Labor Migration and Earnings Differences: The Case of Rural China*

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I. Introduction

An unprecedented labor migration from rural to urban areas has occurred in China since the late 1980s. It is estimated that tens of millions of rural migrants are working and residing in cities without the permanent legal status required to be there. Unlike migration in earlier periods of Chinese history and most internal or international migration in the rest of the world, China's current migration lacks a sense of long-term commitment. Most migrants leave families behind, return to their families during periods of unemployment, and seldom assimilate with the urban population. Very few settle down for a long-term stay in cities. Associated with this phenomenon—the so-called floating population that is often blamed for jamming train stations during the traditional Chinese New Year holidays—is the discrimination that the migrants face from both government and the urban population. The urban-oriented media also portray a largely negative image of the migrants, who are repeatedly evicted from urban areas.[1]

This article finds empirical evidence supporting the view that the decision to migrate by Chinese rural people is affected by noneconomic forces. Although migration yields a large monetary premium, rural people generally choose rural nonfarm work over migration. These findings are obtained by analyzing the migration behavior of rural people and their earnings, using a 1995 household survey from rural Sichuan province—the most populous and predominantly rural province in China.

This article is organized as follows. Section II briefly describes the historical and institutional background of the recent wave of labor migration in China. The household survey and the basic characteristics of migrants and nonmigrants are described in Section III. Probability models describing occupational choice and emphasizing the role of schooling are presented in Section IV. I first present a binomial probability model

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describing how the leave-or-stay decision is made, and then I extend the scope of analysis to present a multiple choice model by dividing stayers into rural nonfarm and farm workers. In Section V, I estimate earnings differences between migrant and rural nonfarm workers, using a household earnings accounting model and then try to explain the earnings difference that is not accountable by explicit costs of migration. In Section VI, I summarize the article and discuss some implications of the findings.

II. Background of the Study

Prior to the recent tide of migration, China had for decades tightly restricted rural-to-urban migration.[2] This strict urban-rural segregation was mainly instituted following the devastating famine that occurred between 1959 and 1961. The original purpose of the policy was to restrict the size of the urban population because, among other things, the government was responsible for feeding this population. Two fundamental methods were used to achieve the segregation. One method was to impose a high opportunity cost for leaving rural areas by tying incomes to participation in daily collective farm work. The other method was to make it difficult for outsiders to live in urban areas through the denial of urban *hukou* (household registration), on which employment and the allocation of housing, food, and other necessities were contingent.

The prolonged restriction on migration created large income gaps between urban and rural areas. The income gap widened until 1978, declined between 1978 and 1984, and then widened again. The ratio of per capita urban to rural incomes (taking into account hidden incomes accruing to urban households such as housing, food, medical subsidies, and incomes in kind) was 3.09 in 1980, dropping to 2.26 in 1984, and then rising to 3.27 in 1993.[3]

The household responsibility system (HRS)—a rural reform measure popularized in the early 1980s—had two far-reaching and unintended effects on the control of migration. First, it made it possible to buy food without urban registration status. The HRS increased the food supply dramatically, which led to the availability of food on the free market in cities and eventually led to the abandonment of food rationing. Second, the HRS returned personal freedom to rural people. Rural laborers could now freely allocate their time.

Although food shortages are generally a thing of the past, the government continues to restrict migration because urban residents do not want to share their higher living standards with rural people. Also, the government does not want to bear the cost of added urban infrastructure—in rural areas the local population bears all such costs. In the early to mid-1980s, the government first tolerated, then promoted, rural nonagricultural activities in order to provide rural nonfarm jobs as an alternative to urban-bound migration. However, since the late 1980s, the

TABLE 1

CHARACTERISTICS OF SURVEYED RURAL HOUSEHOLDS, SICHUAN, 1995

	Mean	SD
Household population	4.07	1.17
No. of laborers	2.74	1.10
Land (mu)*	4.33	2.08
Per capita net income (yuan)	1,354.66	820.89
Per capita net earned income (yuan)	1,305.72	801.44

SOURCE.—1995 survey data.
*One mu is equal to 0.0667 hectare.

growth of employment in rural nonfarm sectors has declined significantly. Thus, large numbers of rural laborers seeking employment have begun to appear in the major cities.

III. Data Description

The rural household survey was conducted in Sichuan province in 1995 and early 1996. Sichuan is an inland province, located in the Sichuan basin in the southwestern part of the country. Because of its large area of arable land and amenable weather, it has traditionally been found suitable for agriculture and has supported the largest population of all the provinces in China (with 116.33 million in 1995, or 9.4% of the national population).[4] With a rural work force that accounted for 81.7% of the total work force in the province in 1995, its ratio of rural labor is the highest of all provinces.[5] In recent years, Sichuan has been one of the largest suppliers of migrant labor to coastal cities, mainly in Guangdong province.

The survey included a total of 1,820 households in 18 counties. The counties were randomly selected from a rural household survey network maintained by the State Statistical Bureau (SSB) for the purpose of an annual survey. The original selection of counties and households followed stratified random sampling methods. In addition to standard questions asked by the rural household survey system, in 1995 the migrants were asked supplementary questions, including place of work, industry, occupation, duration of stay, and earnings. The survey of migrant workers was conducted during the Chinese New Year, when most migrants returned for family reunions.

Table 1 presents household summary statistics. The average size of the surveyed households was 4.07 people. The average size of farmland was 4.33 mu (.29 hectares). Per capita net income was 1,354.66 yuan.[6] Excluding transfer incomes, per capita net earnings were 1,305.72 yuan.

As mentioned above, Sichuan is a large migrant-exporting province. According to the sample survey, 8.6% of all laborers (5,025 ranging

TABLE 2

MIGRATION PARTICIPATION, LENGTH AND DESTINATION IN RURAL SICHUAN, 1995

LABOR FORCE PARTICIPATION (Rate in Migration [%])	LENGTH OF MIGRATORY WORK (%)			MIGRATION DESTINATION (% Outside Sichuan)
	1–2 months	3–6 months	7–12 months	
8.6	3.0	24.3	72.7	77.3

SOURCE.—Sample survey.

from ages 13 to 78) in the sample engaged in migratory work in 1995 (defined as working away from one's home county), 97% of whom worked at least 3 months as migrants (see table 2). Most migrants worked out of Sichuan province (77.3%), where there were 51.77 million rural laborers in 1995.[7] Since this sample is random, we can thus infer that in 1995 approximately 4.45 million rural workers in Sichuan province engaged in migratory work, 3.44 million of whom worked in other provinces or regions.

Note that the SSB annual survey does not distinguish migrant workers from local nonfarm workers. By utilizing the information on migration from the supplementary questionnaire, I was able to classify rural workers into three categories: local farm workers, local nonfarm workers, and migrant workers. Here, I define migrants as those who took part in migratory work (out of the home county) in a significant manner, specifically, a minimum of 3 months. The time limit is in accordance with the definition of nonfarm workers in the SSB annual survey. The remaining workers are classified into local nonfarm workers and farm workers. According to these definitions, 8.4% (4.35 million) of rural Sichuan laborers engaged in significant migratory work, 9.4% (4.87 million) in local nonfarm work, and the remaining 82.3% (42.61 million) in farm work.[8]

For the purpose of statistical analysis, a sample of workers was constructed using the following criteria: (1) between 15 and 65 years old and (2) having valid personal data available (age, sex, education, and marital status). I excluded people with more than a high school education (24 people) because they face very different choices than does the rest of the work force.[9] The above selection criteria yielded 4,942 observations on workers. Among these workers, 418 (8.5%) were migrants, 452 (9.1%) were local nonfarm workers, and the remaining 4,072 (82.4%) were farm workers.

Personal characteristics of workers in the survey are shown in table 3. In the 1995 Sichuan sample, migrants were nearly 10 years younger than were remaining workers (26.55 vs. 36.40 years), and they were predominantly male (72%), in contrast to somewhat less than 50% males

TABLE 3

CHARACTERISTICS OF MIGRANTS AND NONMIGRANTS

	ALL WORKERS	MIGRANTS	NONMIGRANTS		
			Subtotal	Local Nonfarm Worker	Local Farm Workers
No. of observations	4,942	418 (8.5%)	4,524	452 (9.1%)	4,072
Age	35.57	26.55	36.40	31.72	36.92
Male (%)	51.5	72.0	49.6	73.7	47.0
Married (%)	78.7	48.6	81.4	71.0	82.6
Years of schooling	6.35	7.56	6.24	8.16	6.03
Illiterate (%)	16.7	4.8	17.8	3.3	19.4
Primary school (%)	42.3	38.5	42.6	29.0	44.2
Junior high school (%)	36.9	51.7	35.5	56.9	33.2
Senior high school (%)	4.1	5.0	4.0	10.8	3.3
Per capita land of the household (mu)	.97	.85	.98	.86	1.00

SOURCE.—1995 survey data.

among the nonmigrant workers. Less than half of the migrant workers were married (48.6%), in contrast to 81.4% of the nonmigrant workers, and the migrant workers were better educated than the nonmigrant workers (7.56 vs. 6.24 years of schooling).

When the nonmigrant group is broken down into nonfarm and farm workers, we find that, although local nonfarm workers were still older than migrant workers (31.7 vs. 26.6 years) and predominantly married (71%), they were, like migrants, predominantly male (73.7%). What is more interesting is that their average schooling level was even slightly higher than that of migrant workers (8.16 years vs. 7.56 years).

To summarize, migrant workers in Sichuan province in 1995 were mostly young, single males with above-average education. However, the nonmigrant rural nonfarm workers seemed to be better educated than the migrants. More detailed information is provided in the statistical models presented in Section IV.

IV. Occupational Choice Models

Migration is a response to income differentials, yet income differentials are not the only factor that affect the outcome of migration. Y. Mundlak discusses the importance of nonincome factors in the outcome of migration.[10] For example, differences in the quality of life between rural and urban areas may lead to no migration even when the income differences justify migration. The costs of migration can also alter the choice of migration. There are various types of migration costs, for example, costs related to the psychological adjustments that have to be made when changing one's home and work environment, which are considered an

TABLE 4

LOGISTIC MODEL OF MIGRATION DETERMINATION

Explanatory Variable	Estimated Coefficient	SE	Marginal Effect[a]	Definition of Variable
Intercept	−.0014	.7996	. . .	. . .
Female	−1.0464*	.1205	−.0470	Dummy variable female worker = 1
Married	−.6061*	.1808	−.0316	Dummy variable married worker = 1
Age	.0225	.0490	−.0032[b]	Age
Age^2	−.0014**	.0007	. . .	Age squared
Preschool	−.1499	.1227	−.0066	Number of preschool children at home
Per capita land	−1.0047*	.1529	−.0443	Land per capita in the household. (mu)
Paved road	−.3340***	.1791	−.0168	Dummy variable for paved road linkage of the village with outside. Exist = 1
Primary school[c]	.4826***	.2516	.0186	Education dummy variable. Primary = 1
Junior high school[c]	.4883**	.2518	.0188	Education dummy variable. Junior high = 1
Senior high school[c]	.3462	.3402	.0125	Education dummy variable. Senior high = 1
No. of observations	4942	. . .	. . .	. . .
No. of migrants	418	. . .	. . .	. . .
Pseudo R^2	.16	. . .	. . .	. . .

NOTE.—Dependent variable: migrant = 1; remaining workers = 0. Coefficient different from zero at 1 (*), 5 (**), 10 (***) % significance levels, respectively.

[a]The effect of increasing the value of an explanatory variable by one on the absolute value of the probability of migration. Continuous variables evaluated at mean values, dummy variables evaluated against reference group.

[b]The age effect taking into account the square term.

[c]The reference schooling group is no schooling.

important deterrent to migration.[11] M. P. Todaro emphasizes the costs of uncertainty—when people make migration decisions they may be deterred by the prospect of being unemployed in unfamiliar cities.[12]

Empirical research has generally found that schooling plays a positive role in migration. The effects come from at least two sources. One is the information advantage of education in the job search.[13] The other is the role of schooling in reducing psychic costs of migration.[14] Age is usually found to be negatively related to migration, mainly because, according to the theoretical specification, older people have fewer years to reap the annual benefits of migration and because psychic costs tend to increase with age.[15]

The question is whether these variables had similar effects in rural China. In response, I use a logistic probability model to analyze the migration choice. Table 4 presents a simple stayer-leaver model describing

a profile of migrants. The dependent variable is a binary choice of migration (value 1) versus staying at home (value 0). The independent variables represent personal, household, and community characteristics. Marginal effects of independent variables on the probability of migration are also presented. For continuous variables, marginal effect is the probability change in response to an increase in the value of the independent variable by 1 evaluated at mean values. For dummy variables, the marginal effect is computed as the difference in probabilities of migration between the group with designated value 1 and the reference group.

Table 4 confirms the pattern that migratory workers tended to be younger, male, and unmarried. Female workers had a significantly lower probability of migration than did male workers (4.7 percentage points lower). Since the average probability of migration was 8.5% (table 3), the probability of migration by female workers was 55.3% less than the average. Marriage reduced the probability of migration by 3.2 percentage points (37.6% less than average). The probability of migration decreased with age; the effect was statistically significant. Evaluated at mean age (35.6 years), 1 year of additional age reduced the probability of migration by 0.3 percentage points, or 3.5%. This negative effect is present for laborers of all ages and becomes larger with age. According to the literature, the main source of the negative age effect is likely to be the shortened time period that older people have to reap the benefits of migration.

The effect of the number of preschool children in a family was not significant on the migration decision. Replacing this variable with a dummy variable representing the existence of children in the family does not change the result. This phenomenon may reflect the role the extended family plays in raising young children. China has a tradition of grandparents helping to raise children. Household interviews show that fathers normally would not give up migratory work; if mothers could find help from grandparents, they would tend not to change their choice regarding whether to migrate or not.[16]

The effect of land availability on a family's migration decisions was statistically significant. Workers from land-scarce households tended to have higher probabilities of migration. Reducing the land per capita in the household by one mu increased the probability of migration of a family worker by 4.4 percentage points (51.8% lower than average). The explanation of the effect is this: since land is a significant determinant of rural agricultural income, reduced land size tended to reduce rural income, which led to increased motivation to migrate.

Formal education had a surprisingly small effect on migration outcomes. Compared to workers with no formal schooling, primary and junior high school graduates had slightly higher probabilities of migration (1.9 percentage points for both groups, at the 10% and 5% significance levels, respectively). The effect of a senior high school degree on migration was not statistically significant. The results contradict a general pat-

tern found around the world that schooling promotes mobility and migration. A study of Chinese labor mobility by Y. Zhao also shows that schooling was a significant determinant of permanent migration (i.e., of obtaining urban residency in a suburban Beijing county). It also increased for rural workers the probability of shifting from a farm to a nonfarm sector.[17]

The statistical insignificance of the schooling effect on migration implies that educated people in the Sichuan sample did not have strong incentives to migrate. I will consider this from two perspectives. First, I will look at what other employment opportunity was attracting rural educated labor, and, second, I will compare earnings differences between migrants and nonmigrants.

There are two employment options for a rural worker in rural areas: rural nonfarm work and rural farm work. In order to determine which of the two sectors was attracting better educated rural workers, it is necessary to disaggregate the group sample into rural nonfarm and farm workers and then examine the three choices that face a rural worker: rural nonfarm work, rural farm work, and migratory work. Table 5 presents a multinomial employment probability model. A rural worker is assumed to be choosing among three employment options, rural farm work, rural nonfarm work, and migratory work. Rural farm work is taken as the comparison group. Independent variables are the same as in table 4. The variable definitions are also in table 4.

Table 5 contains results similar to those in table 4 regarding the significance of the effects of gender and marital status on labor mobility. As shown in table 5, there were significant gender effects on both rural nonfarm and migration choices. Compared to a male worker, a female worker had 8.3 percentage points lower probability of engaging in rural nonfarm work and 6.5 percentage points lower probability of migratory work. The adverse effect of marriage was significantly larger on migratory work than on local nonfarm work (4.0 vs. 1.1 percentage points).

The schooling effects on the shift from rural farm to migratory work were negligible and insignificant, similar to the results given in table 4 when nonmigrants were aggregated into one category. However, the schooling effects became strong and significant when their role in promoting the mobility of labor from rural farm to nonfarm work is examined. Compared to workers with no formal schooling, for high school graduates the probability of engaging in rural nonfarm work was 20 percentage points higher, for junior high school graduates it was 11 percentage points higher, and 3.9 percentage points for primary school graduates.

The differences in schooling effects indicate that in the Sichuan sample better educated people tended to choose rural nonfarm work over migration, while local farm work was the least preferred choice. One possible explanation is that educated workers earned more in rural non-

TABLE 5

MULTINOMIAL LOGIT MODEL OF EMPLOYMENT CHOICE

EXPLANATORY VARIABLE	RURAL NONFARM WORK ($n = 452$)		MIGRATORY WORK ($n = 418$)	
	Coefficient	Marginal Effects[a]	Coefficient	Marginal Effects[a]
Intercept	−1.5866**	. . .	.3604	. . .
	(.7193)		(.8075)	
Female	−1.0614*	−.0828	−1.1929*	−.0652
	(.1179)		(.1216)	
Married	−.1431	−.0111	−.6276*	−.0403
	(.1896)		(.1837)	
Age	.0004	−.0015	−.0192	−.0038
	(.0401)		(.0494)	
Age^2	−.0004	. . .	−.0014**	. . .
	(.005)		(.0007)	
Preschool	−.2847**	−.0194	−.1942	−.0086
	(.1189)		(.1242)	
Per capita land	−.9579*	−.0631	−1.1542*	−.0542
	(.1446)		(.1558)	
Paved road	.1310	.0096	−.3144***	−.0191
	(.1993)		(.1822)	
Primary school[b]	.9237*	.0394	.5222**	.0224
	(.2805)		(.2528)	
Junior high school[b]	1.6297*	.1060	.6386*	.0290
	(.2791)		(.2525)	
Senior high school[b]	2.1870*	.2030	.6536***	.0295
	(.3221)		(.3442)	
No. of observations	4942			
Pseudo R^2	.14			

NOTE.—Dependent variable: three-level employment choice: rural farm work (as reference), rural nonfarm work and migratory work. Numbers in brackets are standard errors. Coefficient different from zero at 1 (*), 5 (**), 10 (***) % significance levels, respectively.

[a]Continuous variables evaluated at mean values, dummy variables evaluated against reference group.

[b]The reference group for the schooling variables is no schooling.

farm sectors than in migratory work, but the following section will show that this is not the case.

V. Earnings Differences

As in other rural household surveys, in this survey most earnings except migrants' incomes are recorded at the household level. Therefore, I use household-level earnings models to account for contributions to household earnings by different types of workers—nonmigrant workers, rural nonfarm, and farm workers. It serves my purpose to treat numbers of workers in three sectors as exogenous variables.

Table 6 presents three household earnings models. Columns 2 and 3 use the logarithm of household earnings as the dependent variable, and column 4 uses the absolute value of the earnings. Independent variables

TABLE 6

HOUSEHOLD EARNINGS MODELS

Explanatory Variable	Dependent Variable: Log (Household Earnings)	Dependent Variable Log (Household Earnings)	Dependent Variable: Household Earnings	Definition of Explanatory Variables
Intercept	7.538*	7.598*	521.37	. . .
	(.054)	(.050)	(392.98)	
Total workers	.090*	.093*	584.06*	Total no. of workers
	(.012)	(.012)	(88.24)	
Nonfarm workers	.131*	.155*	1,121.69*	No. of rural nonfarm workers
	(.020)	(.039)	(146.80)	
Migrant workers	.491*	.442*	3,509.31*	No. of migrant workers
	(.022)	(.042)	(155.55)	
Dependents	.076*	.078*	430.47*	No. of dependents
	(.012)	(.012)	(82.90)	
Land	.037*	.037*	155.65*	Land size (mu)
	(.006)	(.006)	(40.00)	
Schooling	.012*	. . .	45.42	Years of schooling of the highest educated worker
	(.005)		(32.57)	
Schooling–farm	. . .	.003	. . .	Average schooling of farm workers
		(.004)		
Schooling—nonfarm	. . .	−.003	. . .	Average schooling of nonfarm workers
		(.006)		
Schooling–migrant	. . .	.009	. . .	Average schooling of migrant workers
		(.007)		
Plain	.402*	.414*	1,711.25*	Are dummy variable: plain = 1, hill and mountain = 0
	(.040)	(.041)	(286.61)	
Hill	.063**	.077*	140.73	Area dummy variable: hill = 1 plain and mountain = 0
	(.030)	(.030)	(214.99)	
No. of observations (households)	1,806	1,806	1,806	. . .
Adjusted R^2	.3797	.3773	.3418	. . .

NOTE. — Numbers in brackets are standard errors. Coefficients different from zero at 1 (*) and 10 (**) % significance levels, respectively.

include workers in different sectors as well as other controlling variables.[18]

The results in column 2 show that the marginal contribution of migrant workers was the largest. Shifting one worker from farm to migratory work increased family income by 49.1%. Shifting one worker from farm to local nonfarm work increased family income by 13.0%. Farm workers had the lowest marginal contribution to family income. Adding one farm worker increased family income by only 9.0%. It is interesting that dependents of the family (defined as all people younger than 16 and older than 65 years and nonworking members between 16 and 65 years of age) also made significant contributions to household earnings. Given the number of workers, increasing one dependent increased household earnings by 7.6%.[19]

Schooling had a very small effect on earnings. Column 2 shows that increasing the schooling years of the best educated worker by one increased household earnings by 1.2%; column 3 shows that average

schooling of workers in the three sectors of employment had insignificant effects on household earnings.[20] This implies that the large earnings difference between migratory work and rural nonfarm work exists for people of all schooling levels.

The earnings model in column 3 shows that, ceteris paribus (schooling, land, and area type), shifting a worker from rural farm to rural nonfarm work increased family earnings by 1,121.7 yuan; shifting a worker to migratory work increased family earnings by 3,509.3 yuan. Therefore, a migrant worker earned 2,387.6 yuan more than a rural nonfarm worker did.

Since migrants did make more money than nonmigrants, it is curious why migratory work was less attractive than local nonfarm work to educated people, as shown in table 5. This unusual phenomenon can be explained by costs associated with migration.[21]

First I examine the explicit costs. One type of explicit costs is incurred as a natural ingredient of migration, such as transportation or urban housing. According to a survey conducted by the Ministry of Labor in 1995 on 2,873 migrant workers in four large cities, the cost of transportation and housing in 1995 for an average migrant was 498.6 yuan.[22] Besides these ''natural'' costs, there were also costs imposed by the government. In early 1995, the Ministry of Labor enacted a regulation requiring all migrant workers to possess ''three certificates and one card'' (*san zheng yika*) in order to stay in cities legally. These items include an identification certificate (*shenfen zheng*) and the temporary resident certificate (*zanzhu zheng*) issued by police stations in originating counties and destination cities, respectively, and an employment certificate (*jiuye zheng*) and employment card (*jiuye ka*) issued by labor bureaus of originating counties and destination cities to certify eligibility for employment and proof of employment in the cities. Although the Ministry of Labor has been recommending small processing fees (10 yuan or less) for each certificate and card, overcharging is rampant, and, on average, a migrant in the sample paid a total of 223.1 yuan in 1995.

The sum of the above explicit costs is 721.7 yuan. This is a significant financial burden for migrants. However, these costs only amount to 30% of the earnings difference between migrants and rural nonfarm workers. There is still a large earnings difference not accounted for.

Interviews with migrant workers document two major sources of implicit psychic costs associated with migration: personal safety and the separation from families.[23] It is understood that urban residents generally look down on migrant workers. However, the second-class status does not seem to be a major deterrent to migration. The overwhelming concern of migrant workers was safety on the train on the way between their hometowns and destination areas and in the destination areas. Numerous stories were told of robberies on the train, often suspected to be perpetrated by hooligans working in collusion with the train conductors. There

were also many stories of arrests of migrants by police for minor offenses, such as failing to carry the identification card, and of migrants having to pay hundreds of yuan for their release.[24]

Another major deterrent to migration is the prospect of separation from families. Currently, most migrant workers leave their families behind. According to the Ministry of Labor survey, two-thirds of married migrant workers were separated from their spouses, and 81% of the workers with children did not bring their children along.[25] There are two reasons for this phenomenon. The first is that migrants cannot afford schooling for their children because of the exorbitant fees charged to them by urban public schools. China has compulsory education; however, only children of urban residents enjoy tuition-free schooling in urban areas. Because rural migrants are generally not eligible for urban residency, they must pay hundreds of times the fees normally charged to urban residents for primary and secondary schooling of their children.[26]

The second major factor that inhibits family migration is the housing situation in cities. In Beijing, for example, the cost of renting a simple apartment easily exceeds the average salary that migrant workers receive.[27] Although there are commercial apartments for sale, they are beyond the affordability of rural migrants. Thus, single migrant workers are usually housed in simple, temporary buildings, tents at construction sites, or crowded dormitories. Such living arrangements are not suited to accommodate families. When migrant workers leave their families behind, their psychic cost of migration increases, because they are not able to enjoy the comforts of family life, nor can they take care of their families.

In spite of these psychic hardships, most migrants interviewed by RCRE expressed the wish to continue migratory work because they needed the money. However, few considered migratory work to be a long-term arrangement. According to the Ministry of Labor survey, only 10% of migrant workers expressed a willingness to remain in their destination areas permanently. In response to the question ''Do you wish to stay in Guangdong permanently?'' a migrant who worked as a foreign car-repair technician in Guangdong said in a resolute tone: ''That is absolutely impossible. Things are difficult for us since we do not have *hukou* [resident status] in Guangdong. Our child will go to school soon. Without *hukou* we can not afford it. . . . I wish to come back to open a car-repair shop in the future. There are few cars here, even fewer imported cars, therefore I do not expect to make much money. No matter what, I will come back sooner or later. Guangdong is not a place for permanent stay.''[28]

Therefore, even though expected earnings are much higher in migratory work, the attractiveness of urban jobs is greatly discounted by the prospect of having to separate from families. This made local nonfarm jobs the first choice for many rural people. The fact that more edu-

cated people tend to obtain these jobs may imply that schooling is an important selection criterion in job assignment. It may also imply that better-educated people tend to value family unity more than do less educated people. Whichever is true, there is no doubt that rural migratory workers are significantly disadvantaged by the government policy of denying their right to permanent urban residency. These artificial barriers to migration are likely to be one of the most important reasons for the reluctance of rural people to engage in migratory work.

VI. Conclusions and Discussion

The Chinese government strictly controlled rural-urban migration until the late 1980s. Although the original justification is no longer present, the government still maintains a policy of controlling migration to protect the interests of urban people. The policy has created many hardships for rural migrants and has significantly distorted the choice of migration for rural people. This article provides empirical evidence of such distortion.

Using a rural household survey from Sichuan province, I found that rural laborers earn much higher incomes as migrants than they do as workers in local nonfarm and farm sectors. Nevertheless, better-educated workers chose rural nonfarm work over migration. The earnings differences are derived from examining household earnings and labor inputs from migrants, local nonfarm workers, and farm workers. In 1995, migrant workers from Sichuan earned 2,388 yuan more than rural nonfarm workers did. Less than a third of the difference was accounted for by explicit costs of migration, such as transportation and urban housing. Logistic probability models show that the decision to migrate is driven largely by the availability of rural nonfarm employment opportunities. If these jobs are available, even at significantly lower wages, rural people will choose to stay in rural areas rather than to migrate under current regulation and conditions.

The major deterrant to migration is the lack of safety during transportation and in destination cities as well as forced separation from families. A large part of these problems stems from the fact that rural migrants are denied the legal right to reside permanently in cities. For example, harassment from police would be much less if it were legal for rural migrants to reside in cities. Also, it would be easier for migrant children to attend schools and for migrant families to find housing.

However, even without artificial barriers from the government, the current situation of the housing market is a real barrier to family migration. As long as there are many rural migrants who are willing to come to cities without their families, most employers will not have an incentive to provide housing suitable for families.[29] Migration without families is costly to society because marriages are less stable under separation and the welfare and education of children suffer. Therefore, the

Chinese government should encourage family migration by increasing the supply of housing to migrant families.

Unfortunately, maintaining the old barriers and creating new barriers to migration remains the central feature of China's current migration policy. So far, very little is being done to accommodate the migrants in cities. On the contrary, many cities have enacted policies making it harder for migrants to rent housing.[30]

As a result, migrants are concentrated in several crowded suburban areas with very little police protection or other social services. This policy not only has increased hardships for migrants but also has created potential social problems by inhibiting the process of assimilation of migrants in the cities where they work, thus creating a form of second-class citizenship in urban areas.

One implication of the study is that without artificial barriers to labor migration the number of migratory workers would be higher. Since one important objective of the Chinese government is to control rural-to-urban migration, it is likely that the restrictive policy will continue. However, putting aside the issue of social justice, the economic efficiency loss under the current system should not be ignored. Economic theory holds that migration enhances efficiency. It reallocates labor from low productivity to high productivity activities. The Sichuan data show that, although labor productivity in migrant activities is higher than it is in local nonfarm sectors, the current economic cost of migration in China is so high as to significantly limit such reallocation. The current system therefore works to reduce the overall productivity of labor and causes a tremendous loss of social resources.

Notes

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1. The negative portrayal of migrants is documented in Dalia Daven, ''Migrants and the Media: Concerns about Rural Migration in the Chinese Press,'' in *Rural Labor Flows in China*, ed. Loraine West and Yaohui Zhao (University of California Press, in press).

2. For an analysis of China's migration history since 1949, see Yaohui Zhao, ''Re-Examining the History of Rural-Urban Migration in China, 1949–86'' (unpublished manuscript, 1998).

3. See Laiyun Sheng and Meijun Sun, ''A Study of the Income Gap between Urban and Rural Populations,'' *Beijing Jingji Yu Guanli Yanjiu* (December 1994), pp. 34–45.

4. State Statistical Bureau (SSB), *China Statistical Yearbook, 1996* (Beijing: China Statistical Bureau Press, 1996), p. 73.

5. Ibid., pp. 90–91.

6. The estimate is made by combining and comparing data from the SSB's usual questionnaire and the supplemental questionnaire for migrants. Us-

ing usual SSB data will result in 17% less (1,135.6 yuan) for the same households.

7. SSB, p. 91.

8. The ratio of workers in farm activities (including rural nonfarm and migrant work) in the sample is 17.8%. It is less than the 25.6% given in SSB (pp. 91) for Sichuan in 1995, but it is not clear how they estimated their number.

9. It is normally easy for people with higher education to switch registration from rural to urban status and to enjoy the same benefits as urbanites. The fact that people with higher education stayed in rural areas indicates that there were other reasons for their choice. Note that enrollment in higher education is extremely competitive and usually is not a matter of choice.

10. See Yair Mundlak, ''Intersectoral Factor Mobility and Agricultural Growth'' (International Food Policy Resource Institute, Washington, D.C., 1979).

11. See Larry Sjastaad, ''The Cost and Returns to Human Migration,'' *Journal of Political Economy* 70, no. 5 (1962): 80–93.

12. See Michael P. Todaro, ''A Model of Labor Migration and Urban Unemployment in Less Developed Countries,'' *American Economic Review* 59 (1969): 138–48.

13. See Aba Shwartz, ''Interpreting the Effect of Distance on Migration,'' *Journal of Political Economy* 81 (September–October 1973): 1153–69

14. Sjastaad.

15. Rural Center for Economic Research (RCRE), ''Labor Mobility in Rural China: Household Interviews'' (unpublished manuscript, 1996).

16. Ibid.

17. Yaohui Zhao, ''Labor Mobility, Labor Migration and Returns to Schooling in Rural China'' (Ph.D. diss., University of Chicago, 1995).

18. Since the purpose of the models is to account for contributions to household earnings by workers in different sectors, I treat the number of workers in each sector as exogenous variables.

19. Many older people in rural areas participate in productive work even though survey takers do not count them as laborers.

20. Many studies that use other samples have also found low returns to schooling in rural China, in both farming and nonfarming sectors. See Yaohui Zhao, ''Labor Migration and Returns to Rural Education in China,'' *American Journal of Agricultural Economics* 79 (November 1997): 1278–87; and Dennis T. Yang, ''Knowledge Spillovers and Labor Assignments of the Farm Household'' (Ph.D. diss., University of Chicago, 1994).

21. Risk neutrality is implicitly assumed in the analysis, which means, rural people look at the level of net earnings differences, rather than the variation of the differences when making migration decisions.

22. The four cities are Beijing, Guangzhou, Wuhan, and Suzhou.

23. See RCRE (n. 15 above).

24. Ibid.

25. The data source is a Ministry of Labor survey; I computed the numbers.

26. Most cities do not grant permanent residency to migrant workers based on the length of their employment in the cities. A couple of cities, notably Shenzhen and Shanghai, have promised to allow rural migrants to apply for permanent residency after a certain number of years, but it remains to be seen how many will actually get that status. Because of the high cost of schooling in urban public schools, some migrant communities established their own schools. However, these schools are considered illegal and are often shut down by urban authorities.

27. A one-bedroom apartment costs at least 1,000 yuan in Beijing. Farm-

houses in the suburbs are less expensive, but there are usually no sanitary facilities inside the houses. A room in these houses costs several hundred yuan. Monthly wages of migrant workers averaged 553 yuan, according to the MOL survey of migrant workers.

28. RCRE, case no. Q1–113.

29. I owe this point to D. Gale Johnson.

30. For example, Beijing People's Government stipulates that any institution or person leasing housing to non-Beijing residents must obtain a house-leasing certificate from the district or county government and renew the certificate annually. The house or apartment must be privately owned and must be certified by the police bureau for meeting safety standards. An affidavit must be filed with a police bureau and family-planning agency in which the owner of the dwelling agrees to be responsible for preventing any crimes that may be committed in the house or apartment as well as for above-quota births, and they must pay a fee equivalent to 2% of the annual rent. See Beijing People's Government, *Beijingshi waidi lai jing renyuan zulin fangwu zhian guanli guiding* (Regulations on house leasing to non-Beijing residents), 1995.