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Job mobility of residents and migrants in urban China

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The large-scale reform of the state-owned sector and the development of a private sector in the 1990s changed the nature of employment in urban China. The system of allocated, lifelong jobs, denoted the iron rice bowl, that had previously prevailed under state planning was eroded, permitting more labor turnover and mobility. Using an urban household survey for 1999 that has rich data on job duration and job change, we analyze inter-firm mobility in the urban labor market, its evolution, and its explanation. A distinction is made between the institutionally favored urban residents and the rural–urban migrants. The mobility rate of migrants greatly exceeds that of urban residents. The extent, patterns, determinants, and consequences of mobility for the two groups are explored and compared. *Journal of Comparative Economics* 32 (4) (2004) 637–660. University of Oxford, Manor Road Building, Oxford OX1 3UQ, UK; Pembroke College, St. Aldate's, Oxford OX1 1DW, UK.
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1. Introduction

During the period of central planning, China had an administered labor system. Urban labor was allocated bureaucratically and wages were determined institutionally, according to a centralized and egalitarian system of wage grades and scales (Knight and Song, 1991, 1993, 1995). Labor mobility was not permitted, neither across cities nor across employers within a city so that one's first job was often one's last. The relationship between a worker and his *danwei*, i.e., work unit, was close and pervasive; the enterprise provided lifetime employment within a mini welfare state, which was denoted the iron rice bowl. Hence, labor mobility or labor turnover in urban China was not studied.

With the reform of the state-owned enterprises (SOEs) in the late 1980s and 1990s, managers acquired some freedom to manage their employees; they had greater power to set wages and to decide recruitment and employment. More recently, managers were required by the government to reduce their surplus labor so that more than 25 million workers were made redundant from 1996 to 1999 (Appleton et al., 2002). At the same time, workers acquired more rights to move from one employer to another. However, voluntary mobility continued to be impeded by the employer-specific provision of social welfare services, such as pensions, medical care, and housing, which were gradually being privatized.

A labor market in transition from a planned to a market-oriented system experiences increased mobility from a low level. Initially, involuntary mobility results from enterprises discarding surplus labor and producers adjusting to market demand and prices. As the transition progresses, the proportion of voluntary quits increases as individuals move to jobs that match better their productive characteristics and reflect expanding activities. Urban China is arguably in the first stage of this transition because labor mobility has risen recently from very low levels. In developed economies, mobility in labor markets is characterized by long-term employment relationships, most new jobs ending early, and the probability of a job ending declining with tenure (Farber, 1999). The labor market in urban China may exhibit only the first of these characteristics.

The rate of job mobility is likely to be inversely related to the length of job tenure. Table 1 reports the length of tenure, i.e., job duration, in China and in various other countries, ranked by average length of tenure. Chinese urban residents are at the top of the list, having the longest average tenure at 19.9 years while Chinese rural–urban migrants are at the bottom, having the shortest at 4.5 years. The figures for median tenure and for the distribution of tenure show almost identical patterns. Poland, the other transition economy for which data are available, is closest to Chinese urbanites, followed by Japan. The European countries occupy intermediate positions and the United States, with its flexible labor market, is closest to Chinese migrants. In this paper, we investigate the reasons for the relatively long job tenure of urban residents and the relatively short tenure of migrants.

We use a household-based urban data set to examine labor mobility for urban and rural workers. The data cover both urban residents having an urban *hukou*, i.e., registration certificate, and rural–urban migrants living in the city but having a rural *hukou*. The data set allows us to trace the employment history of each worker. We examine job tenure, job mobility, voluntary versus involuntary mobility, and the determinants of mobility over time. Section 2 provides a conceptual and institutional framework for the analysis. Section 3 sketches a model that explains the differential mobility of urban and migrant workers.

Table 1
Average and median tenure for select countries

Country	Average tenure (years)	Median tenure (years)	Distribution of tenure (%)	
			Under 2 years	Over 20 years
China (urban residents)	19.9	19.0	5.6	45.5
Poland	17.5	17.0	5.7	43.9
Japan	11.3	8.3	23.6	21.4
Germany	9.7	10.7	25.5	17.0
United Kingdom	7.8	5.0	30.3	9.4
United States	7.4	4.2	34.5	9.0
China (migrants)	4.5	3.0	39.2	1.3

Notes: 1. The data relate to 1995, except for the US (1996) and China (1999). 2. The tenure of migrants in China is measured from the time of entry into the urban labor market. 3. For both urban residents and migrants, the data for China on the distribution of tenure include those with two years of tenure, which biases upwards both figures slightly.

Sources: OECD, 1997 and China Urban Household Survey.

Section 4 describes the data and investigates empirically the extent, nature, causes and consequences of labor mobility among urban residents and rural–urban migrants. Section 5 concludes with policy implications.

2. Concepts and hypotheses

Concerning the unit of analysis, we distinguish labor turnover in which the employer is the unit and labor mobility in which the employee is the unit. Turnover is the number of quits per period as a percentage of the workers in a firm. Since our data are household-based, we focus on labor mobility, which can be measured as the number of quits per period by a worker. At various times, we use the tenure of workers, i.e., job duration, whether complete or incomplete, as an inverse measure of mobility between employers. A second distinction can be made between voluntary and involuntary mobility. In a competitive labor market with free choice, voluntary mobility occurs in response to changes in information, skills, tastes or wages. Under the system of labor allocation and lifetime jobs in China, a high degree of job mismatch was inevitable and tempered only partially by intra-firm mobility. With greater labor market freedom, we expect to see increased voluntary mobility as a market response to the inefficient arbitrary job assignment of the past. The causes of involuntary mobility are related to the job or to the individual. The distinction between employee- and employer-induced quits is difficult to draw in practice. On the one hand, if workers recognize that their jobs are at risk, they have an incentive to search for another job and may quit before they are fired. On the other hand, workers intending to quit may volunteer for a retrenchment program if it will provide benefits. For that reason, involuntary mobility may be understated or overstated.

The analysis of labor mobility is based on theories of firm-specific capital and theories of job-matching so that mobility may be socially desirable or not. On the one hand, mobility results in the loss of firm-specific human capital. On the other hand, it can improve job matches and raise labor productivity by matching better individual skills and abilities

or by movement to higher-productivity jobs as the economy changes. Do private economic agents left to pursue their own interests generate the optimal mobility rate for the economy, given its institutions and conventions? A worker's decision to quit depends on the associated private costs and benefits to him; similarly, a firm's decision to fire depends on its private costs and benefits. In either case, termination can impose costs and benefits on the other party or on third parties so that social and private net benefits may not coincide. In this situation, the degree of labor mobility will not be optimal as [Greenwald and Stiglitz \(1988\)](#) and [Hosios \(1990\)](#) discuss. For example, a firm will not take into account the short term or long term income loss that it imposes on a fired worker nor will a departing worker take into account the hiring and training costs that he imposes on his firm.

Labor mobility among employers depends partly on the degree of flux in the economy. In an entirely static economy in equilibrium, zero mobility is optimal. However, in an economy subject to rapid structural transformation and growth, substantial job change is likely as some firms and sectors decline while others expand. As goods and factors are reallocated in response to developing product and factor markets, the inherent productivity of some jobs falls and that of others rises. Even standardizing for structural change, the individual productivity of workers in their jobs may be below the potential productivity of the jobs; such a shortfall offers workers and firms opportunities for improved matching. The mobility rate depends on the relative importance both of firm-specific skills and of the scope to improve idiosyncratic matching through job mobility. However, these factors depend on the nature of the labor market and its institutions. The boundary between firm-specific and general human capital is defined by marketability, which is determined not only by the intrinsic content of the skill but also by the conventions that sustain or inhibit a market. Similarly, the scope for matching by inter-firm mobility depends on the scope for matching within firms. Japan and the United States provide an interesting contrast as [Collier and Knight \(1985\)](#), [Hashimoto and Raisian \(1985\)](#), and [Mincer and Higuchi \(1988\)](#) show. Hence, the rate of job mobility varies across countries or over time.

In the context of urban China, potentially highly beneficial job matching was prevented under the planning system. Even in the late 1990s, the provision of social services was often attached to the work unit; the process of reform and marketization was incomplete and ongoing because these arrangements continued to deter advantageous voluntary mobility. On the other hand, the draconian redundancy program imposed on state-owned enterprises in the late 1990s created too much mobility. Many specific skills were lost to the economy and retrenched workers bore a heavy loss of income, both while unemployed and on re-employment ([Appleton et al., 2002](#); [Knight and Li, 2002](#)). However, the loss of production was minimal because the government had kept unemployment disguised in the enterprises rather than open. Nevertheless, the losses borne by redundant workers were not internalized fully in the decision processes that led to these retrenchments.

Under central planning, the migration of rural people to urban areas was strictly curbed and, even during the reform period, only the temporary migration of rural people is normally permitted ([Knight and Song, 1999](#)). Rural *hukou*-holders are allowed into the residual jobs that urban *hukou*-holders do not want and the number of migrants that urban enterprises can employ is restricted ([Knight et al., 1999](#)). Generally, migrants are employed on short-term contracts. Regarding access to housing and to social services like education and health care, rural *hukou*-holders are discriminated against, so deterring them

from settling in the cities. A pattern emerged in which migrants spend brief periods in urban employment, engaged on one or two short-term contracts, and then return to their rural homesteads. This pattern is changing only gradually as more migrants attempt to bring their families to the, still inhospitable, cities. In these circumstances, employers have little incentive to train their migrant workers. Therefore, labor mobility among rural–urban migrants may be too substantial to promote efficient human capital formation.

3. Toward a model of differential mobility

Before the policies concerning employment in the Chinese urban labor market were loosened, urban *hukou* workers were favored by placement in good jobs, i.e., permanent, secure iron rice bowls, while migrants were discriminated against and restricted to bad jobs, i.e., jobs that were temporary and had little job security and few non-wage benefits. To analyze differential mobility that reflects only these discriminatory arrangements, we begin with a segmentation model. If all urban and migrant workers are employed and all vacancies are filled, good jobs are taken by urban workers and bad jobs are taken by migrants. Institutional arrangements ensure that jobs held by urbanites last longer than jobs held by migrants. The rate at which jobs turn over is the reciprocal of job duration. Hence, the rate at which vacancies occur for good jobs, and thus for urban workers, is less than the rate of vacancies for bad jobs, and thus for migrants. Therefore, in any period, the mobility rate of urban workers is less than that of migrants.

To include imperfect job matching in a labor market characterized by informational asymmetries and costly search for both individuals and firms, we analyze the determinants of differential mobility by considering not only the role of institutions but also the importance of search motivation and of firm-specific skill acquisition. The Chinese labor market resembles the search models in which there are good and bad jobs and different types of job-seekers. For example, Pissarides (1994) develops a model of equilibrium unemployment in which those in good jobs search for and accept only good jobs and those in bad jobs search for and accept both types of jobs. Occupants of good jobs stop searching when the returns to tenure offset the expected gains from search; similarly, occupants of bad jobs stop searching beyond a certain length of tenure. We adapt this model to the Chinese case by assuming that migrants are allocated initially to bad jobs and urban workers are in good jobs.

The total number of matches between firms and workers is given by the matching technology, $f = f(v, m + u)$, where v is the number of vacancies, m is the number of migrant job-seekers, and u is the number of urban *hukou* job-seekers within a constant labor force. Initially, we make the following simplifying assumptions. First, there are two types of job-seekers, urban and migrant, and two types of jobs, good and bad, distinguished by their attractiveness to the worker. Second, the matching technology is the same for both types of jobs. Third, all urban job-seekers seek good but not bad jobs, whereas all migrants seek both types of jobs. Fourth, all matches sought by employers result in job offers. Fifth, urban job-seekers reject bad jobs. The number of matches between good job vacancies and job-seekers is given by $f_g = f(v_g, m + u)$. For bad jobs, the number of matches is given by $f_b = f(v_b, m)$, which indicates that urban job-seekers do not cause congestion for migrants by taking bad jobs.

Assuming initially that the matching rate into good jobs (r_g) is the same for urban workers (r_{u_g}) and migrants (r_{m_g}), we have:

$$r_g = r_{u_g} = r_{m_g} = \frac{f_g}{u + m}. \quad (1)$$

Moreover, the matching rate of migrants into bad jobs is:

$$r_{m_b} = \frac{f_b}{m}, \quad (2)$$

whereas r_{u_b} is zero. Hence, the overall matching rate of migrants ($r_m = r_{m_g} + r_{m_b}$) exceeds that of urban workers ($r_u = r_{u_g} = r_{m_g}$) and, in equilibrium, $r_u < r_m$. This result occurs because urban workers are allocated initially to good jobs and migrants are allocated initially to bad jobs. From Eqs. (1) and (2), the difference between r_u and r_m depends on the extent to which r_{m_b} exceeds r_g . The institutions that provide secure employment for urban workers and impose insecure short term contracts on migrants lower v_g and raise v_b . In turn, good job matches are reduced relative to bad matches so that r_u falls relative to r_m .

The basic model can be modified to make it more applicable to China by changing all but the first assumption. We assume that matching technologies for good and bad jobs differ and that it is easier to find a match for a bad job because idiosyncratic skills are less important. If f_g generates fewer matches than f_b , the initial inequality $r_u < r_m$ is accentuated. Moreover, the decision to search is assumed to be a function of the prospective wage relative to the current wage of an individual. Because urban workers are initially in good jobs, their incentive to search is reduced. By contrast, migrants have a strong incentive to search for good jobs because they are initially in bad jobs. The current wage depends on both the length of job tenure and the returns to tenure. If there are returns to tenure that result from firm-specific skill acquisition, some workers are deterred from job search by the prospect of losing this premium. Since $r_u < r_m$ implies longer tenure for urban workers leading employers to invest more firm-specific skills in urban workers, a higher proportion of urban workers choose not to search, which reduces further r_u relative to r_m . In addition, urban workers receive preferential treatment in hiring for good jobs so that not all potential matches for migrants result in job offers. This discrimination against migrants reduces their offer rate for good jobs, which lowers their mobility rate relative to that of urbanites. *Ceteris paribus*, this effect suggests that $r_{u_g} > r_{m_g}$, which weakens our prediction that $r_u < r_m$. Finally, if some urban workers have been laid-off and remain unemployed, they may not reject all bad jobs. However, the basic result is maintained so long as $r_{u_b} < r_{m_b}$.

The matching rate for an individual worker is the number of matches in a particular period; for the economy, it is the number of matches in that period expressed as a proportion of the number of workers. These theoretical concepts correspond closely to the empirical measure of an annual mobility rate given by the number of jobs changes per year of employment experience averaged across workers. Having provided the basic hypothesis that the annual mobility rate of migrants exceeds that of urban residents, we test this empirically by contrasting the desire and ability of urban residents and migrants to move. In addition, we relate search behavior, including latent mobility and actual mobility, to tenure and returns to tenure, as well as to actual and expected wage levels.

4. Empirical findings

4.1. The data

The data set is a national urban household survey designed by the Institute of Economics, Chinese Academy of Social Sciences (CASS) in collaboration with foreign scholars and conducted by the National Bureau of Statistics (NBS) in early 2000; it pertains mainly to 1999 but contains much information on work histories. The total sample size is 4000 urban households, 2500 of which are urban *hukou* households drawn from the NBS urban household survey and the remainder are from a representative sampling frame begun in 1999 that includes urban-residing households without urban *hukou*. In addition, independent samples were drawn of 500 households from the NBS urban survey in which a member had experienced a lay-off, and of 800 migrant households. The survey covers six provinces and thirteen cities. The provinces are Beijing, which is chosen to represent the four cities that are independently administered municipal districts, Liaoning, which represents the northeast, Henan, which is in the interior, Gansu, which is in the northwest, Jiangsu, which is a coastal province, and Sichuan, which is in the southwest. In addition to Beijing, the capital of each province is taken as a city within the sampling frame; a total of three cities are chosen in Sichuan and Henan and two cities are considered in each of the other provinces.

The survey was not designed specifically to examine labor mobility. Although substantial, the information is not ideal but we have tried to make the best use of what is available. Normally, empirical analysis of labor turnover is conducted at an aggregative level. Therefore, aggregate variables that influence mobility, such as the growth of total employment, the growth of the labor force, and structural change, are used. Since our analysis is conducted at the individual level, we cannot incorporate non-individual variables, except as proxies from available information in the survey, such as city dummies and ownership categories of employer.

4.2. Mobility within the labor market and its determinants

We use the representative urban sample, which excludes the additional 500 households that were selected because a member had experienced unemployment in the previous five years. The most notable feature of this sample is a general lack of mobility. As many as 78% of respondents had only one job and a further 16% had two jobs. Thus, only 6% had three or more jobs. No less than 74% of current employees with 30 or more years of employment experience were still in their first jobs. For the select minority of workers who changed jobs, the average length of their completed tenure was 5.5 years. For the urban sample as a whole, the average length of first job tenure, including incomplete tenure, was 21.3 years. Considering only current job tenure, i.e., omitting completed jobs, the average length was 16.6 years. Allowing for future tenure in continuing jobs, the predicted duration of completed tenure for the sample as a whole would be extremely long.

The analysis of migrants is based on workers in a sample of rural–urban migrant households, i.e., households that establish residence in the survey cities but retain their rural *hukou*. Because they live in resident households, these migrants are unlikely to be repre-

sentative of all rural–urban migrants. Migrants who leave their rural homesteads and come to the cities on their own to work temporarily, often living with other migrants at their workplaces or in dormitories, are likely to be under-represented in this sample. The mobility rate of this group is likely to be higher than that of migrants who establish urban roots. Regarding mobility, the migrants appear to be similar to the urban workers. As many as 77% had only one job, another 10% had two jobs, 7% had three jobs, while only 6% had more than three jobs. However, these similarities are misleading. For urban workers, the data consider the period since entry to the labor force but, for migrants, the data refer to the period from entry into the city labor market only. Thus, the average length of employment experience of urban workers is 22.8 years, whereas the average length of city employment experience of migrants is 5.9 years. This difference is due partly to migrants being younger, i.e., 28.6 years of age compared with 38.4 years, and partly to migrants not coming to the city immediately when they entered the labor force because most were engaged in rural household economic activities.

The average completed employment duration of migrants is 2.2 years; it is lowest for migrants in their twenties at 1.3 years and highest for those in their fifties at 4.1 years. The first job tenure, including incomplete spells, averages 5.0 years; the average length of the current job tenure is 4.5 years. Each of these tenure figures requires careful interpretation. First, briefly employed migrants are more likely to be unsuccessful and may have returned to the village. Second, predicting the length of incomplete spells is difficult because it may be misleading to double the length of the average current tenure from 4.5 to 9.0 years, as would be appropriate for a steady-state process. If migrants are more welcomed as urban residents, they will remain at their workplace longer than in the past. Nevertheless, even the figure of 4.5 years is high by comparison with the conventional wisdom about migrant employment tenure in China. Examining migrants and urban residents with comparable labor market experience at less than six years, migrants have a mobility rate of 0.1230, which is almost twice as high as that of urban residents at 0.0689. Even when the iron rice bowl no longer existed, entering urban residents had distinctly lower mobility rates than migrants with comparable amounts of urban employment experience.

Table 2 presents estimates of the determinants of mobility rates among urban residents aged 16 and over from tobit regressions. We define the overall mobility rate as the number of job changes over years of employment experience, the mean value of which is 0.019. The involuntary rate is computed from a question that asked respondents whether they had been laid-off in the previous five years and, if so, how many times. Hence, we have the number of involuntary moves reported during the period 1995 to 1999. All other moves are assumed to be voluntary. Using that information, we derive a rate of voluntary mobility equal to 0.015 and a rate of involuntary mobility equal to 0.008. As Table 2 indicates, age up to 38 years, years of education, being self-employed, and locating one's current job through market avenues or referrals through one's social network all increase significantly the overall mobility rate. In addition, being a non-manual worker with more human capital, a home-owner who is less tied to the employer, and working currently in the preferred state and private sectors increase significantly the voluntary mobility rate.

The use of social networks in job search, increases the mobility rate for urban residents, especially if it is voluntary. Having larger social networks and more connections improves employment prospects by learning about jobs, receiving referrals to jobs, and having the re-

Table 2
Urban resident sample: the determinants of mobility rates aged 16 and over: tobit estimates

Dependent variable	Coefficient (<i>t</i> -statistic)		
	Overall	Voluntary	Involuntary
Mobility rates			
Intercept	−0.2385 (−3.120)***	−0.4526 (−4.622)***	−0.3239 (−2.226)**
Personal characteristics			
Gender	−0.0075 (−1.168)	−0.0011 (−0.136)	−0.0143 (−1.255)
Age	0.0070 (3.524)***	0.0107 (4.403)***	0.0163 (3.415)***
Age squared	−0.0001 (−3.659)***	−0.0001 (−4.178)***	−0.0002 (−4.053)***
Years of education	0.0037 (3.353)***	0.0045 (3.446)***	−0.0021 (−0.966)
Married	−0.0232 (−0.981)	−0.0416 (−1.544)	0.0053 (0.095)
Occupation			
Non-manual worker	0.0125 (1.204)	0.0355 (2.670)***	−0.0513 (−3.217)***
Production worker	−0.0036 (−0.335)	−0.0013 (−0.092)	−0.0199 (−1.300)
Self-employed	0.0716 (2.780)***	0.1147 (3.472)***	−0.0224 (−0.508)
Ownership of employer			
State	0.0025 (0.269)	0.0241 (1.866)*	−0.0589 (−4.383)***
Private	0.0195 (1.302)	0.0423 (2.185)**	−0.0246 (−1.058)
Household characteristics			
Head of household	−0.0053 (−0.102)	0.0193 (0.282)	−0.0337 (−0.429)
Number of people in household	−0.0031 (−0.775)	−0.0027 (−0.574)	−0.0004 (−0.053)
Home-owner	0.0070 (1.114)	0.0139 (1.814)*	−0.0118 (−1.095)
Guanxi			
Communist Party member	0.0069 (1.049)	0.0092 (1.187)	−0.0264 (−2.006)**
Social network	0.0013 (3.089)***	0.0020 (3.926)***	−0.0010 (−1.095)
Avenue of job search			
Market forces	0.0326 (3.514)***	0.0326 (2.877)***	0.0255 (1.597)
Referral through social network	0.0814 (5.576)***	0.1037 (5.865)***	0.0575 (2.367)**
Self-employment	0.0409 (1.537)	0.0530 (1.573)	0.0038 (0.094)
Cities			
Pseudo R^2	Yes 0.2299	Yes 0.2228	Yes 0.2653

(continued on the next page)

Table 2 (Continued)

Dependent variable	Coefficient (<i>t</i> -statistic)		
	Overall	Voluntary	Involuntary
Mobility rates			
X^2 (31)	247.58***	265.34***	239.66***
Mean of dependent variable	0.0192	0.0149	0.0079
Number of observations	3437	3216	3454

Notes. 1. The omitted dummy variables are male gender, unmarried, unskilled worker, urban collective sector, not head of household, non-homeowner, not Communist Party member, obtained current job through state allocation, and Pingliang. 2. Heteroskedasticity-consistent robust standard errors adjusted for clustering at the household level are computed. 3. As an avenue of job search, market forces refers to searching in newspapers, using job centers and employing methods that are not dependent on state allocation or on referral through one's own social network. The latter category includes hearing about job information and receiving a recommendation for a position.

Source: Household Survey of Urban *Hukou* Residents, 1999, and Household Survey of Rural *Hukou* Migrants, 1999.

* Significance at the 10% level.

** Idem., 5%.

*** Idem., 1%.

relationships facilitating job moves in an administered labor system. Those with more human and social capital have more opportunities, which may be reflected in greater mobility. Factors that reduce significantly the involuntary mobility rate are being a non-manual worker, working in the state sector, and being a Communist Party member. Each of these characteristics provide relative protection against job loss. In addition, age increases the involuntary mobility rate so that older workers are more likely to be laid-off.¹ Unfortunately, with one exception, no determinants of the migrant mobility rate or of the number of jobs held by migrants are both interesting and statistically significant. For migrants who have located their current job by a referral through a social network, mobility is reduced significantly.² In summary, the determinants of the mobility of urban workers can be well-explained by predicted factors but the mobility of migrants appears to depend on unobserved variables, e.g., rural household characteristics, short-term contracts coming to an end, or luck.

4.3. The impact of economic reform on mobility rates

Our objective is to determine the extent to which mobility rose as labor market reforms progressed. The Western literature suggests that job separations are highest in the first years of employment and decrease thereafter, e.g., Farber (1999), so that we must control for this effect. The data allow us to date the most recent job change of urban *hukou* residents and to analyze mobility in a disaggregated manner. Unfortunately, the rural *hukou* sample is not sufficiently large, nor sufficiently dispersed in the relevant variables, to permit an

¹ An alternative specification, which involves estimating a Poisson regression equation predicting the number of jobs held, produced the same set of significant coefficients, except that the negative coefficient on being married became significant.

² A tobit regression for the mobility rate was estimated for the 1256 migrants aged 16 and over but the results are not reported. Referrals through one's social network was the only avenue of job search with a coefficient significantly different from the default category, state allocation.

equivalent analysis of migrants. For each entry cohort, Table 3 shows the percentage that has never changed jobs, the percentage that has done so more than once, and the percentage that has only one job change. For the last group, the period within which the single job change was made is reported.³ Hence, we obtain a period-specific, first-job mobility rate by entry cohort.

The matrix in Table 3 can be read down the columns, which standardizes for the period in which separation occurred, across the rows, which standardizes for entry cohort, or along the diagonals, which standardizes for duration of tenure. Examining the columns, we observe the familiar tendency for mobility to decline with employment experience. In contrast to the Western pattern, the rows indicate that separation rates uniformly rise with time for post-1970 entrants. This result can be attributed to the increasing flexibility of the labor market over time, which is verified by the diagonals exhibiting an almost monotonic increase in mobility standardizing for the duration of employment. For example, whereas the 1965–1969 entry cohort had a 1.4% separation rate over the subsequent five-year period from 1970 to 1974, the 1990–1994 entry cohort had a 12.1% separation rate in the corresponding five-year period from 1995 to 1999. To distinguish between voluntary and involuntary mobility, we rely on the worker's reported reason for leaving a job.⁴ The voluntary mobility rate tends to be higher the more recent the cohort but also the more recent the period, whether or not we standardize for duration of employment. Involuntary separations were far higher from 1995 to 1999 than in any previous five-year period. The iron rice bowl became increasingly fragile over time and was effectively broken in the period from 1995 to 1999.

Those who had never changed jobs were asked whether they had ever wanted to do so. Their responses enable us to examine the latent demand for mobility using a logit analysis in Table 4. Importantly, 77% of the urban sample never wanted to move possibly because they did not view it as a feasible option. The urban workers who are more likely to want to move even though they have not yet done so are the self-employed, possibly because self-employment is not a preferred activity, unskilled workers, because they are possibly in unattractive jobs, and those who report larger social networks of contacts and acquaintances, possibly because the possession of a large social network raises expectations of mobility among those not yet mobile. State employees and Party members, who may be already better positioned, and home-owners, the dissatisfied among whom may already have moved, are more likely to be content with their jobs. By predicting wages using the observable characteristics of urban workers, we find that those non-movers whose actual

³ We confine the analysis to those who changed job only once because we have information on the last job move only. The last job of those who had changed job more than once would have been the most recent. If these workers were included, the results of the table would be weighted and biased towards more recent periods. Fortunately, of those who changed jobs, more than two-thirds did so only once.

⁴ Question 155 in the questionnaire of the Household Survey of Urban *Hukou* Residents asked: "Why did you leave your previous job?" The following responses were taken to indicate voluntary separations: low income, lack of job security, unsatisfactory work conditions, insufficient benefits, and to start own business. The following responses were assumed to represent involuntary separations: contract expired, laid-off by work unit, and became *xigang*. A residual category of other was available as a response. The job separation of those who are currently unemployed is assumed to be involuntary because, in current market conditions, employees are unlikely to quit voluntarily unless they have obtained another job.

Table 3
Job separations for urban residents: row percentages

Period of entry	One job change								Never changed	Multiple changes
	Period of job separation									
	1960–1964	1965–1969	1970–1974	1975–1979	1980–1984	1985–1989	1990–1994	1995–1999		
1960–1964 (724)	1.5 (11)	2.8 (20)	1.1 (8)	1.5 (11)	2.3 (17)	1.5 (11)	1.1 (8)	1.0 (7)	71.4 (517)	15.5 (112)
1965–1969 (1472)	–	1.8 (26)	1.4 (21)	2.9 (42)	3.2 (47)	3.3 (49)	1.9 (28)	2.2 (32)	72.1 (1061)	10.4 (153)
1970–1974 (1256)	–	–	2.2 (28)	2.9 (37)	2.9 (36)	3.0 (38)	3.6 (45)	6.0 (75)	67.5 (848)	9.7 (122)
1975–1979 (1517)	–	–	–	3.6 (54)	3.2 (48)	3.9 (59)	4.2 (64)	8.6 (130)	68.6 (1040)	4.9 (74)
1980–1984 (1198)	–	–	–	–	3.4 (41)	4.9 (59)	5.7 (68)	8.8 (105)	70.0 (839)	3.5 (42)
1985–1989 (897)	–	–	–	–	–	4.2 (38)	5.1 (46)	10.5 (94)	71.3 (640)	3.1 (28)
1990–1994 (626)	–	–	–	–	–	–	5.4 (34)	12.1 (76)	72.8 (456)	4.2 (26)
1995–1999 (532)	–	–	–	–	–	–	–	7.7 (41)	82.1 (437)	6.8 (36)

Notes. 1. The rows do not sum to 100 because we do not have information on the year of the separation for some people who changed job once. 2. The number of observations is in parentheses. 3. The matrix contains workers with only one job change.

Source: Household Survey of Urban *Hukou* Residents, 1999, and Household Survey of Rural *Hukou* Migrants, 1999.

Table 4
Determinants of latent mobility for immobile individuals

Variable	Coefficient (z-statistic)	
	Urban sample	Migrant sample
Intercept	0.8094 (0.704)	0.1251 (0.097)
Personal characteristics		
Gender	−0.1105 (−0.809)	−0.1191 (−0.432)
Years of education	0.0292 (1.175)	0.1144 (2.170)**
Years of tenure	−0.0068 (−0.232)	−0.0249 (−0.203)
Years of tenure squared	−0.0009 (−1.247)	0.0016 (0.210)
Married	−0.4870 (−0.837)	−0.4124 (−0.388)
Occupation		
Non-manual worker	−0.4028 (−2.081)**	−0.6736 (−1.327)
Production worker	−0.3541 (−1.726)*	−0.1470 (−0.236)
Self-employed	2.6319 (3.318)***	–
Other occupations	−0.3884 (−1.021)	−0.4383 (−1.291)
Ownership of employer		
State	−0.5800 (−3.277)***	−0.2310 (−0.493)
Private	−0.2300 (−0.762)	−0.7214 (−1.954)*
Household characteristics		
Head of household	−0.6959 (−0.783)	0.2361 (0.825)
Number of people in household	0.1402 (1.461)	−0.0116 (−0.409)
Home-owner	−0.2628 (−2.105)**	−0.5455 (−1.030)
Guanxi		
Communist Party member	−0.2512 (−1.835)*	−0.5633 (−0.627)
Social network	0.0191 (2.028)**	−0.0029 (−0.571)
Wage Residual (actual minus predicted wage)	−0.2753 (−3.106)***	−0.0213 (−0.113)
Cities		
Yes	–	Yes
Wald $X^2(26)$	–	44.54***
Wald $X^2(29)$	165.38***	–

(continued on the next page)

Table 4 (Continued)

Variable	Coefficient (z-statistic)	
	Urban sample	Migrant sample
Mean of dependent variable	0.1983	0.3573
Number of observations	1906	362

Notes. 1. The dependent variable equals one if the individual has never changed jobs but wants to and zero if the individual has never changed jobs and does not want to. 2. The omitted dummy variables are male gender, unmarried, unskilled worker, urban collective sector, not head of household, non-homeowner, not Communist Party member, and Pingliang. Social networks are defined as the number of people with whom a person regularly associates. 3. Heteroskedasticity-consistent robust standard errors adjusted for clustering at the household level are computed. 4. The coefficients for domestic worker and for Jinzhou cannot be estimated for the migrant sample. 5. The predicted wage in this and the next table is estimated from an equation corresponding to Table 6, column 3, but excluding the mobility rate.

Source: Household Survey of Urban *Hukou* Residents, 1999, and Household Survey of Rural *Hukou* Migrants, 1999.

* Significance at the 10% level.

** Idem., 5%.

*** Idem., 1%.

wage exceeds their predicted wage are significantly less likely to be frustrated in their jobs, which suggests that the wage residual represents economic rent.

A high proportion, namely 72%, of migrants who changed their job once did so voluntarily.⁵ In addition, mobility is more likely to be voluntary for migrants than for urban workers. Table 4 reports a logit analysis of latent mobility among migrants. Of those who had never changed their job in the city and answered the question, 33% wanted to change job and 67% did not. Only two explanatory variables have significant coefficients. More education increases the desire to change jobs, probably because the job is ill-suited to the education, whereas working in the private sector reduces the desire to change jobs.

In Table 5, we explore latent mobility⁶ by comparing those who have moved and those who have never moved but want to do so. The dependent variable in the logit analysis consists of 59% of the urban sample and 23% of the migrant sample, representing individuals who have changed jobs. For the urban sample, the chance of changing jobs declines, at an increasing rate, with length of tenure. This suggests that more recent recruits have fewer disincentives, or greater opportunities, to move. *Ceteris paribus*, non-manual workers and those classified as others are more likely to move than manual workers, both skilled and unskilled, indicating that the availability of opportunities is important. The other human and social capital variables, namely, education, Party membership, and social network,

⁵ Question 137 in the questionnaire of the Household Survey of Rural *Hukou* Migrants asked: "What was the main reason for your leaving your previous job?" The following reasons were taken to indicate voluntary separations: low income, the job was not stable, working conditions were poor, benefits and social securities were not good, wanted to start your own business, and increased family burden. The following were assumed to indicate involuntary departure: contract expired, dismissed, and other.

⁶ This specification is identical to the determinants of mobility in Table 2 except that tenure can be used in this estimation. Age and its square are used instead of employment tenure in Table 4 because the dependent variable is a measure of mobility, which is correlated with tenure by definition. In contrast, Tables 5 and 6 can use a measure of tenure and its square in order to capture the effects of tenure on the propensity to move.

Table 5
Determinants of mobility for mobile and potentially mobile individuals

Variable	Coefficient (z-statistic)	
	Urban sample	Migrant sample
Intercept	−3.8672 (−2.424)**	−4.8539 (−4.511)***
Personal characteristics		
Gender	−0.1659 (−1.010)	0.3634 (1.277)
Years of education	0.0413 (1.265)	0.0352 (0.685)
Years of tenure	−0.1321 (−3.730)***	0.4530 (5.213)***
Years of tenure squared	−0.0024 (−2.491)**	−0.0132 (−3.349)***
Married	0.5098 (0.564)	−0.4223 (−0.780)
Occupation		
Non-manual worker	0.6090 (2.423)**	0.2268 (0.535)
Production worker	0.0691 (0.247)	−0.0213 (−0.043)
Self-employed	0.9372 (1.212)	0.7152 (0.491)
Other occupations	1.0064 (2.387)**	0.2366 (0.718)
Ownership of employer		
State	0.4440 (1.867)*	−0.2321 (−0.479)
Private	0.4007 (1.156)	0.9204 (2.712)***
Household characteristics		
Head of household	0.2495 (0.199)	0.2590 (0.886)
Number of people in household	−0.1189 (−0.922)	−0.0306 (−0.679)
Home owner	0.3131 (1.967)**	−0.2371 (−0.534)
Guanxi		
Communist Party member	0.1911 (1.154)	−0.9270 (−0.674)
Social network	0.0157 (1.335)	−0.0021 (−1.063)
Wage Residual (actual minus predicted wage):		
Cities	0.7518 (5.271)***	0.0258 (0.163)
Yes	Yes	Yes
Wald $X^2(26)$	—	70.13***
Wald $X^2(29)$	185.76***	—

(continued on the next page)

Table 5 (Continued)

Variable	Coefficient (z-statistic)	
	Urban sample	Migrant sample
Mean of dependent variable	0.5949	0.2278
Number of observations	1049	742

Notes. 1. The dependent variable equals one if the individual has changed jobs and zero if the individual has never changed jobs but wants to. 2. The omitted dummy variables are male gender, unmarried, unskilled worker, urban collective sector, not head of household, non-homeowner, not Communist Party member, and Pingliang. Social networks are defined as the number of people with whom a person regularly associates. 3. Heteroskedasticity-consistent robust standard errors adjusted for clustering at the household level are computed. 4. The independent variables necessarily relate to the current position of those who changed jobs and must be interpreted accordingly. For example, occupation and ownership sector show the destinations of movers and the origins of non-movers. Moreover, years of employment experience and social network reflect the current position and not that at the time of the move.

Source: Household Survey of Urban *Hukou* Residents, 1999, and Household Survey of Rural *Hukou* Migrants, 1999.

* Significance at the 10% level.

** Idem., 5%.

*** Idem., 1%.

have positive coefficients as expected, although they are not significant. Home-ownership, which is likely to reduce the cost of changing employers, increases the chances of moving. An excess of the current actual wage over the predicted wage also promotes mobility, implying either that the movers gain rent from their moves or that unobserved productivity assists movement. Therefore, whereas non-movers whose current wage exceeds their predicted wage are less keen to move, movement itself is associated with having a current wage above the predicted wage.

Only two variables are significant in a corresponding equation for migrants, also shown in Table 5. Unlike for urban residents, years of tenure increase the likelihood of changing jobs for migrants. Although the squared term is negative and significant implying that migrants eventually become less mobile, the combined effect of tenure is positive over the relevant range. Most migrants would like to move and those with more labor market experience in urban areas have a greater likelihood of doing so. Current employment in the private sector is associated with success among the would-be mobile migrants in Table 5, whereas Table 4 indicates that immobile migrants are less likely to want to move if they work in the private sector. Hence, employment in the private sector appears to be the preferred choice for migrants.

4.4. The relationships between mobility and wages

Table 6 reports coefficient estimates of the determinants of earned income for employed individuals in the urban and migrant samples in equations that include the mobility rates. For urban workers, seniority in the firm is rewarded. From column 5, ten years of tenure adds 22% to earnings, whereas ten years of schooling adds 31%.⁷ The opposite sign of

⁷ The relevant coefficients are multiplied by 10 or 100 to obtain the marginal values.

Table 6
The determinants of earned income for employed individuals

Variable	Coefficient (<i>t</i> -statistic)					
	Urban sample: Uncorrected OLS (1)	Migrant sample: Uncorrected OLS (2)	Urban sample: Selection- corrected MLE (3)	Migrant sample: Selection- corrected MLE (4)	Urban sample: Uncorrected OLS (5)	Urban sample: Selection- corrected MLE (6)
Intercept	1.8717 (25.418)***	2.7803 (15.617)***	1.8920 (25.820)***	2.6653 (11.336)***	1.7839 (25.588)***	1.8090 (26.060)***
Personal characteristics						
Gender	-0.1752 (-10.627)***	-0.1394 (-3.000)***	-0.1717 (-10.451)***	-0.1869 (-1.930)*	-0.1803 (-11.343)***	-0.1750 (-10.893)***
Years of education	0.0311 (8.445)***	0.0111 (0.672)	0.0304 (8.321)***	0.0145 (1.200)	0.0311 (8.440)***	0.0302 (8.225)***
Years of tenure	0.0256 (6.671)***	0.0271 (2.173)**	0.0252 (6.585)***	0.0222 (2.027)**	0.0285 (7.202)***	0.0279 (7.016)***
Years of tenure squared	-0.0006 (-5.818)***	-	-0.0006 (-5.706)***	-	-0.0007 (-6.443)***	-0.0007 (-6.163)***
Occupation						
Non-manual worker	0.2548 (8.295)***	0.4342 (2.576)**	0.2518 (8.248)***	0.4571 (3.885)***	0.2617 (8.555)***	0.2591 (8.534)***
Production worker	0.0959 (2.855)***	0.3050 (2.143)**	0.0951 (2.844)***	0.2929 (1.894)*	0.0993 (2.923)***	0.0987 (2.917)***
Self-employed	0.2842 (1.985)**	0.1107 (0.304)	0.2969 (2.081)**	0.1267 (0.221)	0.4465 (3.214)***	0.4761 (3.442)***
Other occupations	0.0461 (1.066)	0.2134 (2.150)**	0.0448 (1.041)	0.2184 (2.514)***	0.0682 (1.582)	0.0685 (1.592)
Ownership of employer						
State	0.2559 (8.913)***	-0.2928 (-2.418)**	0.2511 (8.798)***	-0.2616 (-2.557)**	0.2741 (9.455)***	0.2678 (9.270)***
Private	0.3170 (7.225)***	0.0589 (0.527)	0.3120 (7.145)***	0.0479 (0.569)	0.3183 (7.035)***	0.3124 (6.924)***

(continued on the next page)

Table 6 (Continued)

Variable	Coefficient (<i>t</i> -statistic)					
	Urban sample: Uncorrected OLS (1)	Migrant sample: Uncorrected OLS (2)	Urban sample: Selection- corrected MLE (3)	Migrant sample: Selection- corrected MLE (4)	Urban sample: Uncorrected OLS (5)	Urban sample: Selection- corrected MLE (6)
Guanxi						
Communist Party member	0.1318 (6.535) ^{***}	−0.1970 (−0.444)	0.1302 (6.491) ^{***}	−0.1635 (−0.637)	0.1218 (6.275) ^{***}	0.1207 (6.241) ^{***}
Social network	0.0068 (4.873) ^{***}	−0.0008 (−1.350)	0.0068 (4.915) ^{***}	−0.0007 (−1.243)	0.0063 (4.692) ^{***}	0.0063 (4.759) ^{***}
Mobility rate						
Overall	0.0219 (0.358)	0.3739 (4.017) ^{***}	0.0217 (0.353)	0.3025 (1.838) [*]	–	–
Voluntary	–	–	–	–	0.2655 (1.023)	0.2722 (1.046)
Involuntary	–	–	–	–	−0.3739 (−0.353)	−0.2637 (−0.251)
Cities						
Inverse Mills ratio	Yes –	Yes –	Yes −0.0280 (−1.812) [*]	Yes 0.6757 (0.562)	Yes –	Yes −0.0467 (−1.818) [*]
<i>R</i> ²	0.2618	0.2336	–	–	0.2782	–
<i>F</i> (23, 334)	–	20.34 ^{***}	–	–	–	–
<i>F</i> (25, 2877)	59.83 ^{***}	–	–	–	–	–
<i>F</i> (26, 2775)	–	–	–	–	57.29 ^{***}	–
Wald <i>X</i> ² (25)	–	–	1461.73 ^{***}	–	–	–
Wald <i>X</i> ² (28)	–	–	–	–	–	1418.76 ^{***}
Wald <i>X</i> ² (47)	–	–	–	539.01 ^{***}	–	–

(continued on the next page)

Table 6 (Continued)

Variable	Coefficient (<i>t</i> -statistic)					
	Urban sample: Uncorrected OLS (1)	Migrant sample: Uncorrected OLS (2)	Urban sample: Selection- corrected MLE (3)	Migrant sample: Selection- corrected MLE (4)	Urban sample: Uncorrected OLS (5)	Urban sample: Selection- corrected MLE (6)
Mean of dependent variable	2.9499	0.8216	2.9499	0.8216	2.9499	2.9499
Number of observations	5015	1006	5015	1006	4740	4740

Notes. 1. The dependent variable for the urban sample is the log of daily earned income and it is the log of hourly wages for the migrant sample. 2. The omitted dummy variables are male gender, unskilled worker, urban collective sector, not Communist Party member, and Pingliang. 3. Sample selection bias may result because we do not observe wages for those who do not participate in the labor market. Our two-stage least squares estimation with a valid exclusion restriction addresses this issue. The exclusion restriction for equations (2), (4) and (6) is a dummy variable that equals 1 if not in good health. Health is a valid exclusion restriction because it is a significant predictor of labor market participation but it is not correlated with wages. In China, with a high level of participation by both men and women, being healthy will determine the probability of employment. 4. Heteroskedasticity-consistent robust standard errors adjusted for clustering at the household level. 5. We have information on the reasons for the previous job change but not for other changes; thus, we cannot disaggregate the mobility rate into voluntary and involuntary rates for the migrant sample.

Source: Household Survey of Urban *Hukou* Residents, 1999, and Household Survey of Rural *Hukou* Migrants, 1999.

* Significance at the 10% level.

** Idem., 5%.

*** Idem., 1%.

tenure squared indicates a non-linear relationship between tenure and wages, which is reflected in the estimates of returns to tenure. This result is consistent with urban workers acquiring substantial firm-specific skills but it does not provide conclusive evidence. State enterprises had no profit incentive to train their workers so that, if the coefficient reflects administratively-based seniority scales rather than the reward for higher productivity, workers lacked an incentive to acquire skills. Nevertheless, the many urban workers having long tenure do receive a substantial earnings premium, e.g., 32% for those with the average current tenure of 16.6 years, which discourages them from engaging in job search.

The coefficient on the overall mobility rate for urban workers is slightly positive but insignificantly so. The voluntary mobility rate has a positive coefficient, as expected, but it is not significant. In contrast, the coefficient on the involuntary rate is negative, but it too is not significantly different from zero. The results for the selectivity-corrected estimates in columns 5 and 6 imply that the mobility rate resulting from a voluntary change of jobs every four years raises earnings by 7% and lowers earnings by 7% if the change is involuntary.⁸ These estimates are qualitatively similar to those of Keith (1993) who finds that the overall mobility rate in the US is not significant whereas the voluntary rate has a positive impact on earnings, while the involuntary rate has a negative effect, and both are significant. In essence, workers quit voluntarily in expectation of better-paid jobs whereas those who are fired have difficulty finding equivalent jobs. However, we cannot reject the possibility that some unobserved characteristics, e.g., motivation, influence both earnings and mobility so that they could explain both the positive and the negative coefficients.

The earnings functions for migrants, also shown in Table 6, are estimated using both Ordinary Least Squares (OLS) and Two-stage Least Squares (2SLS) with correction for selectivity into employment. Since, the two sets of results are similar, we discuss the latter. The coefficients confirm that private sector employment is the preferred state for migrants; they receive significantly higher pay in the private than in the state sector.⁹ Migrants may look to the private sector because of an institutional distinction, namely, good jobs have been more tightly restricted to urban residents by the state than by the non-state sector. Interestingly, women are at a considerable disadvantage as they receive an hourly wage lower by 17%. Neither education nor the proxies for possession of social capital are significant. However, one form of human capital is rewarded, namely, occupation, as non-manual jobs are the highest paid relative to unskilled workers. This result may indicate skill acquisition by moving either within or between firms. The coefficient on the mobility rate is positive and significant at 0.31. By comparison with migrants who remain in the same job, a move every four years results in an 8% increase in earnings. Thus, mobility may improve job matches for migrants. Interestingly, the inverse Mills ratio is not significant for migrants as it is for urban residents who are perhaps more able to choose to participate in the labor market.

The coefficient on tenure at 0.027 is positive and significant at the 5% level in column 2. Hence, the earnings premium for migrants with the mean current length of tenure

⁸ These findings might be stronger if we were able to distinguish better between voluntary and involuntary mobility.

⁹ A joint *F*-test on the coefficients of state and private in Table 6 rejects the null hypothesis that they are equal for migrants.

at 4.5 years is 13%, which is much smaller than the premium for urban residents so that migrants have less incentive to remain with their employer.¹⁰ However, this coefficient may not represent the productivity gain from longer tenure. On the one hand, it may indicate improved matching within the firm or a process of good workers selecting or being selected to stay on rather than skill formation. On the other hand, the actual return to tenure is likely to understate potential return because firms are discouraged from investing in migrants by the institutions favoring urban residents for the more skilled jobs. A vicious circle may arise in which short tenure discourages investment in skills and the lack of skills encourages short tenure because of lower earnings. Such a low-level equilibrium would be stable if an exogenous rise in tenure fails to induce sufficient investment in skills to raise tenure further.

A matrix of transition among ownership sectors can be estimated for the urban sample but not for the migrant sample. Table 7 presents a transition matrix for those urban workers who changed jobs once with four ownership sectors, namely, state, urban collective, self-employed, and private, distinguished for both origin and destination. Voluntary and involuntary mobility are combined. Of those who moved from one employment to an-

Table 7
Transition matrix for urban residents: row percentages

Previous sector	Current sector				Total
	SOE	Urban collective	Self-employed	Private	
SOE	84 (555)	3 (22)	4 (27)	9 (61)	100 (665)
Urban collective	41 (38)	33 (31)	14 (13)	12 (11)	100 (93)
Self-employed	33 (4)	8 (1)	42 (5)	17 (2)	100 (12)
Private	65 (28)	5 (2)	0 (0)	30 (13)	100 (43)
Total	77 (625)	7 (56)	6 (45)	11 (87)	100 (813)

Notes. 1. The matrix reports the percentage of job changes from one sector to another. The number of observations is in parentheses. 2. The information is available only for those urban residents who have changed jobs once. 3. SOE represents central, provincial and local state-owned enterprises. 4. Private includes partnerships, Chinese-foreign joint ventures, foreign companies, state share-holding companies, other share-holding companies, rural individual enterprises, and other enterprises.

Source: Household Survey of Urban *Hukou* Residents, 1999, and Household Survey of Rural *Hukou* Migrants, 1999.

¹⁰ The coefficient on tenure squared is positive but not significant so that it is dropped. Linearity is to be expected over the limited range of tenure in the sample.

other, 84% moved from one state sector job to another. Only 13% of those leaving the state sector and 26% of those leaving the urban collective sector entered the self-employed or private sectors. Whereas 73% of the voluntary movers went to the state sector, only 33% of the involuntary movers did so indicating that the state sector is the preferred destination.¹¹ When urban workers who remain unemployed are added to the re-employed, 65% came from the state sector, 31% from urban collectives, and 4% from the self-employed or private sectors.¹² By contrast, among those currently employed, 77% were employed in the state sector, 15% in urban collectives, and 8% in the self-employed or private sectors. Hence, the propensity to move is highest from the urban collective sector in which wages are the lowest, as [Table 6](#) indicates, and employment has declined.¹³ This implication that the urban collective sector is disliked is consistent with the positive and significant coefficients for both state and private employment, with the collective sector being the omitted category, in the earnings functions for urban workers in [Table 6](#).

5. Conclusion

In this paper, we exploit an urban household survey covering both urban residents and rural migrants. Our simple model of the determinants of mobility in the Chinese case supports the basic hypothesis that the mobility rate of migrants exceeds that of urban workers. Before the urban reforms began in earnest, mobility among urban workers was negligible. Effectively, these workers had lifetime employment with their work unit so that any improvements in the matching of workers and jobs occurred only within the work unit. By contrast, mobility among rural–urban migrants was extremely high with migrants tending to leave their rural households temporarily for work on short-term contracts before returning home. Our evidence confirms that these patterns have not changed greatly. The vast majority of urban workers have had only one employer. A labor market is emerging gradually for urban workers, but many workers are not affected directly. We find that employment duration among migrants is now higher than conventional wisdom suggests. This result is due partly to our sample, which is drawn from rural migrants with urban households. As in other developing countries, migrants who establish urban roots are likely to be more rooted to their jobs.¹⁴

The mean mobility rate of migrants is almost six times that of urban workers, which confirms the basic hypothesis. Even considering only those who entered the labor market after the iron rice bowl had been smashed, the mean mobility rate of migrants is nearly double that of urban workers. These contrasting rates reflect the norms, rules, opportuni-

¹¹ In the interests of space, the information for voluntary and involuntary movers is not shown separately in [Table 7](#).

¹² In the interests of space, [Table 7](#) shows only percentages of those who left one job and moved to another, and not the percentages of those who left one job and either moved to another or remained unemployed.

¹³ Official statistics record a fall by 52% from 1990 to 1999.

¹⁴ [Knight and Sabot \(1982\)](#) analyzed this process in the transition from migrant to proletarian among the urban labor force of Tanzania.

ties and restrictions on choice faced by the two groups. Their mobility rates are unlikely to be equalized if they continue to be treated differently. As the restrictions on the mobility of urbanites and the rules that impose mobility on migrants are lifted, the equilibrium degree of mobility in a unified market is likely to lie between the two current rates. Taking first urban *hukou* residents and standardizing for time period, we find that mobility is higher among young people, as in other countries. Standardizing for entry cohort, we find that mobility tended to rise over time as labor market reforms advanced. However, the state sector, rather than the growing non-state sector, remains as the preferred destination. Among the immobile, the wish to move is related to proxies indicating that the current job is unattractive. Among would-be movers, success is related to proxies indicating the availability of opportunities to move. In particular, voluntary mobility is raised by the human and social capital variables; involuntary mobility is lowered by characteristics that have provided relative protection against job loss. Voluntary mobility increases and involuntary mobility decreases earnings, while a high earnings premium associated with tenure reduces the incentive to search.

Whenever possible, we posed the same questions for migrants. The great majority of their job changes have been voluntary. In contrast to urban workers, who show preference for the state sector, migrants appear to choose private sector employment. Employment in the private sector both deters further search and is the object of past successful search. In contrast to urban workers, longer tenure raises the chances that migrant search will be successful. The fact that education and tenure increase mobility suggests that human capital improves migrants' opportunities for advantageous job change. Mobility raises migrant earnings, reflecting improved inter-firm matching. Length of tenure also has a positive effect on migrant earnings, reflecting skill acquisition or improved intra-firm matching. However, in contrast to urban workers, the low average tenure of migrants blunts their incentive to stay with the firm.

Several policy issues underlie any evaluation of labor mobility. First, mobility involves a social cost because it destroys firm-specific human capital. Second, mobility, especially if involuntary, can create the hardship and social costs associated with unemployment. Third, mobility provides a social benefit in that it permits better matching of workers and their characteristics to jobs. Fourth, mobility should be high enough to create competitive market wages with their allocative social benefit. To judge whether the mobility rate is socially optimal, the private costs and benefits must be adjusted to include the social costs and benefits. In urban China, the private costs and benefits of both residents and migrants do not correspond to the social costs and benefits of mobility. For example, tying various non-marketed facilities, such as housing and pensions, to employment has imposed private costs on quitting that are not equal to social costs. The artificial restrictions under which rural–urban migrants work in the cities, i.e., the prohibition on or impediments to urban settlement, restricted access to skilled jobs, and the system of short-term contracts, may have generated an excessively high migrant mobility rate. The voluntary mobility rate of urban workers and the mobility rate of migrants are converging, but they are still far apart. The maintained hypothesis in future research must be that the former are too low and the latter are too high.

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