Self-employment of rural-to-urban migrants in China*

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ABSTRACT

Purpose: This paper explores the determinants of self-employment among rural to urban migrants in China.

Design/methodology/approach: The analysis is based on a sample of migrant household heads from the 2008 Rural-Urban Migration in China and Indonesia (RUMiCI) survey. An estimate of the wage differential between self-employed and employed workers is obtained by means of an endogenous switching model and used to estimate the employment choice. The procedure is extended to account for migration selectivity bias, for alternative statuses before migration, and for different post-migration employment histories.

Findings: Self-employed migrants are positively selected with respect to their unobserved characteristics; their wages are substantially higher than what they would have obtained had they chosen paid work. Furthermore, even after accounting for the substantial heterogeneity across cities, industries, occupations, and after correcting for the migration selectivity bias, the wage differential is found to be an important determinant of self-employment.

Research limitations/implications: The finding that market imperfections do not constrain the self-employment choice of migrants does not imply that reforms designed to eliminate institutional barriers are undesirable. Policy should target the reduction of gaps between urban residents and migrants (such as the household registration system—"hukou"), so that migrants can access new business opportunities which are currently a prerogative of urban residents.

Originality/value: This paper complements previous literature about employment choices of migrants by exploring how wage differentials, rural backgrounds and migration experiences influence the self-employment decision.

Keywords: self-employment; wages; rural to urban migration; selection bias

JEL classification: J23, J61, O15.

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1. INTRODUCTION

Employment and earning attainment are the core objectives for the majority of migrants. This paper focuses on the employment choices of rural to urban migrants in China, and in particular, the determinants of self-employment. The novel feature of this work is the investigation of unexplored aspects of the selection process behind the self-employment decision. Specifically, two self-selection mechanisms are analysed. The first considers that migrants choose either self-employment or paid work based on potential gains from either type of employment. As migrants are not a random sample of the population, the second source of selectivity is determined by the characteristics of individuals who choose to migrate. What is driving the migration decision is likely to be correlated with employment choices.

The study of self-employment is important not only because of the substantial internal migration taking place in China, but also because a large proportion of migrants decide to engage in self-employment activities. Data from the 2005 Chinese census show that as much as 25% of the migrant labour force had started their own business. Identifying key drivers of self-employment is necessary to address crucial aspects of developing and transition economies—such as the understanding of whether the high self-employment rates are determined by entrepreneurial-based comparative advantages or whether they reflect migrants resorting to self-employment in the informal sector as a consequence of institutional constraints, such as labour market barriers (for a discussion, see Djankov et al., 2006, for China; and Arias and Khamis, 2008, for Argentina). It is well known that China, while constantly under reform, is still characterised by significant frictions in the labour market. One of the principal barriers is the urban “hukou”, which is the official permission to live in the city and a necessary requirement to access many

types of jobs and social welfare.[1] Although the household registration system—along with other forms of market imperfections—is responsible for the enormous gaps between the labour market performance of migrants and urban residents, the question remains whether institutional constraints and labour market barriers play a major role in the self-employment decision.[2] The findings of this paper suggest that this concern is unfounded and that the self-employment decision is primarily driven by economic incentives rather than the result of institutional constraints.

There is growing interest in the study of migrant entrepreneurship in China (Meng and Zhang, 2001; Song and Appleton, 2008; Gagnon et al., 2009; Zhang and Zhao, 2011). The present study contributes to the current literature by exploring how wage differentials, rural backgrounds and migration experiences shape the employment decision. The analysis is based on the sample of migrant household heads from the 2008 wave of the Rural-Urban Migration in China and Indonesia (RUMiCI) survey. The empirical strategy is based on the method proposed by Lee (1978), in which a selection model with endogenous switching is estimated in order to obtain consistent estimates of the wage differential, which in turn is used to model the employment choice. The procedure is then extended by simultaneously estimating a migration selection equation in order to account for migration selectivity bias. The determinants of self-employment are then investigated in relation to the alternative statuses before migration (i.e., students, farmers or workers) and by comparing individuals with different post-migration employment histories.

[1] Migrants from rural areas only possess a rural "hukou", and they are typically unable to obtain an urban one.
[2] Frijters et al. (2010) document that migrants earn 40% less than urban "hukou" holders, and that about half of this gap is not attributable to observable human-capital characteristics.

The results of the analysis indicate that the self-employed are positively selected with respect to their unobserved characteristics and that their wage is on average 15% higher than the one that they would have obtained had they chosen paid work. The wage differential is also found to be an important driver of the self-employment choice—even after accounting for the substantial heterogeneity across cities, industries, occupations and after correcting for the migration selectivity bias. These results are corroborated by complementary information in the survey which shows that the majority of self-employed migrants perceive that their earnings would have been lower had they worked in paid employment and that they are satisfied with their current employment.

The paper is organised as follows. Section 2 describes the methodology. Data and summary statistics are outlined in Section 3. Section 4 presents the results of the analysis. The extension to migration self-selection is presented in Section 5. Final remarks conclude the paper.

2. EMPIRICAL STRATEGY

In order to identify the factors that determine self-employment, a procedure originally proposed by Lee (1978) is followed. The procedure consists of two steps: first, consistent estimates of wages for self-employed and employees are obtained by estimating a selection model with endogenous switching (Maddala, 1983). Fitted values are used to compute the wage differential, which is employed as a regressor in the structural model for self-employment probability.

Individuals choose self-employment according to the following index function:

$$I^* = \alpha(\ln W_s - \ln W_e) + Z\gamma + \varepsilon, \qquad (1)$$

where $\varepsilon \sim \mathrm{N}(0, \sigma_\varepsilon^2)$, $\ln W_s$ and $\ln W_e$ represent the wage commanded by self-employed and employed workers, respectively, and Z contains exogenous determinants of self-employment.

Wages are observed depending on the employment status of the migrant:

$$\begin{cases} \ln W_s = X_s\beta_s + \varepsilon_s & if \;\; I = 1 \\ \ln W_e = X_e\beta_e + \varepsilon_e & if \;\; I = 0. \end{cases} \qquad (2)$$

OLS estimation of the parameters in equation (1) leads to a selectivity bias. This can be seen by substituting (2) into (1) to obtain the following reduced form model:

$$I^* = \alpha(X_s\beta_s + \varepsilon_s - X_e\beta_e - \varepsilon_e) + Z\gamma + \varepsilon = Z^*\gamma^* + \eta\,. \qquad (3)$$

The error term η does not have a normal distribution because wages are truncated according to the selection rule (2), that is, $E(\varepsilon_s \mid I = 1) \neq 0$ and $E(\varepsilon_e \mid I = 1) \neq 0$. To obtain consistent estimates of the parameters in equation (1), a procedure is implemented which has been previously adopted in self-selection models of unionism (Lee, 1978), housing decisions (Rosen, 1979), education investment (Willis and Rosen, 1979) and migration (Brücker and Trübswetter, 2004). A similar approach is adopted by Constant and Zimmermann (2005) to compare self-employment choices among immigrants in Denmark and Germany.

The first step corrects for selectivity bias in the wage equations, using a selection model with endogenous switching. By estimating the probit model of equation (3), selection correction terms are constructed and used to augment both wage equations:

$$\begin{aligned} \ln W_s &= X_s\beta_s + \sigma_s \frac{\phi(Z^*\hat{\gamma}^*)}{\Phi(Z^*\hat{\gamma}^*)} + \upsilon_s \\ \ln W_e &= X_e\beta_e - \sigma_e \frac{\phi(Z^*\hat{\gamma}^*)}{1-\Phi(Z^*\hat{\gamma}^*)} + \upsilon_e, \end{aligned} \qquad (4)$$

where the vector $\hat{\gamma}^*$ contains the estimates of equation (3). The parameters σ_s and σ_e reveal the correlation between the error terms of the index and wage equations—hence determining the direction of selection. For example, if $\sigma_s > 0$ ($\sigma_e < 0$), then average wages of migrants who choose self-employment (paid work) are greater than the population average of self-employed

(employed workers). The final step of the procedure consists of using predicted wages to construct the wage differential and obtain consistent estimates of the structural model (1). The approach described above is also extended to account for the migration selectivity bias. This is done by simultaneously estimating the switching regression model above with a probit for the migration decision, using maximum likelihood estimation.

3. DATA SOURCE AND SUMMARY STATISTICS

The analysis is based on the 2008 wave of a large scale household survey conducted in China within the RUMiCI. Each wave is composed by three parts: 1) a rural to urban migrant survey, 2) a rural household survey, and 3) a urban household survey.[3] The analysis of this paper is mainly based on the sample of migrants in the most popular migration destination cities—although ancillary information from the rural household survey is used to model the migration decision. The dataset includes detailed information about the migrant, and includes socio-demographic characteristics, labour market outcomes, current location, migration history and the family situation prior to leaving the hometown.

The sample is restricted to household-head migrants aged 16 to 64 who work either as self-employed or in a paid job. Only observations of migrants whose provinces of origin coincide with the provinces sampled in the rural household surveys are selected.[4] This allows the identification of the province of origin when modelling the migration decision. Unemployed individuals and family workers without pay are not included, as they constitute a negligible proportion of the migrant population, and so selection into participation is not an issue in this

[3] See Kong (2010) for a more detailed description of the survey.
[4] This corresponds to more than 85% of all migrants in the survey.

sample. The final sample consists of 3,990 individuals, of which 817 are self-employed. Summary statistics are reported in Table 1.

[TABLE 1 ABOUT HERE]

Around three quarters of the sample for both groups is male. This reflects that men are both more likely to migrate and to be the household head. Self-employed individuals tend to be older and to have started their current job earlier. However, they possess fewer years of formal education and are less likely to have received non-agricultural training. Moreover, their migration experience—as measured by the years since first migration—is relatively longer than that of individuals in paid work. Monthly net wages are substantially higher for self-employed individuals; however, they also report working longer hours.[5] Furthermore, the raw wage difference does not account for the fact that self-employed individuals are relatively more concentrated in trade industries and production-related occupations. Moreover, they are less geographically dispersed: more than a third of self-employed migrants are located in just 3 of the 15 sampled cities (Shanghai, Hefei and Chengdu). The average self-employment rate in this sample is about 22%—not far off the figure in the 2005 census (National Bureau of Statistics China, 2006).[6]

The multivariate analysis in the next section will explore whether the wage differential persists after controlling for the different characteristics of self-employed and wage workers, and once the selection of migrants into self-employment is considered.

[5] As shown in the the summary statistics, the dispersion of reported weekly hours is rather high. Hence, the analysis will focus mainly on monthly wages, since this measure is thought to be less prone to measurement error than the hourly or weekly wages. However, robustness checks have been carried out using a constructed measure of hourly wages as well.

[6] For comparison, the self-employment rates for the rural and urban samples are 7.8% and 14.3%, respectively (RUMiCI 2008).

4. RESULTS

The first step of the analysis estimates a selection model with endogenous switching. A reduced form probit model is estimated and predicted probabilities are used to obtain the correction terms to be added in the wage equation. The probit equation includes the size of the private sector in the migrants' province of origin—a variable excluded from the wage equations.[7] This variable is obtained from the National Bureau of Statistics of China (NBS) and corresponds to the (log) number of individuals who work in privately owned firms or as self-employed in each migrant's province of origin (NBS, 2007). The rationale is that entrepreneurship is thought to be larger in areas where the public sector is becoming less relevant, as the private sector begins to run traditionally state-owned businesses (Li et al., 2009). Migrants from provinces with a more developed private sector are more likely to become entrepreneurs because, for example, the likelihood of knowing other entrepreneurs is greater. Another possibility is that by having worked in privately owned companies, migrants are more likely to identify and pursue a business opportunity. Arguably, this variable is unlikely to be correlated with the error term in the wage equations.[8]

The results of the estimation of the switching regression model are presented in Table 2. Estimates of both wage equations follow human capital and migration theory, with minor (but interesting) differences across groups. There appears to be a substantial wage gap across genders; and given that only household heads are considered in this study, it might well be that this

[7] This exclusion restriction is not a necessary condition to identify the control function parameter in the wage equations. In the absence of such a restriction, however, identification would be achieved only with the functional form.

[8] To corroborate this, residuals from the wage equations (after correction for selection) are computed and regressed against the size of the private sector variable. The estimated coefficients show no relationship, with -0.025 (s.e. 0.044) for the self-employed and 0.001 (s.e. 0.010) for employed workers.

difference is a lower bound of the actual one.[9] The wage profile over the life cycle is very similar for the self-employed and employed workers. However, the tenure profile of self-employed migrants is slightly more compressed than that of employed workers, reaching a maximum between 12 and 13 years (as opposed to 16 and 17 years for migrants in paid employment). Returns to education are essentially the same: each additional year of education is correlated with a wage increase of just under 3%. Having participated to non-agricultural training activities is associated with an increase in wages as well—although the coefficient for self-employed workers is imprecisely estimated. As the theory predicts (Chiswick, 1978), a longer migration experience is correlated with higher wages, although the estimate is statistically significant at conventional levels for employed workers only. The regressions also include dummies for industry, occupation and city of residence (full estimates are reported in the Appendix).

The estimates of the correction term suggest a strong positive selectivity bias for the self-employed and a moderately negative bias for employed workers.[10] The presence of the selection bias has consequences on the parameter estimates, especially for self-employed migrants. Regressions which do not correct for selectivity (see Appendix) show that returns to education would be nearly 1% higher, and that the presence of training would correlate with an increase in wages of more than 14%. The wage profile over the life cycle would essentially be flat, while the tenure profile would be slightly more compressed. Interestingly, the gender wage gap would be overestimated. Other major differences are found in the occupation and industry indicators, as well as in some of the estimates of the city dummies. Since the impact of selection for employed

[9] This will be the case if, for example, female household heads are positively selected on their unobservable characteristics.

[10] As a robustness check, the equations in Table 2 have been estimated using hourly wages. The corresponding estimates of the correction terms are very similar: 0.306 (s.e. 0.149) and -0.025 (s.e. 0.025) for the wage equation of self-employed and employed workers, respectively. Since hourly wages are more prone to measurement error (being calculated by combining monthly wages and weekly hours worked) and since the estimated wage differentials are included in subsequent regressions as explanatory variables, the use of monthly wages is preferred.

workers is much smaller, the OLS estimates are only slightly different from those of the switching regression model.

For completeness, estimates from the reduced-form probit are reported in the third column—although it is important to highlight that these correlations are biased because of the endogeneity issues discussed in Section 2. Structural estimates are discussed in the next subsection; for the time being, it is important to emphasize that the exclusion restriction in the probit model has the expected sign and is statistically significant. As hypothesised, migrants from a province with a larger private sector are more likely to become self-employed.

[TABLE 2 ABOUT HERE]

4.1 *The wage differential*

Using the consistent estimates of wages obtained from the switching regression model, it is possible to predict the "counterfactual" earnings for self-employed (paid work) migrants, which are the earnings that they would have obtained had they chosen to work in salaried employment (as self-employed). The counterfactual earnings are used to construct the wage differential.

The estimated wage differential for the self-employed is 15% on average. Hence, starting a business is associated with a substantial premium when compared to what migrants would have earned had they chosen paid employment. However, this figure varies substantially across industries and cities. Table 3 reports values of the wage differential across industries. As it can be seen, the wage differential is actually negative in the public and finance sectors and manufacturing and construction. This means that these migrants would have earned higher wages

had they worked as employees in these sectors. However, the majority of self-employed migrants are concentrated in sectors where the wage differential is positive.

[TABLE 3 ABOUT HERE]

There is also substantial heterogeneity across cities. As demonstrated in Figure 1, cities with higher wage differentials also exhibit higher rates of self-employment. The high correlation might raise concerns about the distribution of migrants across industries and cities. These issues will be addressed by testing the sensitivity of the estimates of the structural probit to the inclusion of industry and city indicators.

[FIGURE 1 ABOUT HERE]

4.2 *Structural estimates*

Structural estimates of equation (1) are presented in Table 4. The most striking result is the impact of the wage differential. As shown by the substantial increase in the Veall-Zimmermann pseudo-R^2, the wage differential explains a considerable part of the variance of the self-employment probability.[11] According to the estimates in column II, a change of 10% in the wage differential (or 30% of its standard deviation) increases the probability of self-employment by around 6%.

[11] This is defined as $R^2_{VZ} = \left(\ell_M(\ell_R + N)\right)/\left(\ell_R(\ell_M + N)\right)$, where ℓ_R is the likelihood ratio, ℓ_M is the upper bound of ℓ_R, and N the number of observations. See Veall and Zimmermann (1996) for a survey of pseudo R^2 measures for several limited dependent variable models.

Interestingly, the inclusion of the wage differential in the regression hardly affects the estimates of other self-employment determinants, as can be seen by comparing the results contained in column I. In addition, the probability of self-employment does not vary across gender. As expected, older individuals and those with longer migration experience are more likely to start their own business. In contrast, individuals with more years of formal education and who received non-agricultural training are more likely to opt for paid work. The variable capturing entrepreneurship in the migrants' province of origin proves to be a statistically significant predictor—although its estimate is smaller and less precise when the wage differential is included.

[TABLE 4 ABOUT HERE]

To address the issue of migrants clustering in industries and cities, two additional specifications are estimated. In the first, city dummies are included; in the second, controls for industries and occupations are also added (full estimates are reported in the Appendix). The inclusion of these additional controls substantially affects the estimate of the wage differential. A 10% increase in the wage differential would now imply an 8 to 11% higher probability of self-employment. These results demonstrate that even after controlling for the sorting into cities and industries, the wage differential remains a key predictor for self-employment proclivity.

5. MIGRATION SELECTIVITY

Another crucial aspect in the identification of self-employment determinants is whether factors related to the migration decision are correlated with the choice of becoming self-employed. Migrants are, by their nature, entrepreneurs because the migration decision is a risky and costly

investment in terms of monetary and psychological costs, and may or may not yield the expected outcomes. The sizeable wage differentials between urban and rural areas might well be a magnet—even for the more risk averse individuals, who consider any urban job as a better option compared to the opportunities offered in rural areas.

Selection into migration is now explored in order to investigate how the estimates presented in the previous section are affected by factors related to the migration decision. This is done by using a maximum likelihood estimator in which three equations are estimated simultaneously for both the self-employed and employed workers.[12] In practice, this is done by adjusting the estimates in Table 4 to account for outcomes (wages and employment probability) observed only for individuals who actually migrated. A similar approach is proposed in the double-selection models of Tunali (1986); and two further applications are Amuedo-Dorantes and Mundra (2004) and Rabe (2011).

In order to model the migration decision, the sample of migrants is pooled with observations from the 2008 RUMiCI rural household survey. To better identify the population more likely to migrate, only rural individuals aged 16 to 40 are considered. The survey reveals that more than 90% of migrants who left their village lie within this age group. The migration choice is estimated with a reduced-form equation which includes all covariates of the wage and employment equations, and an indicator of whether the individual's father passed away before his or her 40th birthday.[13] This is employed as an exclusion restriction, which does not appear in the wage and employment equations. The rationale is that the loss of a father constitutes a significant adverse shock for rural families, which might push young individuals to take care of

[12] The user-defined Stata routine *cmp* described in Rodman (2009) is used. This command allows the simultaneous estimation of multiple selection equations.

[13] Some covariates, such as years since migration, industry, occupations and city, cannot be identified in the rural sample. Instead, indicators for the province of residence (rural sample) and origin (migrant sample) are used.

the family and prevent them from migrating. At the same time, this variable is unlikely to be correlated with the wage equation and the self-employment choice.[14] The estimates of the migration equation are presented in Table 6, along with the corrected wage equations.

Before discussing the new estimates, it is interesting to explore the correlations between the three equations reported in Table 5. The correlation coefficient between the migration and self-employment equations are very similar to those estimated in the previous section, confirming the existence of substantial positive selection for individuals who choose self-employment. There is an indication that unobserved factors that lead individuals to migrate and that affect wages are correlated, but the statistics are imprecisely estimated. For employed workers, the existence of a negative selection bias driven by the correlation between the employment and wage equation is confirmed—albeit less precisely estimated. However, there is evidence of a substantial, positive correlation between the wage and the migration equation. These results imply that migrants are drawn from the upper part of the skill distribution, but this positive selection is somewhat stronger for individuals in paid work than for those who choose self-employment. Interestingly, there is no discernible relationship between the migration and the employment choice: unobservable factors that motivate the migration decision are uncorrelated with the choice of the type of employment.

[TABLE 5 ABOUT HERE]

The wage estimates corrected for the two sources of selectivity bias are found in Table 6. Differences are revealed between these estimates and those in Table 2. For example, the wage

[14] In the case of developed countries, parental death has been used as an instrument for wealth when modelling the self-employment choice (Blanchflower and Oswald, 1998). In the case of China, it is less clear whether this variable predicts wealth given that, for example, land cannot be inherited and used as collateral to start a business.

gap between men and women is 1.5% higher than the one reported in Table 2 for both self-employed and employed workers. While the age and tenure profiles are essentially similar, returns to education are slightly higher once corrected for migration selectivity. The impact of training is slightly smaller, but is now estimated with higher precision for the self-employed. The last column reports the estimates of the reduced form migration equation. The propensity to migrate is higher among men and the more educated, and it decreases with age. As expected, the death of the father is highly correlated with the probability of remaining in the village.

5.1 *Structural estimates and migration background*

Based on the estimates corrected for the two sources of selectivity, the wage differential is recalculated and new structural estimates for the probability of self-employment are obtained. The new wage differential for self-employed individuals is larger than the one obtained in Section 4 (20% vs 15%). However, as shown in column I of Table 7, this does not have a substantial impact on the structural probit estimates.

[TABLE 6 ABOUT HERE]

The determinants of self-employment are now explored in light of different migration backgrounds and employment experience of individuals. In column II of Table 7, information on the first employment after having moved to the city is used to isolate migrants who changed job. The sample is restricted to individuals who were in paid job after migration and that at the moment of the survey transferred into another paid job or become self-employed. This enhances the comparability of the sample, as probability of becoming self-employed is now estimated for a

homogenous sample of individuals, that is, all individuals were in paid work at some point in time. In practice, the following model is estimated: $\Pr(I_t = 1 | I_{t-1} = 0, Z^*)$, where I_{t-1} refers to the first employment status after migration and I_t to the current one. The estimates of this model are remarkably similar to those in column I. Moreover, nearly 60% of individuals who were self-employed in 2008 report that their first job after migration was in paid work. This result is taken as evidence that paid work constitutes a transitory phase before starting up a business.

The RUMiCI data also contain information on the status of individuals before migration. Hence, it is possible to analyse the decision of self-employment by distinguishing between migrants that were students, farmers or in paid work before moving to the city.[15] Columns III to V of Table 7 show interesting differences across the three statuses: individuals who are students are the least sensitive to changes in the wage differential—in contrast to farmers; but the estimated effect for migrants who are in paid work are the closest to those in column I. These differences might reflect heterogeneity in, for example, preferences, wealth and access to credit across the three groups. Except for the impact of age, there are also interesting differences in the remaining socio-demographic variables. For example, a gender gap now emerges for migrants who were students before migrating, while the probability of becoming self-employed for individuals who were in paid job with more years of education remains unchanged. The size of the private sector in the region of origin is statistically significant only for individuals who were in paid work, with a sizeable effect. This reflects that these individuals are more likely to have contact with self-employed individuals or to discover on-the-job ideas that can be developed into a business.

[15] This category excludes the few migrants who were self-employed before migration (55 in the case of current self-employed and 76 in the case of current employed workers). As a robustness check, the model in column V has been estimated including these observations—and results are remarkably similar.

[TABLE 7 ABOUT HERE]

5.2 *Further evidence*

The findings that the wage differential is a crucial determinant of becoming self-employed, together with the evidence that migrants are positively selected over their unobservable characteristics, suggest that the self-employed migrants in the sample can indeed be characterised as "entrepreneurs by opportunity" rather than "entrepreneurs by necessity" (Djankov et al., 2006).

Further convincing evidence is contained in the data. Only a minority of the 871 self-employed migrants when asked "Why are you self-employed?" replied that they started their own business because they had difficulties in finding paid work. Most of them indicated that they started a business because of monetary and non-monetary prospect (Figure 2).

There is also evidence that the majority of self-employed individuals are satisfied with their current job. When asked: "Do you want to be an employee?", only 102 migrants (11%) replied affirmatively; 64 of these individuals (or 7% of the total) indicated that they would prefer to be employed because they would earn more money, while 38 (or 4% of the total) associated paid work with more stable and decent conditions.

[FIGURE 2 ABOUT HERE]

Furthermore, two measures are used to elicit the counterfactual wage that the self-employed could have commanded. The first relates to the wage that these individuals would have earned if they were employed, the second if they were still in their home village. In Table 8 self-employed

migrants are classified on the basis of their perceptions about the wages in the counterfactual situations. The table also reports the value of the wage differentials constructed using estimates from Table 7. About 20% of self-employed migrants believed they would have earned more if they were employed. Interestingly, the estimated wage differential for these individuals is well below the average. A very similar pattern is found when the wage of the individuals is compared with what they would earn in their home village (which is a good approximation of their earnings had they not migrated).

[TABLE 8 ABOUT HERE]

To substantiate further the findings of the paper, a discussion of additional factors that might encourage or prevent self-employment—aside from the wage differential—is provided. Differences between the tax and social insurance systems of employed workers and self-employed, as well as the cost of starting a business, are explored to understand whether they condition the choice of becoming an entrepreneur.

Since the wage differential is calculated using information on net earnings, the impact of tax has been already implicitly considered. Nevertheless, if the fiscal burden is particularly high for one of the two groups, it is possible that tax considerations affect employment decisions and hence bias the results. However, although there are differences between the income tax rate of self-employed and employees, it does not appear that self-employed migrant workers are subjected to particularly undesirable tax conditions. Even though the earnings of the majority of employed individuals falls below the minimum taxable threshold of RMB 2,000 (and hence they pay no income tax), the income of self-employed migrants is on average below RMB 2,500. This means

that the majority of self-employed have been subjected to an income tax of a maximum of 5%, the rate applicable for earnings below RMB 5,000.[16] Considering this rather low tax rate and the fact that the majority of self-employed migrants own a small business (the average number of hired workers is 0.84), it is unlikely that considerations about the tax system substantially influence the decision of starting a business.

Another factor that could condition the choice between self-employment and employed work is the social insurance system. In general, in order to access unemployment, pension and housing benefits, self-employed would have to pay the entire amount of the contributions, while employed workers would only contribute a share (the remaining being provided by the firm). Information from the RUMiCI dataset shows however that only a small fraction of employed individuals are covered by social insurance: 16% contribute to the pension system; 11% have personal injury insurance; 10% are covered by unemployment insurance, and only 7% have a housing fund. A likely explanation of such small coverage is the lack of urban "hukou", which still constitutes a barrier for accessing social security despite recent efforts of the Chinese government to encourage firms to pay social insurance contributions in favour of rural migrants.[17]

With reference to the costs of starting up a business, Table 9 reports information about the amount of money invested by self-employed migrants during the start-up phase, as well as the part that was borrowed. Figures from this table suggest the absence of financial constraints: only 299 migrants (34%) report borrowing money from banks, friends or family members. This suggests that the majority of the individuals have used their own savings, some of which were

[16] Only 78 self-employed migrants (9%) report a net wage above RMB 4,500. Hence only few self-employed have been subjected to a tax of 10% or higher.

[17] Contributions such as pensions benefits are tied to the place where the "hukou" is registered. Upon the same amount of contributions, rural "hukou" holders will receive substantially smaller pensions than urban "hukou" holders. Furthermore, these pensions can only be received in the rural areas of origin.

accumulated before migrating or in the previous job (as shown in Table 7, more than 50% of self-employed were in paid work before becoming self-employed). Furthermore, only a small percentage of the amount borrowed is accessed from banks or credit cooperatives. Although on the one hand, this might indicate the presence of constraints in accessing credit through formal channels, on the other hand it emphasises the crucial role of friends and family in supporting the start-up of business (Zhang and Zhao, 2011).

[TABLE 9 ABOUT HERE]

To conclude, it does not seem that the factors listed above constitute essential obstacles for migrants to start up a business.[18] This evidence further supports the finding that the wage differential and the willingness of pursuing a business opportunity are the fundamental drivers for the decision of becoming self-employed.

6. CONCLUSION

This paper analyses the determinants of self-employment using a recent survey based on a sample of rural to urban migrants in China. The key findings indicate that migrants who choose self-employment are positively selected in terms of their unobservable characteristics. Moreover, the wage differential has a strong positive effect on the probability of choosing self-employment. In the transition to a market economy, which is taking place in China, the identification of the determinants of self-employment is crucial. Besides the private gains, entrepreneurship also

[18] As a benchmark, China ranks 79th (after Vietnam and before Italy) among the 183 countries considered in the 2010 World Bank "ease of doing business" index. High ranking of the index corresponds to the presence of institutional settings which are relatively favourable to start-up a firm (although it is important to emphasise the fact that the index refers to the total population, not just to the subset of migrants).

generates positive externalities through job creation and aggregate demand (Ñopo and Valenzuela, 2007). The study of self-employment is of particular relevance in the context of the substantial urbanisation process, where labour force geographical mobility has become a key determinant of its sustained growth.

A potential issue is that migrants choose self-employment because of barriers to well-paid jobs. The findings of this paper indicate that this is unfounded. However, the fact that market imperfections do not constrain the self-employment choice of migrants does not imply that reforms designed to eliminate these barriers are undesirable. On the contrary, policy should target the reduction of the gaps between urban residents and migrants, so that the latter will be able to access new business opportunities in sectors in which entry is precluded because of the existence of institutional constraints such as the "hukou". A question which requires further research is still open: would more migrants like to become self-employed? The small negative selection found in the case of employed workers points toward this direction, but further research is required to understand whether this is the case and how labour market reforms, credit regulations and anti-discrimination policies can further boost migrant entrepreneurship.

REFERENCES

Amuedo-Dorantes C. and Mundra K. 2004. Social networks and their impact on the earnings of Mexican immigrants. Demography. 44(4) 849-863.

Arias O. and Khamis M. 2008. Comparative advantage, segmentation and informal earnings: a marginal treatment effects approach. IZA Discussion Paper No. 3916.

Blanchflower D.G. and Oswald A.J. 1998. What makes an entrepreneur? Journal of Labor Economics. 16 (1), 26-60.

Brücker H. and Trübswetter P. 2004. Do the best go west? An analysis of the self-selection of employed east-west migrants in Germany. Empirica. 34(4) 371-395

Chiswick B.R. 1978. The effect of Americanization on the earnings of foreign-born men. Journal of Political Economy. 86 (5), 897-921.

Constant A. and Zimmermann K.F. 2005. Legal status at entry, economic performance, and self-employment proclivity: a bi-national study of immigrants. IZA Discussion Paper No. 1910.

Djankov S., Qian Y., Roland G. and Zhuravskaya E. 2006. Who are China's entrepreneurs? American Economic Review. 96 (2), 348-352.

Frijters P., Lee L. and Meng X. 2010. Jobs, working hours and remuneration packages for migrant and urban workers. In "The great migration: rural-urban migration in China and Indonesia". X. Meng and C. Manning (eds). Edward Elgar Publishing.

Gagnon J., Xenogiani T. and Xing C. 2009. Are all migrants really worse off in urban labour markets: new empirical evidence from China. OECD Development Centre Working Paper No. 278.

Kong T.S. 2010. Rural-urban migration in China: survey design and implementation. In "The great migration: rural-urban migration in China and Indonesia". X. Meng and C. Manning (eds). Edward Elgar Publishing. 135-150.

Lee L.-F. 1978. Unionism and wage rates: a simultaneous equations model with qualitative and limited dependent variables. International Economic Review. 19 (2), 415-433.

Li H., Yang Z., Yao X. and Zhang J. 2009. Entrepreneurship and growth: evidence from China. Discussion Paper No. 22, Department of Economics, University of Hong Kong.

Maddala G.S. 1983. "Limited-dependent and qualitative variables in econometrics". Cambridge University Press.

Meng X. and Zhang J. 2001. The two-tier labor market in urban China: occupational segregation and wage differentials between urban residents and rural migrants in Shanghai. Journal of Comparative Economics. 29 (3), 485-504.

National Bureau of Statistics of China. 2006. "China statistical yearbook 2006". China Statistics Press.

National Bureau of Statistics of China. 2007. "China statistical yearbook 2007". China Statistics Press.

Ñopo H. and Valenzuela P. 2007. Becoming an entrepreneur. IZA Discussion Paper No. 2716.

Rabe B. (2011). Dual-earner migration: earnings gains, employment and self-selection. Journal of Population Economics. 24 (2), 477-497.

Roodman D. 2009. Estimating fully observed recursive mixed-process models with cmp. Center for Global Development Working Paper No. 168.

Rosen H.S. 1979. Housing decisions and the US income tax: an econometric analysis. Journal of Public Economics. 11 (1), 1-23.

Song L. and Appleton S. 2008. Social protection and migration in China: what can protect migrants from economic uncertainty? IZA Discussion Paper No. 3594.

Tunali I. 1986. A general structure for models of double-selection and an application to a joint migration/earnings process with remigration. Research in Labor Economics. 8(B), 235-282.

Veall, M.R. and Zimmermann K.F. 1996. Pseudo-R2 Measures for Some Common Limited Dependent Variable Models. Journal of Economic Surveys. 10 (3), 241-259.

Willis R.J. and Rosen S. 1979. Education and self-selection. Journal of Political Economy. 87 (5), S7-S36.

Zhang J. and Zhao Z. 2011. Social-family network and self-employment: evidence from temporary rural-urban migrants in China. IZA Discussion Paper No. 5446.

TABLES AND FIGURES

Table 1 – Summary statistics

	Self-employed	Employed workers
Personal characteristics		
Sex (male=1)	0.743	0.678
	(0.437)	(0.467)
Age	35.650	29.164
	(8.735)	(10.058)
Tenure in current job (years)	5.673	3.107
	(4.992)	(3.936)
Years of education	8.431	9.483
	(2.366)	(2.315)
Training (yes=1)	0.178	0.319
	(0.383)	(0.466)
Years since first migration	11.067	7.177
	(6.651)	(6.3)
Log monthly (net) wage	7.533	7.175
	(0.673)	(0.426)
Hours worked (weekly)	77.868	58.703
	(18.803)	(14.388)
Size of private sector in province of origin	14.774	14.682
	(0.506)	(0.59)
Industrial sector (%)		
Public and finance	6.4	13.1
Manufacturing and construction	6.3	37.5
Trade	61.5	14.7
Services	25.7	34.6
Occupation (%)		
Wholesale, service and professional	35.2	67.3
Production worker	64.8	32.7
City of residence (%)		
Bengbu	9.1	3.0
Chengdu	10.7	8.9
Chongqing	6.3	9.8
Dongguan	1.4	4.7
Guangzhou	2.2	8.4
Hangzhou	6.0	7.8
Hefei	14.6	5.9
Luoyang	7.3	3.3
Nanjing	5.1	8.6
Ningbo	2.3	4.1
Shanghai	11.4	8.3
Shenzhen	1.1	5.6
Wuhan	7.8	9.4
Wuxi	2.8	5.1
Zhengzhou	12.1	7.1
N	871	3,119

Source: RUMiCI 2008. Notes: Wages are expressed in Chinese Yuan (RMB) and refer to after-tax earnings for both groups. The size of the private sector is the log number of employees in the province of origin.

Table 2 – Endogenous switching model wage estimates

Dependent variable: log monthly wage (I-II); probability of self-employment (III)	Self-employed	Employed workers	Probit self-employment
Sex	0.118 ***	0.124 ***	-0.004
	(0.053)	(0.013)	(0.070)
Age	0.037 *	0.038 ***	0.180 ***
	(0.019)	(0.004)	(0.020)
$Age^2/100$	-0.061 ***	-0.059 ***	-0.220 ***
	(0.025)	(0.006)	(0.028)
Tenure	0.048 ***	0.031 ***	0.109 ***
	(0.014)	(0.004)	(0.017)
$Tenure^2/100$	-0.202 ***	-0.097 ***	-0.416 ***
	(0.069)	(0.021)	(0.082)
Years of education	0.027 ***	0.026 ***	-0.035 ***
	(0.011)	(0.003)	(0.014)
Training	0.100	0.036 ***	-0.232 ***
	(0.063)	(0.015)	(0.077)
Years since first migration	0.004	0.007 ***	0.017 ***
	(0.004)	(0.002)	(0.006)
Size of private sector in province of origin			0.218 ***
			(0.101)
Correction term	0.342 ***	0.039 *	
	(0.117)	(0.022)	
ρ_{wr}	0.527	-0.116	
	(0.156)	(0.062)	
N	871	3,119	3,990
Wald $\chi^2(26)$		184.52	
LR test of independence – $\chi^2(1)$		4.40	

Source: RUMiCI 2008. Notes: Robust standard errors in parentheses. * / ** / *** indicate significance at the 10% / 5% / 1% level. All models include dummies for industry (3 dummies), occupation (1) and city (14). Coefficients in column III refer to marginal effects. The term ρ_{wr} refers to the correlation between the self-employment and the wage equations.

Table 3 – Wage differentials for self-employed, by industry

	Public and finance	Manufacturing and construction	Trade	Service	All industries
Wage differential	-0.207	-0.243	0.211	0.207	0.154
% self-employment	0.120	0.045	0.538	0.172	0.218
Number of self-employed	56	55	536	224	871

Source: RUMiCI 2008

Table 4 – Probability of self-employment: structural estimates

Dependent variable: probability of self-employment	I	II	III	IV
Wage differential		0.572 ***	0.809 ***	1.060 ***
		(0.020)	(0.030)	(0.203)
Sex	0.006	0.010	0.007	0.006
	(0.014)	(0.013)	(0.012)	(0.013)
Age	0.006 ***	0.007 ***	0.007 ***	0.007 ***
	(0.001)	(0.001)	(0.001)	(0.001)
Years of education	-0.016***	-0.009***	-0.005 ***	-0.007***
	(0.003)	(0.003)	(0.002)	(0.003)
Training	-0.083***	-0.101***	-0.096 ***	-0.094***
	(0.013)	(0.011)	(0.010)	(0.014)
Years since first migration	0.008 ***	0.008 ***	0.009 ***	0.01 ***
	(0.001)	(0.001)	(0.001)	(0.001)
Size of private sector in province of origin	0.051 ***	0.021 *	0.051 ***	0.043 ***
	(0.011)	(0.011)	(0.017)	(0.019)
City dummies	N	N	Y	Y
Industry and occupation dummies	N	N	N	Y
Pseudo- R^2_{VZ}	0.186	0.499	0.599	0.669
N	3,990	3,990	3,990	3,990

Source: RUMiCI 2008. Notes: Robust standard errors in parentheses. * / ** / *** indicate significance at the 10% / 5% / 1% level. Coefficients refer to marginal effects.

Table 5 – Correlations between the equations

	ρ_{wr}	ρ_{wm}	ρ_{rm}
Self-employed	0.522	0.105	-0.008
	(0.117)	(0.147)	(0.134)
Employed workers	-0.101	0.301	0.025
	(0.087)	(0.122)	(0.136)

Source: RUMiCI 2008. Notes: w = wage equations; r = self-employment equation; m = migration equation.

Table 6 – Endogenous switching model wage estimates: correction for migration

Dependent variable: log monthly wage (I-II); probability of self-employment/migration (III-IV)	Self-employed	Employed workers	Probit self-employment	Probit migration
Sex	0.131 ***	0.139 ***	-0.006	0.241 ***
	(0.054)	(0.016)	(0.075)	(0.029)
Age	0.035 *	0.034 ***	0.180 ***	-0.238 ***
	(0.019)	(0.005)	(0.023)	(0.016)
$Age^2/100$	-0.055 ***	-0.049 ***	-0.221 ***	0.472 ***
	(0.025)	(0.007)	(0.033)	(0.026)
Tenure	0.039 ***	0.016 ***	0.110 ***	-0.212 ***
	(0.018)	(0.007)	(0.024)	(0.009)
$Tenure^2/100$	-0.172 ***	-0.048 *	-0.420 ***	0.695 ***
	(0.076)	(0.029)	(0.107)	(0.046)
Years of education	0.030 ***	0.031 ***	-0.036 ***	0.078 ***
	(0.011)	(0.003)	(0.015)	(0.006)
Training	0.098 *	0.032 ***	-0.232 ***	-0.071 ***
	(0.059)	(0.015)	(0.075)	(0.030)
Years since first migration	0.004	0.007 ***	0.017 ***	
	(0.004)	(0.001)	(0.006)	
Size of private sector in province of origin			0.221 ***	
			(0.093)	
Father's death before age 40				-0.438 ***
				(0.065)
N	871	3,119	3,990	10,591

Source: RUMiCI 2008. Notes: Robust standard errors in parentheses. * / ** / *** indicate significance at the 10% / 5% / 1% level. Models in the columns I-III include dummies for industry (3 dummies), occupation (1) and city (14). Model in column IV includes dummies for province of origin (8). Coefficients in columns III and IV refer to marginal effects.

Table 7 – Probability of self-employment: structural estimates adjusted for migration selection

	Status after migration		Status before migration		
	I	II	III	IV	V
	Current job	Transition from paid work	Student	Farmer	Worker
Wage differential	0.574 ***	0.521 ***	0.316 ***	0.855 ***	0.488 ***
	(0.020)	(0.025)	(0.024)	(0.040)	(0.046)
Sex	0.012	0.031 *	0.026 ***	0.000	-0.034
	(0.013)	(0.016)	(0.013)	(0.028)	(0.027)
Age	0.007 ***	0.003 ***	0.007 ***	0.007 ***	0.006 ***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Years of education	-0.009 ***	-0.005	-0.006 *	-0.010 *	0.001
	(0.003)	(0.003)	(0.003)	(0.006)	(0.006)
Training	-0.101 ***	-0.088 ***	-0.059 ***	-0.142 ***	-0.066 ***
	(0.011)	(0.014)	(0.012)	(0.025)	(0.022)
Years since first migration	0.008 ***	0.009 ***	0.005 ***	0.011 ***	0.005 *
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Size of private sector in origin	0.019 *	0.033 ***	0.017	0.010	0.064 ***
	(0.011)	(0.015)	(0.013)	(0.021)	(0.024)
Pseudo- R^2_{VZ}	0.505	0.442	0.458	0.510	0.494
N self-employed	871	458	230	463	123
N employed workers	3,119	1,795	1,407	1,066	573

Source: RUMiCI 2008. Notes: Robust standard errors in parentheses. * / ** / *** indicate significance at the 10% / 5% / 1% level. Coefficients refer to marginal effects.

Table 8 – Wage differential and perceptions about counterfactual wages

	Δ_w migrant self-employed vs paid work	Δ_w migrant self-employed vs home village work
$W_s \geq W_c$	16.89%	20.27%
	N=697	N=826
$W_s < W_c$	9.56%	14.40%
	N=174	N=45
All self-employed	15.43%	19.96%
	N=871	N=871

Source: RUMiCI 2008. Notes: W_s = actual wage; W_c = belief of wage in the counterfactual situation; Δ_w = estimated wage differential.

Table 9 – Information about investment and borrowing in the business

	Self-employed who did not borrow money	Self-employed reporting borrowing money
Start-up investment (RMB)	27,610 (170,996)	51,856 (218,893)
Amount borrowed (RMB)	--	32,237 (135,846)
• Of which from banks or credit cooperatives (%)	--	7.94
N	572	299

Source: RUMiCI 2008. Start-up investment refers to the average self-reported amount of money invested when the business was started. The amount borrowed refers to the average self-reported amount of money borrowed from formal and informal lenders. Standard deviations are in brackets.

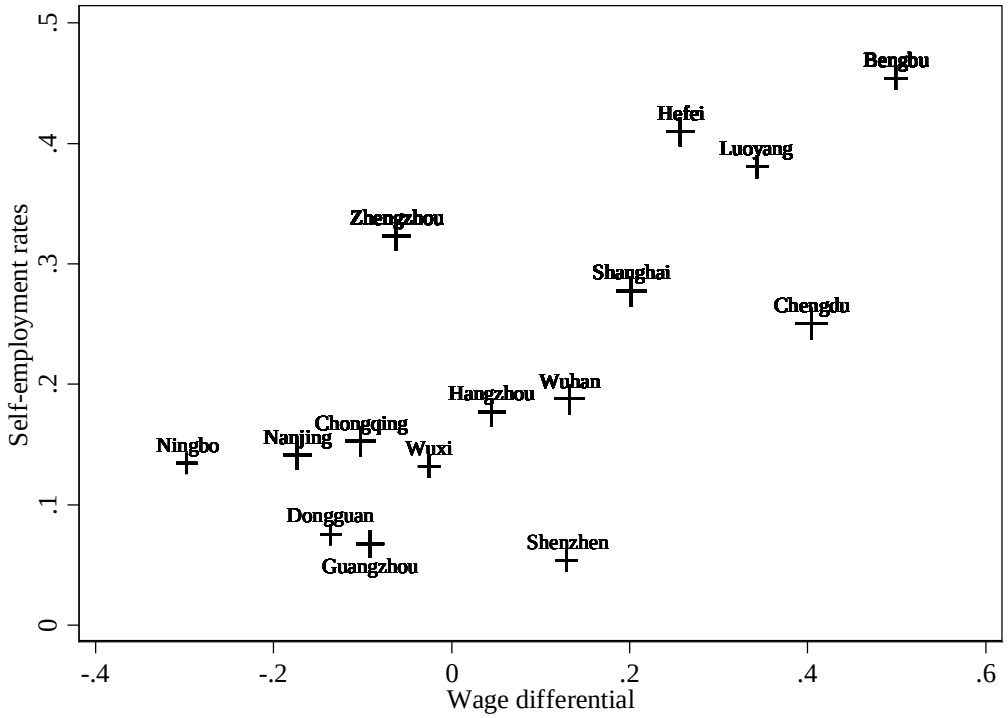

Figure 1 – Wage differentials for self-employed, by city

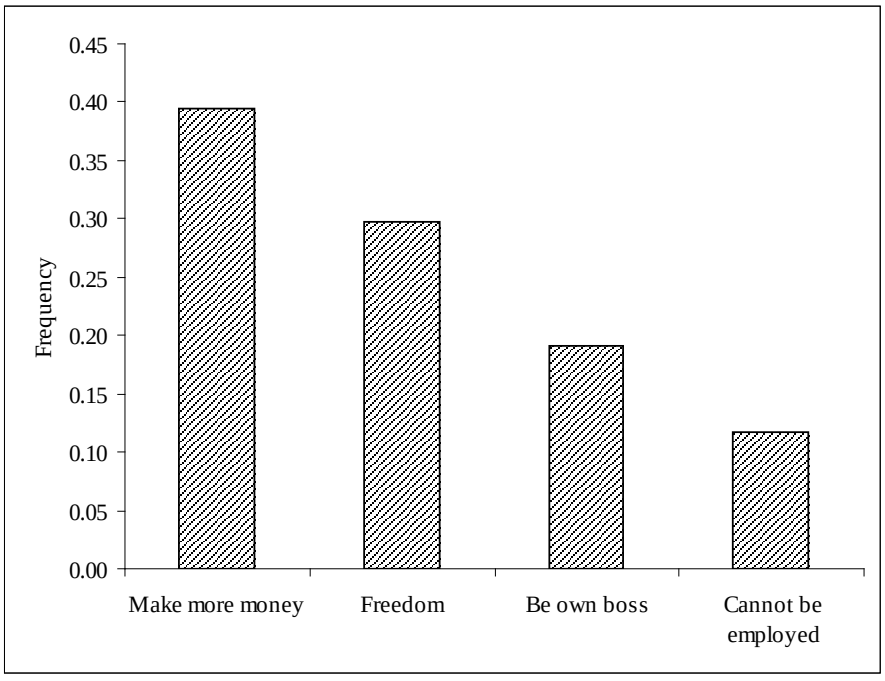

Figure 2 – Reasons for choosing self-employment (N=871)

APPENDIX

Table A1 – OLS and switching regression wage estimates

Dependent variable: log monthly wage	Self-employed		Employed workers	
	OLS	SR	OLS	SR
Sex	0.122 ***	0.118 ***	0.124 ***	0.124 ***
	(0.053)	(0.053)	(0.014)	(0.013)
Age	0.008	0.037 *	0.036 ***	0.038 ***
	(0.016)	(0.019)	(0.004)	(0.004)
$Age^2/100$	-0.027	-0.061 ***	-0.057 ***	-0.059 ***
	(0.022)	(0.025)	(0.006)	(0.006)
Tenure	0.030 ***	0.048 ***	0.029 ***	0.031 ***
	(0.012)	(0.014)	(0.004)	(0.004)
$Tenure^2/100$	-0.129 ***	-0.202 ***	-0.092 ***	-0.097 ***
	(0.063)	(0.069)	(0.021)	(0.021)
Years of education	0.033 ***	0.027 ***	0.027 ***	0.026 ***
	(0.010)	(0.011)	(0.003)	(0.003)
Training	0.142 ***	0.100	0.038 ***	0.036 ***
	(0.060)	(0.063)	(0.015)	(0.015)
Year since first migration	0.001	0.004	0.007 ***	0.007 ***
	(0.004)	(0.004)	(0.002)	(0.002)
Public and finance ind.	-ref-	-ref-	-ref-	-ref-
Manufacturing and construction ind.	0.288 ***	-0.089	0.114 ***	0.100 ***
	(0.119)	(0.183)	(0.026)	(0.027)
Trade ind.	0.195 ***	0.395 ***	0.054 ***	0.064 ***
	(0.092)	(0.119)	(0.025)	(0.025)
Services ind.	0.297 ***	0.372 ***	-0.007	-0.006
	(0.096)	(0.103)	(0.022)	(0.022)
Wholesale, service and professional occ.	-ref-	-ref-	-ref-	-ref-
Production occ.	0.091 *	0.374 ***	0.060 ***	0.072 ***
	(0.049)	(0.112)	(0.021)	(0.022)
Bengbu	-ref-	-ref-	-ref-	-ref-
Chengdu	0.097	0.046	0.057	0.050
	(0.099)	(0.100)	(0.052)	(0.052)
Chongqing	-0.257 ***	-0.415 ***	0.085 *	0.073
	(0.096)	(0.113)	(0.052)	(0.052)
Dongguan	-0.265	-0.420 ***	0.188 ***	0.179 ***
	(0.183)	(0.193)	(0.058)	(0.058)
Guangzhou	0.178	-0.067	0.337 ***	0.323 ***
	(0.151)	(0.174)	(0.052)	(0.052)
Hangzhou	0.153	0.035	0.428 ***	0.418 ***
	(0.112)	(0.121)	(0.053)	(0.053)
Hefei	0.083	0.065	0.238 ***	0.236 ***
	(0.080)	(0.081)	(0.059)	(0.059)
Luoyang	-0.272 ***	-0.327 ***	-0.169 ***	-0.176 ***
	(0.105)	(0.109)	(0.055)	(0.055)
Nanjing	-0.072	-0.177	0.390 ***	0.381 ***
	(0.123)	(0.123)	(0.053)	(0.053)
Ningbo	-0.184	-0.325	0.358 ***	0.349 ***
	(0.187)	(0.199)	(0.057)	(0.057)
Shanghai	0.262 ***	0.183 *	0.382 ***	0.375 ***
	(0.095)	(0.098)	(0.054)	(0.054)
Shenzhen	0.259	0.082	0.443 ***	0.431 ***
	(0.164)	(0.179)	(0.055)	(0.055)
Wuhan	-0.052	-0.146	0.125 ***	0.117 ***
	(0.093)	(0.102)	(0.052)	(0.052)
Wuxi	0.123	-0.023	0.350 ***	0.340 ***
	(0.142)	(0.158)	(0.055)	(0.055)
Zhengzhou	-0.377 ***	-0.409 ***	0.066	0.061
	(0.085)	(0.087)	(0.055)	(0.054)
Constant	6.858 ***	5.816 ***	5.896 ***	5.887 ***
	(0.313)	(0.486)	(0.093)	(0.092)
R^2	0.172		0.345	
N	871	871	3,119	3,119

Source: RUMiCI 2008. Notes: robust standard errors in parentheses. * / ** / *** indicate significance at the 10% / 5% / 1% level. Models in columns II and IV are estimated using the switching regression procedure described in the text.

Table A2 – Probability of self-employment, structural estimates

Dependent variable: probability of self-employment	I	II	III	IV
Wage differential		0.572 ***	0.809 ***	1.060 ***
		(0.020)	(0.030)	(0.203)
Sex	0.006	0.010	0.007	0.006
	(0.014)	(0.013)	(0.012)	(0.013)
Age	0.006 ***	0.007 ***	0.007 ***	0.007 ***
	(0.001)	(0.001)	(0.001)	(0.001)
Years of education	-0.016 ***	-0.009 ***	-0.005 ***	-0.007 ***
	(0.003)	(0.003)	(0.002)	(0.003)
Training	-0.083 ***	-0.101 ***	-0.096 ***	-0.094 ***
	(0.013)	(0.011)	(0.010)	(0.014)
Year since first migration	0.008 ***	0.008 ***	0.009 ***	0.01 ***
	(0.001)	(0.001)	(0.001)	(0.001)
Size of private sector in province of origin	0.051 ***	0.021 *	0.051 ***	0.043 ***
	(0.011)	(0.011)	(0.017)	(0.019)
Public and finance ind.				-ref-
Manufacturing and construction ind.				-0.128 ***
				(0.035)
Trade ind.				-0.115 ***
				(0.043)
Services ind.				-0.253 ***
				(0.051)
Wholesale, service and professional occ.				-ref-
Production occ.				0.001 ***
				(0.064)
Bengbu			-ref-	-ref-
Chengdu			-0.054 ***	-0.051 ***
			(0.020)	(0.021)
Chongqing			0.485 ***	0.676 ***
			(0.084)	(0.170)
Dongguan			0.566 ***	0.778 ***
			(0.094)	(0.143)
Guangzhou			0.093	0.208
			(0.057)	(0.149)
Hangzhou			0.239 ***	0.386 ***
			(0.064)	(0.171)
Hefei			0.163 ***	0.222 ***
			(0.050)	(0.085)
Luoyang			0.152 ***	0.142 *
			(0.054)	(0.074)
Nanjing			0.513 ***	0.772 ***
			(0.074)	(0.143)
Ningbo			0.716 ***	0.877 ***
			(0.068)	(0.061)
Shanghai			0.084 ***	0.144 *
			(0.042)	(0.077)
Shenzhen			0.074	0.171
			(0.057)	(0.142)
Wuhan			0.178 ***	0.283 ***
			(0.060)	(0.119)
Wuxi			0.208 ***	0.368 ***
			(0.077)	(0.167)
Zhengzhou			0.674 ***	0.782 ***
			(0.056)	(0.117)
Pseudo- R^2_{VZ}	0.186	0.499	0.599	0.669
N	3,990	3,990	3,990	3,990

Source: RUMiCI 2008. Notes: robust standard errors in parentheses. * / ** / *** indicate significance at the 10% / 5% / 1% level. Coefficients refer to marginal effects.

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