the employment status probability function is estimated using a multinomial logit model, which is represents in Eq. (1). The dependent variable takes on one value for four categories of employment status (self-employed employer, own-account worker, employee, and the unemployed). Here, referring Earle and Sakova (2000), Hanley (2000) and Dimova and Gang (2007), we defined own-account workers are those who work in small firms which only him him(her)self or no-paid family workers work in, self-employed employees are those who work in small firms with workers less than 8 and they are the owners of these small firms. The reference category is the employee group.

$$\Pr(Y_i = n) = \frac{\exp(a_n + \beta_{Xn} X_{ni})}{\sum_{m=1}^{r} \exp(a_m + \beta_{Xm} X_{mi})} \qquad (1)$$

In Eq.(1), i denotes workers, $m(m = 1, n...r)$ denotes employment status as the above. $\Pr(Y_i = n)$ indicates probability of one kind of employment status, X are factors affecting the employment status probability, β are the estimated coefficients, and α is a constant.

Then we used two kinds of methods to test the "disguised unemployment hypothesis" and "business creation hypothesis". The one is a comparison of average wage levels of self-employed employer group, own-account worker group and employee group (Hanley 2000). For example, holding the other factors (such as human capitals) constant, if the average wage level of own-account worker group is lower greatly than employee group, it shows that own-account workers are nearly the disguised unemployed, and labor market is segmented.

The other test is the estimation of the effects of wage premiums on the probability of employment status (Earle and Sakova 2000). In order to gain these imputed wages, wage functions by different employment status groups are estimated. Here, Maddla (1983) model is used to deal with the sample selection bias problem, which has been shown in Eqs.

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4   For the hypothesis test on n Bulgary, Czech Republic, Hungary, Poland, Russia and Slovakia, please see Earl e and Sakova (2000).

5   For empirical studies on labor market segmentation by public and private sector in urban China, please see Dong and Bowels (2002), Xing (2006), Yin and Gan (2009), Lu, et al. (2012) , Chen, et al. (2005), Zhang and Xue (2008), Ye, et al. (2011), Demurger, et al. (2012) , Lu (2012), and Ma (2009, 2014, 2016b).

(2.1)〜(2.3).

Wage functions estimated by OLS model is expressed as Eq. (2.1).

$$LnWage_i = b + \gamma_{Emp}Emp_i + \gamma_H H_i + u_i \quad (2.1)$$

In Eq.(2.1), i denotes workers, and *LnWage* indicates the dependent variable (as the logarithm of wage rate). *Emp* is an index indicating employment status (self–employed employer, own–account worker and employee), H are factors affecting wages. γ_{Emp} and γ_H are the estimated coefficients. Further, α is a constant and u is the error term.

Considering the selection bias problem in Eq.(2.1), the selection bias corrected wage function model is proposed (Maddala 1983). Eq.(2.2) expresses the probability of employment status using multinomial logit model. For

example, the probability to become a self–employed employer is expressed as $\Pr(Y_i^* = 1)$, and the other probability (such as employee, own–account worker, the unemplo-yed) is expressed as $\Pr(Y_i^* \neq 1)$. X are factors identical to those expressed in Eqs. (2.1), Z is used as an identification variable[6]. Using the estimated results of the distribution function and the density function by Eq.(2.2), selectivity items ($\lambda = \phi(\beta Z)/\Phi(\beta Z)$) are calculated. The corrected wage functions expressed by Eq. (2.3) can be estimated using these selectivity items.

6　Child, household income, family background, social capitals are used as identification variables in this paper.

$$Y_{mi}^* = a_m + \beta_{Xm}X_{mi} + \varepsilon_{mi} \quad\quad (i = 1,2\cdots, N)$$

$$Y^* = n \quad \text{if} \quad \beta_n X_n - \beta_m X_m > (a_m - a_n) + (\varepsilon_m - \varepsilon_n) \quad\quad (m \neq n)$$

$$\Pr(Y_i^* = n) = \frac{\exp(a_n + \beta_{Zn}Z_{ni} + \beta_{Xn}X_{ni})}{\displaystyle\sum_{m=1}^{r}\exp(a_m + \beta_{Zn}Z_{mi} + \beta_m X_{mi})} \quad m(m = 1, n...r) \tag{2.2}$$

$$LnWage_i = b + \gamma_{Emp}Emp_i + \gamma_X H_i + \gamma_\lambda \lambda_i + u_i \tag{2.3}$$

In Eq.(3), wage premiums (*WP*) are added as new variables, the other variables are similar with Eq(1). It is thought that higher the wage premium, higher the probability to choice the employment status. When the estimated results of wage premium ("Wer/ Wee") is positive significantly on the probability to become a self–employed employer, it is shown that the self–employment is a new business to gain more income and create more values (such as create new jobs for others, and new goods), so the "business creation

hypothesis" is supported. While, when the estimated results of wage premium ("Wer/ Wee") is negative significantly (or insignificantly) on the probability to becomed self–employed employer, it is shown that although becoming a self–employed employer can't gain more, he (she) has to choice to become a self–employed employer, it indicates that the entry to the informal sector may be an involuntary behavior, and "disguised unemployment hypo-thesis" is supported.

$$E(\Pr(Y_i^* = 1) = \frac{\exp(a_n + \beta_{EP}WP_{ni} + \beta_{Zn}Z_{ni} + \beta_{Xn}X_{ni})}{\displaystyle\sum_{m=1}^{r}\exp(a_m + \beta_{EP}WP_{mi} + \beta_{Zn}Z_{mi} + \beta_m X_{mi})} \tag{3}$$

3.2 Data

The 2007 Chinese Household Income Project Surveys data (CHIP2007) are used for the analysis. The survey was conducted by NBS (National Bureau of Statistics) and Beijing Normal University in December 2008 including respective information about employment status and wages of migrants. The survey covered the represented districts in China, including Beijing, Shanxi, Liaoning, Jiangsu, Anhui, Guangdong, Henan, Hubei, Sichuan, Yunnan, and Gansu.

From the above, the dependent variable is an employment status category variable. The independent variables are as follows (Table 1 shows sample statistical descriptions by employment status groups).

First, we utilized some variables used in previous studies. These include individual variables likely to affect employment status choice, such as schooling years, tenure years, health status (very good, good, normal, bad) dummy variables, which are the index of human capital, female (female is a binary

Table 1 Statistical descriptions of migrants

	Employee		Employer		Own-account	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Age	30	9	34	8	36	9
Schooling years	9	2	9	2	8	2
Health status						
Very good	0.4471	0.4973	0.3942	0.4905	0.4058	0.4915
Good	0.4054	0.4911	0.4891	0.5017	0.3967	0.4897
Fair	0.1357	0.3426	0.1022	0.3040	0.1757	0.3809
Bad	0.0118	0.1078	0.0146	0.1204	0.0217	0.1460
Female	0.6481	0.4777	0.6131	0.4888	0.6341	0.4821
Han race	0.9794	0.1420	0.9854	0.1204	0.9873	0.1120
Married	0.0082	0.0903	0.0073	0.0854	0.0109	0.1038
Child	0.2133	0.4097	0.0730	0.2611	0.0562	0.2304
Living with parents	0.2773	0.4478	0.2482	0.4335	0.2283	0.4201
Household income	9.9350	0.5995	9.8722	0.6060	9.9548	0.6060
Father: senior high school and over	0.1257	0.3316	0.0657	0.2487	0.0942	0.2924
Father: manager	0.0405	0.1973	0.0438	0.2054	0	0
Hukou change methods	0.0006	0.0242	0	0	0	0
Relations	34	54	36	59	33	130
The frequency of contact to relations						
One time weekly	0.5905	0.4919	0.6058	0.4905	0.5580	0.4971
One time monthly	0.3420	0.4745	0.3212	0.4686	0.3533	0.4784
One time yearly	0.0676	0.2511	0.0730	0.2611	0.0888	0.2847
Regions						
East	0.6052	0.4890	0.3577	0.4811	0.2500	0.4334
West	0.1539	0.3610	0.0730	0.2611	0.1359	0.3430
Central	0.2409	0.4278	0.5693	0.4970	0.6141	0.4872
Number of observations	1702		137		552	

Source : Calculated using CHIP2007.

variable coded 1 if the respondent is a female and 0 otherwise), and Han race (Han race is a binary variable code 1 if the respondent is Han race, and 0 minority). In addition, it is thought the risk aversion preferences vary with these individual attributes, and the risk aversion preference becomes more likely with increasing age.

Some previous studies indicate that family factors, such as child, marriage status, parent education, and parent occupations, can affect the choice to become a self–employed worker, particularly for female workers. We used a marriage dummy, number of children, father education (a senior high school and over dummy), and father occupation (manager dummy) to control the influence of these factors.

As indicated in the liquidity constraint hypothesis, financial factors may affect the choice to become self–employed, and here, we use living with parents and household income as the liquidity constraint index.

It is pointed out that social capital also affects the choice of entry to self–employment. It is thought that with higher social capital, there is a greater possibility for settling liquidity constraint problems and thus a greater chance for success with self–employment. We use two variables—social relations numbers and frequ-ency of contact to relations—as the index of social capital, using the following questionnaire items: "How many persons do you contact?" and "How frequently do you contact your relations?"

We also consider the influences of some special factors in the Chinese labor market. For example, in urban China, the change from rural registration to urban registration is very difficult except under special conditions, such as workers with higher levels of schooling or

with higher skill levels, enlistment in the army, and purchase of a commercial house (investment in housing) in the urban area. It is thought that registration change may influence the choice of employment status, so we add a registration change method dummy (a binary variable coded 1 if the worker experienced a registration change by purchase of a comnerica house in the urban area and 0 otherwise). In addition, because there are regional disparities in China, it is thought that labor demands vary by region, so we add three regional dummies (West, East, and Central regions).

In order to test the hypothesis, wage[7] differentials between employment status groups are calculated—the wage differential between own–account worker and employee (Woa/Wee) and that between self–employed employer and employee (Wer/Wee). As the distribution of this variable is skewed, its natural logarithmic forms are used.

We also distinguish employee wages by private and public sector and perform robust checks to test the hypotheses. Reduced wage function estimation results are utilized to calculate these imputed wages and wage differentials.

This paper focuses on self–employed employers, own–account workers, employees, and the unemployed. Considering that the retirement system is structured within the public sector, in order to diminish the effect of that system on analysis results, the analytic objects are limited to groups between the ages of 16 and 60. The samples utilized in the following

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7　Wage survey items in CHIP2007 for migrants comprise the basic wage, so the logarithm of the monthly wage based on the basic wage is utilized in the paper.

empirical studies comprise 6,267 migrants.

4. Descriptive Statistics Results

4.1 Distributions of employment status of migrants in urban China

The distributions of employment status of migrants in urban China are shown in Table 2. The divisions are as follows: 4.63% self-employed employers, 19.00% own-account workers, 63.99% employees, and 12.38% the unemployed.

There are regional disparities in the distributions of employment status. For example, the percentages of the own-account workers are greater in the Central (26.95%) and West regions (20.14%) than that in the East region (13.96%), whereas the percentages of employees are greater in the East (74.56%) and West regions (63.77%) than that in the Central region (46.21%). The labor demand for employees resulting from economic development is different and may be one explanation for these regional disparities.

4.2 Wages, work hours and household income by employment status groups of migrants

Wages, work hours, and household income by employment status group of migrants are shown in Table 3.

Considering average wages, compared with employees, the wages are higher for self-employed employers (oa/ee1.32) and own-account workers (er/ee1.75). There are work hour disparities among employment status groups. Concretely, compared with employees, the work hours are longer for both own-account workers (oa/ee1.39) and self-employed employers (er/ee1.37). However, the household income differentials by employment status group are smaller.

Although these tabulated calculations indicate the existence of wage, work hours,

Table2 Distributions of employment status of migrants

	Total	East	Central	West
Self-employed Employer	4.63	4.18	5.84	3.75
Own-account woker	19.00	13.96	26.95	20.14
Employee	63.99	74.56	46.21	63.77
The unemployed	12.38	7.30	21.00	12.34
Total	100	100	100	100
Number of observations	6,267	3,302	1,952	1,013

Source: Calculated using CHIP2007.
  Note: Calculated for groups aged16~60.

Table3 Wages, work hours and household income by employment status group of migrants

		Employee	Employer	Own-account	oa/ee	er/ee
Wages monthly(Yuan)	Mean	1480	2583	1952	1.32	1.75
	Std Deviation	803	1893	1542	1.92	1.90
Workhours weekly	Mean	57	78	79	1.39	1.37
(Hours)	Std Deviation	14	18	19	1.36	1.29
Household income	Mean	25959	25407	26452	1.02	0.98
yearly(Yuan)	Std Deviation	21893	24614	22360	1.02	1.12

Source ： Calculated using CHIP2007.

and household income differentials by employment status group, it is not clear as to what determines the choice of employment status and which hypothesis explains self-employment of migrants. These questions will be answered using the econometric analysis results discussed in the following section.

5. Econometric Analysis Results

5.1 What determines the choice to become a self-employed worker?

Table 4 shows the estimated results of the determinants of employment status of migrants.

First, demographic variables affect employment status choices. For example, there is an adverse "U" shape relation between age and self-employment (to become a self-employed employer or an own-account worker). The probability of becoming a self-employed

employer or an own-account worker for workers with children is lower.

Second, the probability to become a self-employed employer increases with increase in the household income. This can be explained by the existence of liquidity constraint problem for self-employed employers in these two groups. This result provides evidence that in trying to create new jobs or businesses, policies (such as financial support policies for small enterprise) to resolve liquidity constraint problems are important in a transition economy (and elsewhere).

Third, compared with workers in the West and Central regions, the probability of becoming a self-employed worker is lower for those in the East region. This may be because compared with the West and the Central regions, the level of economic development is

Table4 Determinants of employment status of migrants

	Employer		Own-Account		Unemployed	
	coeff.	z-value	coeff.	z-value	coeff.	z-value
Age	0.3306 ***	4.58	0.3122 ***	8.14	–0.0318	–0.76
Age squared/100	–0.4110 ***	–3.99	–0.3631 ***	–6.83	0.0698	1.18
Schooling years	–0.0104	–0.26	–0.1577 ***	–6.57	–0.1857 ***	–6.03
Health status (Bad)						
Very good	0.1723	0.22	0.1338	0.32	–0.8155 *	–1.93
Good	0.3093	0.40	–0.1102	–0.27	–0.6482	–1.55
Fair	–0.2501	–0.31	0.0109	0.03	–1.1317 ***	–2.53
Female	–0.1958	–1.04	–0.0510	–0.45	–1.8992 ***	–12.24
Han race	0.2453	0.33	0.4199	0.92	–0.1546	–0.31
Married	–0.3636	–0.34	–0.2126	–0.39	–0.0901	–0.14
Child	–0.8670 **	–2.37	–0.6703 ***	–3.03	–0.3602	–1.40
Living with parents	0.0605	0.29	–0.0060	–0.05	–0.1968	–1.19
Household income	0.3491 **	2.22	0.1629 *	–1.79	–0.1211	–1.10
Father: senior high school and over	–0.7017 *	–1.95	–0.3271 *	–1.81	–0.1217	–0.58
Father: manager	–0.0185	–0.04	0.0416	0.16	0.0349	0.11
Hukou change methods	–11.5178	–0.01	0.5376	0.35	–10.4605	–0.01
Relations	0.0004	0.44	4.2500E-05	0.06	–0.0023	–1.19
The frequency of contact to relations(One time weekly)						
One time monthly	–0.0532	–0.27	0.1524	1.30	–0.1869	–1.23
One time yearly	–0.1264	–0.35	0.1344	0.66	–0.2699	–0.97
Region(West+Central regions)						
East region	–0.8698 ***	–4.18	–1.2964 ***	–9.97	–1.1018 ***	–6.59
Constant	–4.6793 **	–2.08	–3.9343 ***	–3.06	3.8134 ***	2.61
Number of observations			2691			
Log likelihood			–2295.2409			
Pseudo R2			0.1562			
Chi-squared			850.0100			

Source: Calculated using CHIP2007.

Note: 1. *, **, ***: statistical significant in 10%, 5%, 1% level.

　　　2. Reference category is employee group.

higher in the East region, so labor demands are also relatively higher in that region.

Finally, holding other factors (e.g., demographic variables, household income) constant, the influences of social capital and Hukou change methods on self-employment are not statistically significant.

5.2 Hypothesis test: business creation or disguised unemployment?

Next, we turn to the hypothesis test results. First, the multivariable regression analysis of wages based on Eqs. (2.1)–(2.3) is shown in Table 5.

Estimated results show the existence of wage differentials between employment status groups. For example, compared with the employee wages are 27.46% percentage higher for the self-employed employer, whereas wage differentials between employees and own-account workers are not statistically significant. Holding other factors constant, a worker can gain more economic benefits by becoming a self-employed employer but gains less by becoming an own-account worker or employee in formal sector. Compared with the employee, the economic benefit for the self-employed employer is better, but it is not clearly for the own-account worker. Based on these estimated results, the disguised unemployment and business creation hypotheses are not clearly supported. In addition, the results using subsamples show a standard shape of the wage function for employees, particularly in terms of human capital variables and gender, whereas the effects of these factors on the wages of self-employed employers and own-account workers are small.

Table5 Wage function of migrants by employment status groups

	Total samples		Employee		Employer		Own-account	
	coeff.	t-value	coeff.	z-value	coeff.	z-value	coeff.	z-value
Employment status(Employee)								
Self-employed employer	0.2746 ***	5.93						
Own-account worker	0.0026	0.10						
Age	0.0258 ***	2.72	0.0395 ***	4.25	−0.0531	−0.71	−0.0546	−1.52
Age squared/100	−0.0442 ***	−3.58	−0.0611 ***	−4.94	0.0561	0.58	0.0643	1.43
Tenure years	0.0405 ***	7.76	0.0473 ***	7.85	0.0948 **	2.07	0.0214	1.58
Tenure years squared/100	−0.1394 ***	−5.41	−0.1328 ***	−4.40	−0.6366 **	−2.51	−0.0755	−1.24
Schooling years	0.0529 ***	7.37	0.0455 ***	6.95	0.0217	0.31	0.0514 ***	2.76
Learning achievement	0.0162	0.71	0.0270	1.07	0.0455	0.27	−0.1452 **	−2.09
Health status (Bad)								
Very good	0.0506	0.60	0.0508	0.50	0.4193	0.70	0.0138	0.07
Good	0.0699	0.85	0.0584	0.57	0.2013	0.33	0.0260	0.13
Fair	−0.0153	−0.17	0.0407	0.39	0.2939	0.47	−0.1313	−0.64
Female	−0.1301 ***	−3.08	−0.1299 ***	−4.37	−0.1502	−0.58	−0.1199 *	−1.73
Han race	0.0223	0.31	0.0197	0.26	0.4593	0.81	0.3052	1.24
Married	0.0056	0.06	−0.0299	−0.25	0.1137	0.13	0.3429	1.28
Training	0.0214	0.74	0.0875 ***	2.58	−0.3522	−1.54	−0.1275 *	−1.71
Industrials(No-Manufacture)								
Manufacture	−0.0460 *	−1.75	−0.0565 **	−2.23	0.5142	1.19	−0.0796	−0.44
Region(West+Central regions)								
East region	0.4652 ***	9.24	0.3207 ***	6.73	0.3010	0.64	0.5850 ***	4.33
Lambda(employees)	−1.6685 ***	−2.82	−0.0169	−0.05	–	–	–	–
Lambda(employers)	2.0140 **	2.25	–	–	0.1312	0.03	–	–
Lambda(own-account)	−1.1918 ***	−2.65	–	–	–	–	−1.4954	−1.44
Constant	0.6744	0.94	0.2102	0.94	1.9633	0.54	2.7318 **	2.17
Number of observations	2918		1687		135		547	
adj R-squared	0.2162		0.2446		0.0463		0.1072	

Source: Calculated using CHIP2007.

Note: *, **, ***: statistical significant in 10%, 5%, 1% level.

Second, in order to directly test these hypotheses using the imputed wages calculated based upon the results shown in Table 5, the reduced multinomial logit analysis is estimated. These estimated results are represented in Table 6.

The results shown in panel A of Table 6 indicated that the probability of becoming a self–employed employer is estimated to be negatively affected by the wage premium (logWer/Wee –0.7672). It is revealed that although a worker may recognize that there is an economic loss associated with becoming a self–employed employer, there may be no chance to become an employee, so the worker has no choice but to enter the informal sector and become a self–employed employer. In this case, the disguised unemployment hypothesis is supported. In addition, the influence of the wage premium (logWoa/Wee) on the probability of becoming an own–account worker is insignificant, showing that the economic benefits accruing from wage premiums do not influence the probability of becoming an own–account worker. It also supports the disguised

unemployment hypothesis. These results further reflect the possibility of a job–rationing problem in the Chinese urban labor market.

We also perform a robust check of the hypothesis tests, and these results are shown in panel B of Table 6. Considering the labor market in urban China is segmented by the public and private sectors, and the wage level in the informal sector is close to that in the private sector, we analyze the estimated results of the effects of wage premiums between the private sector and other sectors in the following discussion.

The influences of wage premiums (logWer/Weepri) on the probability of becoming a self–employed employer are negatively significant (–0.6948). These results are consistent with the above, and the disguised unemployment hypothesis is supported, whereas the business creation hypothesis is rejected. In addition, the influence of the wage premium (logWoa/Weepri) on the probability of becoming an own–account worker is statistically insignificant, so the business creation hypothesis is rejected in these two groups again.

Table6 Results of hypothesis test

	Employer		Own-account	
	coeff.	z–value	coeff.	z–value
Panel A				
log(Woa/Wee)	–0.7700	–0.99	0.0445	0.09
log(Wer/Wee)	–0.7672 ***	–3.26	–0.7562 ***	–4.46
Panel B				
log(Woa/Weepri)	–0.8473	–1.05	–0.0558	–0.11
log(Wer/Weepri)	–0.6948 ***	–2.94	–0.7367 ***	–4.34
log(Woa/Weepub)	1.1734 *	1.76	1.8094 ***	4.42
log(Wer/Weepub)	–0.6681 ***	–2.76	–0.6303 ***	–3.70

Source: Calculated using CHIP2007.

Note: 1. *, **, *** : statistical significant in 10%, 5%, 1% level.

2. The specification of Straucural MNL is similar to that shown in Table3, but dependent variable has only three categories(omitting unemployment group) and the predicted wage differentials log(Woa/Wee) and log(Wer/Wee) are added to the regressors. All other independent variables shown in Table3 are also inclused here, but not shown.

6. Conclusions

This paper provides evidence on the determinants of self-employment for migrants in urban China. Using CHIP2007, the employment status is divided into four categories: self-employed employers, own-account workers, employees, and the unemployed. Several major conclusions emerge.

First, compared with the employee, holding other factors (e.g., human capital) constant, the wage premium associated with the self-employed employer is higher, while the wage premium associated with own-account workers is statistically insignificant.

Second, the probability of becoming a self-employed employer is estimated to be negatively affected by the wage premium (logWer/Wee –0.7672), and the influence of the wage premium (logWoa/Wee) on the probability of becoming an own-account worker is statistically insignificant, showing the business creation hypothesis is rejected and the disguised unemployment hypothesis is supported.

Third, the influence of the wage premium (logWer/Weepri) on the self-employed employer is negatively significant, and the influence of the wage premium (logWoa/Weepri) on the own-account workers is statistically insignificant, the business creation hypothesis is rejected and the disguised unemployment hypothesis is once again supported.

These estimated results revealed that compared with employees, self-employed employers and own-account workers do not gain more, and there seemingly are no better choices for migrants in urban China. Some policy implications based on these empirical study results should be pointed out here.

One implication is that an employer of migrants has to face business risks and liquidity constraints. If the self-employed employer (e.g., the owner of a small private firm) cannot settle the liquidity constraint problem through the formal financial market (e.g., by getting a loan from a government bank), business continuity will become difficult. liquidity constraint problems already exist in China. It is known that the public banks do not like to lend to small private firms, so most small firms gain financial support through informal financial markets (e.g., inter-household and inter-household risk sharing and illegal loans). The estimated results in this paper showed that the effect of household income on the self-employed employer group is greater than that for the other groups. In order to promote more new business for greater economic growth in the future, the Chinese government should establish and implement financial support policies for small firms.

A second implication is the relation with labor market segmentation by the formal and informal sectors. It is thought that this segmentation results from human capital endowment differentials and some system discriminations (Knight and Song 1999; Cai, Du and Wang 2005; Ma 2011). For example, most migrants cannot be recruited by the public sector. In addition, it is known that in urban China, social security systems differ between the formal and informal sectors. In the public sector, firms charge a portion of the social security premium for their employees, whereas most workers in the self-employed sector have to pay the social security premium by themselves, and the compensations (firm welfare) are more for employees who work in the public sector than those who work in the private sector. To diminish the segmentation of the informal sector and the formal sector in

urban China, the integration of the social security system is an important issue for the Chinese government.

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Economic Transition and Self-employment
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This paper provides evidence on the determinants of self-employment for migrants in urban China. Using CHIP2007, the employment status is divided into four categories: self-employed employers, own-account workers, employees, and the unemployed. Several major conclusions emerge. First, compared with the employee, holding other factors (e.g., human capital) constant, the wage premium associated with the self-employed employer is higher, while wage premium associated with own-account workers is statistically significant. Second, the probability of becoming a self-employed employer is estimated to be negatively affected by the wage premium (logWer/Wee), and the influence of the wage premium (logWoa/Wee) on the probability of becoming an own-account worker is statistically insignificant, showing the business creation hypothesis is rejected and the disguised unemployment hypothesis is suppored. Third, the influence of the wage premium (logWer/Weepri) on the self-employed employer is negatively significant, and the influence of the wage premium (logWoa/Weepri) on the own-account workers is statistical insignificant. Based on these robust check results, the business creation hypothesis is rejected and the disguised unemployment hypothesis is supported once again. These results revealed that compared with the employees, the self-employed employers or the own-account workers are seemly not better choices for migrants in urban China. It is indicated that in order to promote more new business for greater economic growth in the future, the establishment and implementation of the financial support policies for the small firms, the registration system reform and the integration policies of employment and social security system are important issue for Chinese government.