

# Internal Migration in China: Analysis of Origin-Destination Streams

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*This study offers a new approach to analyzing the relationship between migration status and individual income. A new dataset from the 2009 Study of China's Migrant Population allows us to make systematic comparisons among origin-destination pairs. This helps us better understand how migration experience is associated with one's income in the context of contemporary Chinese geographic mobility and economic development. We confirm that migration is associated with increased income, which can rise further with additional duration at destination. By contrast, once migrants return home, their prior migration experience does not necessarily benefit them in the hometown labor market. We argue that the lack of labor market success for some of the returnees can be attributable to two factors: (1) a mismatch between returnees' human capital and aspiration and their hometown labor market conditions, and (2) family demand on returnees.*

**Keywords:** internal migration, return migration, China, origin-destination linkage

## Introduction

Since China launched its economic reform more than 30 years ago, an inevitable outcome has been the rise of geographic mobility. Today, China's internal migration, typically rural-to-urban labor mobility, has reached an unprecedented level, possibly "the largest in human history" (Chan, 2008; Roberts, 1997). Such an upsurge in migration has, in turn, stimulated considerable interest among scholars and generated several lines of research on China's population redistribution: general patterns and trends over time (Chan, 2013; Goodkind & West, 2002; Liang & Ma, 2004), migrants' adaptation in the urban labor market (Knight & Yueh, 2004; Meng & Zhang, 2001; Wang, Zuo & Ruan, 2002), migrants' housing and settlement in destination cities (Wu, 2002; 2005), and the experiences of migrant women (Fan, 2004; Roberts, 2002) and migrant children (Liang, Guo & Duan, 2009).

Scholars of internal migration in China usually rely on two kinds of data sources for their investigations: one is the state-sponsored decennial census and intermittent national population sample surveys, and the other is a specialized survey conducted in either selected migration destinations or origin communities. Quite uncommon are data that link the migration origin and destination areas together, allowing for systematic comparisons among the people from the same community but in different migration statuses.

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An earlier version of this paper was presented at the 2012 Annual Meeting of the Population Association of America, San Francisco, CA, USA.

In this study we adopt an innovative approach to investigating the relationship between migration status and other individual outcomes. We take advantage of a new dataset on China's migrant population, which allows us to examine origin-destination flows and associated population subgroups. Our data include three key population sub-groups: migrants who stay in the destination, return migrants and non-migrants (or "stayers," people who never migrated). We are mainly concerned with the economic outcomes associated with migration, particularly in the form of changes in individual income, and we seek to answer the following research questions: (1) Is migration associated with higher individual income, all else equal? (2) Does additional migration experience lead to higher income for migrants? And (3) does one's prior migration experience contribute positively to the migrant's income when they return to the hometown community?

## Theories and Hypotheses

### *Economic Consequences of Migration*

Internal migration in China is a typical manifestation of labor mobility, which is driven primarily by economic forces. Earlier theories of migration point to the economic benefits for migrants and their households. The neo-classical economic model posits that migrants are income maximizers who move from the agricultural sector to the higher-wage urban sector (Lewis, 1954; Sjaastad, 1962; Todaro, 1969). The new economics of labor migration, on the other hand, argues that the migration act tends to be a household strategy to diversify income sources, overcome constraints in local capital and insurance markets, and enhance their relative economic standing in the natal community to reduce their sense of relative deprivation (Stark, 1991; Stark & Taylor, 1989; 1991).

These theories have proven to apply to the Chinese context, as well. For example, Chan (2013) perceives the labor migration flow between rural and urban sectors and between regions in China as a reenactment of the Lewis model. Invoking Todaro's paradigm, Rozelle and his associates (1999) develop a cost-benefit analytical framework to explain the nationwide variation in the rural labor's participation in long-term migration. Roberts (1997) also demonstrates that migration is a typical rural Chinese household's strategy to generate and diversify incomes.

Despite these varied theoretical perspectives, it is still reasonable to expect migration to be associated with higher incomes for individuals and households. Although the new economics of migration argues that migrants do not necessarily seek individual income maximization, the theoretical perspective does not deny the necessity of making more money at destination in order to cover migration costs. The expectation of higher income at destination is particularly pertinent to the Chinese context, in which the dominant mode of internal migration since 2000 has been interprovincial migration. Migrants are increasingly concentrated in cities rather than towns or villages (Liang & Ma, 2004), which requires greater transportation cost and living expense. Naturally, only a higher income at destination can justify such adventure. However, so far there has been limited empirical evidence directly supporting this view for the case of China (Wang et al., 2002). This is partly due to the lack of microdata with which one could more closely examine individual returns to migration, adjusting for other personal characteristics. Furthermore, assessing the earnings consequence of migration on individuals requires the availability of data that enables the comparison of migrants and non-migrants with other characteristics being

controlled. To achieve this purpose, an origin-destination linked approach would be most appropriate.

### *An Origin-Destination Linked Approach*

By the origin-destination linked approach, we refer to the method in which the origin community and the main destination of an established migrant flow are identified and data are collected at both the sending and the receiving areas. There are several benefits associated with this approach. Technically, it can serve to isolate a very specific migrant stream, which can help to eliminate the confusion created by pooling migrants of diverse origins or multiple destinations. One immediate utility of this origin-destination linked approach is that researchers can make comparisons between the non-migrants (“stayers”) at the origin and the migrants at the destination, and then assess their differences associated with migration status.

This approach is especially useful in the Chinese context because China’s internal migration is characterized by a vast diversity of origins and destinations, and the pairing of migrant origin and destination is quite complex and dynamic. For example, since the 1990s, inter-provincial migration has surpassed intra-provincial migration and become the dominant mode of internal migration in China (Liang & Ma, 2004). And for inter-provincial migration there has been a convergence of destinations into Guangdong and Zhejiang provinces over time, while the origins have become far more diverse (Chan, 2013). Therefore, it is necessary to isolate the migration origins and destinations in pairs when analyzing the net effects of migration.

Despite its potential contribution, few studies take the origin-destination linked approach. Most migration research tends to be conducted at either the migration destination or the origin alone. Research conducted at destinations usually focuses on migrants’ incorporation outcomes, typically by making comparisons between migrants and local residents of the receiving area, but this approach can tell us neither about the migrants’ left-behind family members nor about the migrants who have already returned home. Research conducted at the places of origin, through comparing returned migrants and non-migrants, can help to assess the effects of return migration, but data gathered through this method lacks information on migrants who are currently away from home (termed *active migrants* here). Such research also misses the households in which all members have emigrated. Perhaps the only research that took a seemingly origin-destination linked approach in the Chinese context is Liang and Chen’s (2004) study of gender difference in the consequences of migration within Guangdong province, but their study only looked at intra-provincial migration and did not identify migrants’ specific origin communities.

Accordingly, it is most useful if we can identify an established inter-provincial migration flow and pinpoint both its specific origin community and destination city. This is exactly the approach of our study. In fact, our research identifies not just one, but three such migration streams. Following the preceding discussion on the relationship between migration and economic outcome, we hypothesize that –

*H1: Migrants shall have higher income than origin-community residents who do not migrate, all else equal.*

### ***Migrants in the Urban Labor Market***

Besides the association between migration and individuals' earnings, we are also interested in the specific trajectory of income determination for migrants in the urban destination. The literature has already established that rural migrants tend to be disadvantaged, at least initially, in the urban labor market compared to local residents. Typically rural migrants have less desirable blue-collar jobs, make less money and are more likely to experience job changes. Scholars suggest that such disparity is mostly attributable to factors like institutional exclusion, labor market exploitation and segregated social networks, as well as cultural discrimination (Knight & Yueh, 2004; Meng & Zhang, 2001; Solinger, 1999; Wang et al., 2002; Yang & Guo, 1996).

Besides the comparison between migrants and local residents in the receiving area, extant research also offers insights into the mechanism of income differentiation among the migrants themselves. In general, researchers find a consistent positive income return to migrants' education and job tenure (Knight & Yueh, 2004; Meng & Zhang, 2001; Wang et al., 2002). Additionally, Meng and Zhang (2001) found that the rate of income return to job tenure and education is higher for migrants than for local residents, reflecting the concentration of migrants in the private market sector. Knight and Yueh (2004) also discovered that migrants in the private market sector tend to do better financially than in the state sector. Wang et al. (2002) also found that migrants who previously migrated to other cities or have stayed longer in the current destination tend to have better occupations and higher incomes. As a whole, although migrants tend to be treated differently than local residents, their internal differentiation largely conforms to market mechanisms by which human capital is most rewarded.

Thus, we posit that the migrants' human capital shall have a positive effect on their earnings in the urban destination. Here we consider two types of human capital: education and migration experience. One's migration experience is further operationalized into (a) the length of stay in the current destination and (b) prior migration experience in other cities. We argue that additional migration experience can help migrants become more informed of the urban labor market and also gain more job-related skills, which ultimately can contribute to higher earnings. This view is in accordance with the general assimilation perspective and the experience of internal migrants in other countries (White & Lindstrom, 2005). Therefore, we add the following hypotheses –

*H2: The duration of stay in the current destination shall have a positive effect on a migrant's income.*

*H3: A migrant's cumulative prior experience in other destinations shall have a positive effect on their income in the current destination.*

### ***Economic Consequences on Return Migrants***

Another inquiry we have is the return migrants' labor market outcomes back at home. Return migration is a relatively new topic for studies of internal migration in China, and research usually focuses on investigating the determinants and consequences of this phenomenon. Regarding the determinants, a general understanding in the literature is that return migration is mostly attributable to two sets of factors: the push factor related to declining job opportunities and institutional and social rejection of migrants in the

destination cities and the pull factors including family demands back at home, as well as better labor market opportunities in origin communities (Bai & Song, 2002; Chunyu, Liang & Wu, 2013; Wang & Fan, 2006; Zhao, 2001).

But there is less empirical consistency when it comes to the labor market consequences of return migration. Some scholars hold a very positive view. For example, Ma's (2001) study of return migrants in 119 villages in nine provinces found that the skills and entrepreneurial experience accrued to the migrants in the urban labor market could facilitate their occupational transition back at home from subsistence farming to commercial production, and also help them play a leading role in the development of their natal communities. Murphy (2000) also documented how returnee entrepreneurs helped to boost economic development and build a local state corporatism in the rural communities of southern Jiangxi. Other scholars are less certain. Some research shows that return migrants tend to be negatively selected with respect to socio-demographic characteristics (Wang & Fan, 2006). Zhao (2001) suggested that although return migrants tend to invest more in productive farm machines, they are not more likely to have non-farm employment and self-employment. Chunyu et al. (2013) found that return migrants in Sichuan only became more likely to have non-farm employment than non-migrants in the late 1990s, but not in earlier years.

Although such findings are mixed, we argue that the migrant destination experience should constitute a net gain for returnees either in the form of human capital or investment capital as they bring back their savings from the city. Assuming a sound labor market is in place in hometown communities, especially in recent years, we should anticipate that returnees can translate their gain into a labor market advantage over those who never migrated, and so we hypothesize that –

*H4: Return migrants shall have higher income than origin-community residents who never migrated, all else equal.*

Finally, it should be noted that although our research questions all focus on individual outcomes, we do recognize that these individuals are embedded in larger social units, such as households and communities, and so the benefits and costs of migration will also impact households, communities and other units.

## **Data and Methods**

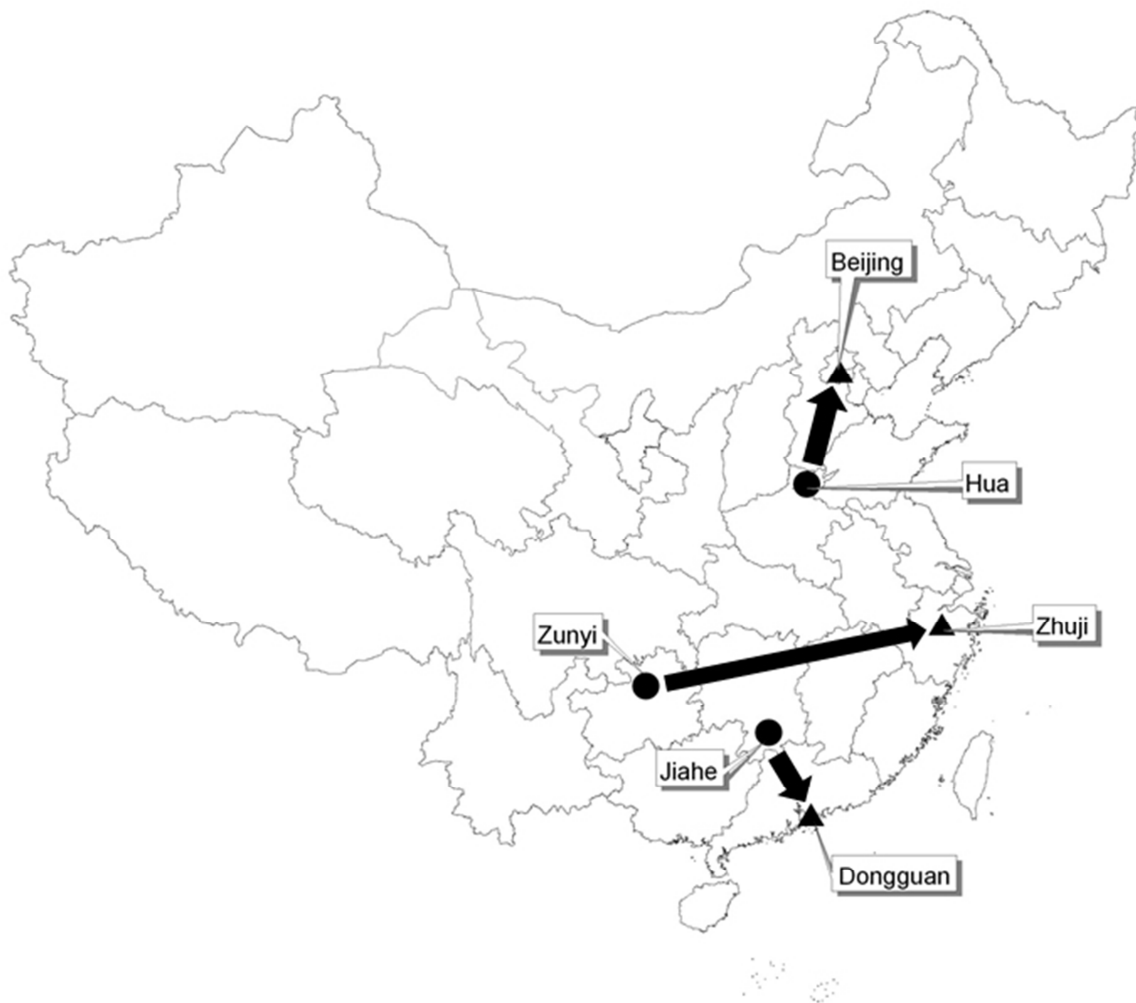
We use data from the 2009 Study of China's Migrant Population (hereafter referred to as "the 2009 Study"). The 2009 Study was conducted by a survey team from the Renmin University of China, and was designed to investigate a series of characteristics and attitudes of migrants and their family members, including their demographic characteristics, employment, housing, health condition, family and social lives, as well as personal attitudes towards various family and social issues. The data were collected in both the migrant-sending and receiving areas.

### *An Origin-Destination Linked Approach to Site Selection*

The 2009 Study selected three pairs of migrant-sending and receiving areas for investigation, hence six places in total (Figure 1). First, the survey team selected three major migrant-

sending places. Based on the 2000 China Census, the 2005 1% Population Sample Survey and the 2009 estimates of the emigrant population, the survey team chose three top migrant-sending provinces: Henan, Guizhou and Hunan. Then within each of the three chosen provinces, the survey team picked the top migrant-sending county as the target migration origin area for investigation: Hua County in Henan Province, Zunyi County in Guizhou Province, and Jiahe County in Hunan Province.

**Figure 1: The 2009 Study Sites**



Given the fact that migrants of shared origin tend to concentrate in a few destination places through the operation of migrant networks, the survey team chose to investigate the primary destination city for each aforementioned migration origin area. Based on the emigration data from the Office of Population and Family Planning in each chosen origin county, the survey team picked the following destination cities: Beijing, the capital of China, as the primary destination for migrants from Hua, Zhuji City in Zhejiang Province for migrants from Zunyi, and Dongguan City in Guangdong Province for migrants from Jiahe. Data from the 2000 China Census, the 2005 1% Population Sample Survey and the 2010 China Census also confirm that Beijing, Zhejiang and Guangdong have been the top migrant-receiving provinces consistently in the past decade.

As Figure 1 shows, all the migrant-sending areas in this study are located in the central or western provinces of China, which are less economically developed and more closely linked to agricultural production. In contrast, all the destination areas are industrial and administrative cities in the more-developed eastern or coastal regions. Beijing is the capital city of China with a range of advanced economic functions. Zhuji is located to the south of Hangzhou, the capital city of Zhejiang Province, and has very developed private enterprises specializing in hardware and textile production. Dongguan is a major manufacturing center in the Pearl River Delta, well known for its export oriented manufacturing industries. Table 1 also shows that the sending counties are all in provinces with lower urbanization levels, while the destination cities are all in very urbanized provinces. More notably, there is a huge income gap between the sending and receiving areas—the income level of every receiving area is more than double that of the corresponding sending area. Therefore, it is almost certain that migrants leave their natal communities due to the attraction of higher wages in the destination places, which is in accordance with the neo-classical economic model.

**Table 1:** Urbanization Level and Per Capita Income in Migrant-Sending and Receiving Areas

Origin County	Migrant-Sending Areas			Destination City	Migrant-Receiving Areas		
	Provincial Urbanization Level (%) <sup>1</sup>	Per Capita Income (yuan) <sup>2</sup>			Provincial Urbanization Level (%) <sup>1</sup>	Per Capita Income (yuan) <sup>2</sup>	
		Urban	Rural			Urban	Rural
Hua	37.70	11,489	4,766	Beijing	85.00	26,738	11,986
Zunyi	29.89	13,806	3,661	Zhuji	57.90	27,897	12,762
Jiahe	43.20	12,319	4,942	Dongguan	63.40	33,045	13,064

1. Data Source: 2010 China Statistics Yearbook, <http://www.stats.gov.cn/tjsj/ndsj/2010/indexch.htm>

2. Data Source: 2009 Economic and Social Development Statistics Report (Electronic Version).

### Data Collection

During May-July 2009, the survey team went to the six chosen migrant origin and destination places to collect data. This was done first in the migration destination cities. In each of the three chosen destination cities, the survey teams interviewed about 600 migrants, out of which approximately 400 were from the target sending area and the other 200 were from other parts of China. The migrant respondents were recruited in several steps. The first step was to pick several major migrant neighborhoods in the city that had a concentration of the migrants from the target sending area. Those neighborhoods were identified based on the local authorities' estimate of migrant population as well as the advice of migrant informants. Then within the chosen migrant neighborhoods, the survey teams relied on the assistance of neighborhood officials and volunteers to reach adult migrants who were from the target sending area.

The involvement of neighborhood officials has two distinct benefits. First, by serving the neighborhood residents on a day-to-day basis, these officials are fairly knowledgeable about where the residents come from and so can help to compile a list of households that are eligible to participate in the survey. Second, these officials also helped the survey team establish rapport with local residents by doing the initial introduction for them. This made the subjects more willing to cooperate and henceforth led to a very high response rate.

Eventually the survey team interviewed most of the eligible migrants living in those selected neighborhoods and only in a few cases the subjects were not available or declined to

participate. Besides the migrants from the target sending area, the survey teams also interviewed migrants who came from other origin places but were residing near the selected migrant neighborhoods. The respondents were each from a different household so that each person could answer questions on behalf of the entire household without overlapping with another person's response.

Once the data collection in the destination cities was completed, the survey teams tracked down the migrants' family members back in their hometown, using the contact information provided by the migrant respondents. Tracing of migrant families in their hometown was conducted only in the villages that sent the most migrants who had been interviewed in the cities. This approach also lowered the cost of the survey. Just as in the cities, local officials and informants in the migrants' hometown provided crucial help to the survey team in locating and recruiting the migrant households. Also as in the cities, the survey team tried to include all the households that sent migrants to the target destination cities. About a third of these interviewed migrant households were matched perfectly to the migrants interviewed in the cities.

In addition, the local officials and informants helped the survey team find a number of non-migrant households (households that do not contain active migrants) for comparison purposes. The number of households that did not send any member away at the time of survey is relatively smaller. Still, the survey team tried to find all such households and treat them as a "comparison group."

The survey conducted in the target sending areas was designed to address three types of individuals: migrants' left-behind parents, migrants' left-behind spouses and the "comparison group." The first two types of individuals—"left-behind parents" and "left-behind spouses"—were the left-behind family members of individuals who migrated at the time of survey. The third and last type—the "comparison group"—were persons 18 years and older staying in the hometown at the time of survey. They either never migrated (i.e., non-migrants), or had prior migration experience but had returned and stayed at home for at least three months (i.e., return migrants). As in the destination survey, all the individuals selected in the origin areas were also from different households. For this paper we use data from the "comparison group" for analysis.

Each of the three subject groups at the target origin areas received a different questionnaire. But these questionnaires shared some common basic questions regarding the main demographics, social economic status, family relationship and family living arrangement. In the end, the sample in each target sending area contained about 500-600 respondents, including 250 migrants' left-behind parents, 120 migrant' left-behind spouses and about 200 individuals belonging to the "comparison group."

### *Pooled Dataset*

The data used for this study is pooled from both the origin dataset and the destination dataset. For the main portion of this study, we carry out simultaneous analysis of the active migrants from the target sending areas and the individuals in the "comparison group," which allows us to conduct a series of comparisons among the individuals from the same origin community but with different migration status. After excluding the cases with missing values, the destination dataset contains complete information on 967 active migrants



from the three target sending areas. The “comparison group” dataset contains information on 582 individuals from the same areas who were not active migrants at the time of survey.<sup>4</sup> It should be noted that among those 582 individuals in the “comparison group,” 328 of them were actually return migrants who had prior migration experience, and only a minority (254) had never migrated (see Table 2). This shows that these communities have been intensively involved in the out-migration and return migration movements. Our analysis, then, focuses on the comparison of these three types of individuals from the same origin community: active migrants, return migrants and non-migrants.

We also conduct a separate analysis of the active migrants in the destination cities, seeking to understand what can affect the migrants’ income in the urban labor market. In this line of analysis we use observations not only from the target sending areas, but also from other places of origin. Altogether there are 1,446 cases with valid information in the destination dataset.

## Results

### *Descriptive Information*

Table 2 summarizes the major demographic and socio-economic information on the active migrants, return migrants and non-migrants. Migrants, both active and returned, consist mainly of men (about 60%). It is no surprise that active migrants tend to be younger and more likely to be single than return and non-migrants.

**Table 2:** Descriptive Information about Active Migrants, Return Migrants and Non-Migrants

Variables	Active migrants in destination cities (%)	Return migrants in sending areas (%)	Non-migrants in sending areas (%)	Row Subtotal (%)
Migration stream				
Hua → Beijing	33.09	24.09	51.18	34.15
Jiahe → Dongguan	35.57	41.46	19.69	34.22
Zunyi → Zhuji	31.33	34.45	29.13	31.63
Gender				
Male	65.67	57.93	46.85	60.94
Female	34.33	42.07	53.15	39.06
Age group				
15-19	9.63	3.05	3.94	7.30
20-29	31.06	26.52	17.32	27.84
30-39	27.85	34.15	24.80	28.68
40-49	25.67	26.83	37.01	27.78
50-59	5.49	9.45	15.35	7.95
60+	0.31	0.00	1.57	0.45
Marital status				

<sup>4</sup> As described in the preceding section, our sample is not necessarily representative of all the urban neighborhoods where the target migrants reside and of all the rural villages where the target migrants come from, but should be fairly representative of the target migrants and households living in the selected neighborhoods and villages.

Variables	Active migrants in destination cities (%)	Return migrants in sending areas (%)	Non-migrants in sending areas (%)	Row Subtotal (%)
Single	26.89	15.85	14.96	22.60
Married	71.15	81.40	81.10	74.95
Divorced or widowed	1.96	2.74	3.94	2.45
Education				
No formal education	3.31	3.05	5.51	3.62
Elementary school	25.65	21.65	27.17	25.05
Junior middle school	59.88	52.13	39.76	54.94
Senior/vocational high school	9.82	17.68	18.90	12.98
College and above	1.34	5.49	8.66	3.42
Household registration status ( <i>hukou</i> )				
Rural	95.76	92.68	92.13	94.51
Urban	4.24	7.32	7.87	5.49
Occupation				
Managerial	3.21	14.33	11.42	6.91
Clerical	1.24	4.88	3.15	2.32
Skilled worker	39.09	8.54	3.94	26.86
Unskilled worker	36.92	40.24	33.86	37.12
Services	18.20	4.27	9.45	13.82
Peasants	0.10	14.33	30.71	8.13
Other employed	0.21	1.22	2.76	0.84
Unemployed	1.03	12.20	4.72	4.00
Self-employment status				
Self-employed with employees	3.31	3.66	2.38	3.23
Self-employed without employees	3.93	50.61	41.73	20.01
Not self-employed	92.76	45.73	55.91	76.76
Individual monthly income (yuan)				
0-600	13.24	49.39	48.43	26.66
600-1200	27.61	25.00	29.92	27.44
1200-1800	28.23	12.50	10.24	21.95
1800-60000	30.92	13.11	11.42	23.95
<b>Total</b>	<b>967</b>	<b>328</b>	<b>254</b>	<b>1,549</b>

Interestingly, the active migrants appear to be the least educated group if measured by the percentage having completed college education or even senior high school education. This echoes the fact that the migrants who remain at the destination are mainly employed in the secondary sector, which does not require advanced skills. This is confirmed by the occupation and self-employment status distribution showing that the active migrants are predominantly hired labor, working as manufacturing or service workers.

In contrast, the return migrants have the largest share with secondary and post-secondary education. The fact that so many well-educated migrants returned suggests that either there are obstacles other than educational requirements that hinder these migrants' long-term settlement in the destination or there are other non-labor market factors pulling these migrants back home. Indeed, the tabulation of these returnees' reported reasons for return migration indicates that more than 40% of all the returnees came home primarily because of some kind of family demand—taking care of older adults and children, getting married, having a baby, helping with farm work, etc. (tabulations not shown), which is consistent with existing studies (Wang & Fan, 2006; Zhao, 2001). At the same time, many returnees (42.5%) also reported labor market factors as their primary reason for return, including the difficulty to find work in the destination city, undesirable pay and working conditions, desire to be self-employed and preference to work near home. As a whole, the returnees' profile is quite diverse and probably involves multiple forms of selectivity.

Such complexity regarding the situations of returnees is also evident in their labor market outcomes back at home. On the one hand, we can see that many return migrants are doing better than their non-migrant counterparts, being more likely to be self-employed or have white-collar and skilled jobs. This is probably attributable to the financial and/or human capital they accumulated in the cities. On the other hand, however, the returnees also have the highest non-working rate at 12.2%. We believe that such a high non-working rate probably encompasses two scenarios: one is unemployment among job-seekers and the other is complete withdrawal from the labor force.

We argue that unemployment among returnees can be attributable to a mismatch between the returnees' skill and aspiration and their hometown job market. The tabulation of reported reasons for return migration among these non-working returnees indicates that about half of them had some kind of complaints about their jobs in the destination or had other career ambitions back at home. Apparently, these people had high hopes when coming home but did not do as well as they hoped. The other scenario can be associated with the returnees' family responsibilities, as 30% of the non-working returnees reported their main reason for coming home was to take care of other family members or have babies.

In terms of personal income, active migrants tend to earn the most, with almost 60% of them making more than 1,200 yuan (the unit of Chinese currency) a month, much higher than the percentage among return migrants and non-migrants (25.6% and 21.7%, respectively). Therefore, it seems highly probable that migration is associated with higher individual income, which is consistent with our expectation (H1). This observation is also corroborated by the active migrants' report of the primary reason for migration: the overwhelming majority came to the cities in order to have better jobs and income (tabulations not shown).

### *Statistical Models*

We applied a series of Ordinary Least Square (OLS) regression models to analyze income for individuals with different migration status. The dependent variable is log-transformed individual monthly income. Because some respondents reported zero monthly income, we add one yuan to all the original reported income before the log transformation. The key independent variable is migration status (active migrants, return migrants and non-migrants). Other socio-demographic factors, such as gender, age and education, are also included in the models as control variables.

It is evident in Table 3 that migration is associated with a rise in income, as active migrants earn significantly more money than return migrants and non-migrants. This positive main effect of being an active migrant is quite robust with or without controlling for other socio-demographic covariates, and sustains even when we include interaction effects involving migration status. Such wage premium in part also reflects the disparity in economic development between the eastern region (the region of the destination cities) and the regions where migrants come from. At the same time, it should be noted that when we control for occupation (Models 4 and 5), the positive coefficients for active migrants are reduced somewhat, which indicates that part of the income advantage for active migrants can be attributable to their occupational transition. Overall, this is consistent with our first hypothesis (H1).

**Table 3:** Coefficients of OLS Regression Models Predicting Income for Individuals with Different Migration Status

Variables	Coefficients				
	Model 1	Model 2	Model 3	Model 4	Model 5
<b>PREDETERMINED VARIABLES</b>					
<b>Migration status (Ref: Non-migrants)</b>					
Active migrants	1.8345***	1.8334***	1.6939***	0.6895**	1.1102***
Return migrants	-0.6506***	-0.6686***	-0.5542†	-0.1852	-0.1990
<b>Male</b>		0.6585***	0.7363***	0.5829***	0.5684***
<b>Age</b>		0.1510***	0.1552***	0.1412**	0.1450***
<b>Age squared</b>		-0.0022***	-0.0024***	-0.0021***	-0.0022***
<b>Education (Ref: Elementary school or less)</b>					
Junior middle school		0.1152	0.1583	0.1221	0.1285
Senior high school		0.6486**	0.6675**	0.5101**	0.5307**
College or above		0.6556†	0.6383†	0.1577	0.2308
<b>Hukou status (Ref: Rural)</b>					
Urban		0.3784	0.4190	0.2394	0.2801
<b>Migration stream (Ref: Hua → Beijing)</b>					
Jiahe → Dongguan		-0.5888***			
Zunyi → Zhuji		0.0715			
<b>Interaction between migration status and migration stream</b>					
Active migrants X Jiahe			-0.2106	-0.0682	0.0011
Active migrants X Zunyi			0.2419	0.3415†	0.3437†
Return migrants X Jiahe			-0.5203	-1.2050***	-1.4030***
Return migrants X Zunyi			-0.1567	-0.7082*	-1.0396**
<b>ENDOGENOUS VARIABLES</b>					
<b>Marital status (Ref: Single)</b>					
Married				-0.0099	-0.0205
Divorced or widowed				0.0324	0.0761
<b>Occupation (Ref: Unskilled worker)</b>					
Managerial				1.0884***	1.2228***
Clerical				1.1647**	1.5184***
Skilled worker				0.4050*	0.5699***
Services				0.6486***	0.8118***
Others				-1.6222***	-1.1130***
<b>Self-employment status (Ref: Not self-employed)</b>					
Self-employed with employees				0.2384	
Self-employed without employees				-0.7082***	
<b>Interaction between migration status and self-employment status</b>					
Active migrants X self-employed with employees					-0.3646
Active migrants X self-employed without employees					-0.7440*
Return migrants X self-employed with employees					1.4085*
Return migrants X self-employed without employees					0.2777
<b>Intercept</b>	5.1370***	2.4281***	2.3045***	3.2621***	2.6821**
<b>N</b>	1,549	1,549	1,549	1,549	1,549
<b>R-square</b>	0.1837	0.2476	0.2406	0.2982	0.2966

**Note:** Dependent variable is the logarithm of income (plus 1) in Yuan.

**Note:** \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05; † p < 0.10.

However, migration is not associated with superior monetary outcomes for those who have returned to their origin communities. In fact, the negative coefficients in most models (main effects in Models 1-3 and interaction effects in Models 4 and 5) suggest that those who had prior migration experience tend to have lower incomes, which is contrary to our original expectation (H4). For example, Model 2 shows a return migrant is expected to earn measurably less than a non-migrant, a differential that is partially explained by additional controls in subsequent models. As discussed in the previous section, this can be attributable to the presence of many returnees who were unemployed or had to attend to family matters.

Another notable finding is the regional (or migration stream) difference in personal income. According to both the main effect and interaction effect models, the migrants participating in the Jiahe-Dongguan stream appear to have lower income compared to the other migration streams, and such disadvantage is especially large for those who return to Jiahe<sup>5</sup>. This is a bit surprising considering the fact that Dongguan boasts the highest income level among the three destination cities. A closer look at the individuals from Jiahe reveals that the migrants from Jiahe, both active and return migrants, have the highest non-working rate (around 15%) among all the migrant sub-groups examined in this study. At the same time, the migrants who returned from Zhuji to Zunyi also had lower earnings, just not as low as those in Jiahe.

Among other variables, gender, age, education and occupation also have significant effects on income, mostly in expected ways. Men tend to earn more than women. Age has a curvilinear effect on personal income, suggesting that personal income tends to first rise with age, but will start to decline after a certain age (the earning peak is reached at about age 34 in Model 2). The education coefficients suggest that individuals with high school education or above tend to earn more than those with less education. The occupation variable's main effect indicates that people in managerial and clerical positions tend to have the highest incomes, followed by service jobs and skilled workers, and unskilled workers and others earn the least.

The self-employment status effect is worth noting. Here we consider three self-employment related statuses: self-employed with paid employees, self-employed without paid employees and not self-employed. According to Model 4, those who are self-employed without employees tend to have lower incomes. This applies particularly to the active migrants, as shown by the interaction effect in Model 5. These are probably petty tradesmen who are just getting by in the cities. In contrast, the return migrants who are self-employed with hired labor enjoy a substantial income advantage. These are presumably entrepreneurs and the result suggests that they are more likely to be successful in their natal communities, probably attributable to their access to various business resources (capital, labor, land, local government support) in a familiar environment, while perhaps also utilizing their new skills developed while away.

In a separate analysis as shown in Table 4, we also ran OLS models analyzing all the active migrants' income, in order to test whether additional migration experience can have a

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<sup>5</sup> From Model 3 to Models 4 and 5, the effect of interaction between migration status and stream changes from non-significant to significant, because the occupation variable correlates with the interaction terms. When the occupation variable is excluded, as in Model 3, the effects of the streams are likely masked, but when occupation is controlled, the more detailed effects of the streams are revealed.

positive effect. The result is consistent across all the models that extended stay at destination is associated with higher levels of income. This is consistent with the assimilation perspective and our hypothesis (H2), although we recognize that similar results could be generated if more recent arrivals have lesser skills. We also note that the negative effect of the duration squared term indicates that migrants' income will not rise monotonically with additional experience at destination, but may level off after a certain period of time. This is actually similar to the experience of immigrants in the U.S. in that immigrant earnings tend to grow the fastest in the initial years and then the growth rate will decrease over time (Duleep & Dowhan, 2002). It should also be noted that the number of job changes experienced by the migrants in the current destination city does not have any significant effect on their income once their length of stay at destination is controlled. This implies that the positive effect of additional stay in the current destination is unlikely to be attributable to migrants' job transitions, but is more likely to be associated with migrants' accumulation of experience or seniority with the same employer.

**Table 4:** Coefficients of OLS Regression Models Predicting Income for Active Migrants

Variables	Coefficients		
	Model 1	Model 2	Model 3
<b>Male</b>	0.4236***	0.4282***	0.4096***
<b>Age</b>	0.0293	0.0288	0.0267
<b>Age squared</b>	-0.0006	-0.0006	-0.0005
<b>Education (Ref: Elementary school or less)</b>			
Junior middle school	0.0671	0.0711	0.0711
Senior high school	0.3713**	0.3724**	0.3054*
College or above	0.7683**	0.7694**	0.7271*
<b>Hukou status (Ref: Rural)</b>			
Urban	-0.2175	-0.2167	-0.2332
<b>Migration stream (Ref: Hua → Beijing)</b>			
Jiahe → Dongguan	-0.3256*	-0.3171*	-0.2381†
Zunyi → Zhuji	0.2943*	0.3204*	0.3649**
Other active migrants in the destination cities	-0.0322	-0.0223	0.0258
<b>Length of stay in the destination (in months)</b>	0.0041*	0.0046*	0.0047*
<b>Length of stay in the destination squared</b>	-0.0000*	-0.0000*	-0.0000*
<b>Number of job changes in the destination (Ref: no job change)</b>			
1 - 2 job changes		-0.0697	-0.0845
3+ job changes		-0.1324	-0.1325
<b>Previously migrated to other destinations</b>	0.1021	0.1088	0.1151
<b>Marital status (Ref: Single)</b>			
Married			0.0754
Divorced or widowed			0.2312
<b>Occupation (Ref: Unskilled worker)</b>			
Managerial			0.2678
Clerical			0.3122
Skilled worker			0.1262
Services			0.3125*
Others			0.9044
<b>Self-employment status (Ref: Not self-employed)</b>			
Self-employed with employees			-0.3308
Self-employed without employees			-0.3723*
<b>Intercept</b>	6.1619***	6.1734***	6.0567***
<b>N</b>	1,446	1,446	1,446
<b>R-square</b>	0.0711	0.0722	0.0791

**Note:** Dependent variable is the logarithm of income (plus 1) in Yuan.

**Note:** \*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05; † p < 0.10.

Finally, we find that the migrants' prior experience in other destination places does not have a significant effect on their earnings in the current destination, which contradicts our hypothesis (H3). This suggests that the migration-related human capital acquired by the migrants may be location specific and not quite transferrable to a different place. Another possible explanation is that these migrants first had a "detour" somewhere else where they were not successful before they later migrated again to the current destination.

Among other variables, some effects are similar to those in Table 3. For example, men make more money than women, those who are self-employed without employees earn less, and marital status and *hukou* (household registration) status do not affect income. Regional differences still matter: Migrants who are from Jiahe and living in Dongguan have the greatest income disadvantage. This could be connected with the 2008 financial crisis, which had a strong negative impact on the export-oriented industry in Dongguan.

The effects of other variables in Table 4 are somewhat different than their counterparts in Table 3. Education has a strong positive effect on personal income. This is consistent with existing literature, which suggests that these migrants insert themselves mainly into the private sector, which rewards individual human capital. Age no longer has a significant effect, possibly due to its correlation with the migration duration variable. Among the various kinds of occupations, service jobs appear to have an income advantage over other jobs.

## Conclusion

In this study, we adopt an innovative method to assess the association between migration and individual economic well-being within the context of China. By collecting and analyzing data from persons in both the origin community and the destination city for three established interprovincial migration streams, we make a series of systematic comparisons – between non-migrants and migrants, between non-migrants and return migrants, and among the migrants themselves.

The primary finding of this study, which affirms prevailing expectations, is that migration is indeed associated with higher individual income, and this is observed for all the three groups under this study. Migrants made major gains in wages between the sending and receiving areas, which reflects the wage differential between rural and urban jobs as well as the interregional economic disparity. In this process, the migrants also gained higher-status employment, moving from agricultural jobs into the better-paying, non-farm jobs, typically in manufacturing and services. This finding is largely in accordance with the neo-classical economic model.

In addition, we have found that extended stay in the current destination tends to increase the migrants' income, although the rate of increase itself declines with duration, a pattern that is largely consistent with the assimilation perspective. However, the migrants' prior experience in other destinations accrues no benefit for their income in the current destination, reflecting either the lack of transferability of the experience accumulated in other places or their failure in adaptation to their prior destinations.

We have also sought to assess the effect of migration on the return migrants' labor market outcomes back in their hometown communities. This question can be a very important one

at the present time because return internal migration in China has been on the rise. Despite the generally positive association between migration and active migrants' income, such a differential does not necessarily manifest among those who return home. Our multivariate models suggest that return migrants tend to have lower incomes than those who never migrated, after controlling for other factors. This is definitely not attributable to negative selectivity among the returnees because the return migrants actually have higher educational attainment than the non-migrants and active migrants.

The examination of return migrants' occupational attainment sheds some light on this. It appears that the returnees' occupations have a bifurcated composition: Many are actually quite successful, being self-employed or having white-collar and skilled jobs, while others tend to be jobless. In fact, the returnees overall have a higher non-working rate than both the active migrants and non-migrants. One plausible explanation is a mismatch between the return migrants' skills and aspirations and the job opportunities in their natal communities. Such mismatch is also demonstrated by the economic reward systems in different settings. According to the multivariate analysis results, the migrants' advanced education is rewarded most in the urban labor market, which is not the case in the origin communities.

The other possible explanation for the returnees' lower income is the family responsibilities placed on their shoulders. Given the fact that these migrants are drawn back home almost as much by family demands as by labor market factors, it is quite likely that their labor market performance is significantly constrained by their family matters, which in some cases may force them to withdraw from the labor force entirely. As a whole, we argue that the returnee population may be comprised of three distinct groups of individuals: the "success" returnees who are able to translate their migration-related experience into labor market advancement back in their hometown community; the "failure" returnees whose labor market aspirations go unfulfilled at home; and the "family" returnees who are preoccupied by family matters.

Our findings thus carry policy implications for both the migrant-sending and migrant-receiving areas. In the migrant-sending communities, given the sheer magnitude of return migration, an increasingly pressing issue is the deployment of these migrants in the local labor market. Clearly it would be unrealistic to expect them all to go back to farm work. Local governments might consider policies that would enhance the growth of alternative job opportunities that would put returnees' skills and experience, especially the advanced human capital, to good use. Extant studies suggest that entrepreneurship might be encouraged with support from the local government, with the goal of creating new job opportunities for both return migrants and non-migrants. Our results also suggest that local governments would be wise to pay attention to the issue of family care and support for the left-behind family members. A comprehensive family support system in origin communities might help migrants manage caretaker pressures, while still realizing the benefits of migration.

From the perspective of the migrant-receiving destination areas, it should be recognized that many migrants, after working in the city for lengthy periods, might prefer to settle in the city permanently. With this in mind, city governments might consider policies designed to accommodate the needs of these migrants, accepting them as full members of the urban community rather than treating them just as temporary labor.



## References

- Bai, N. & Song, H. (2002). *Out to the city or back to the village: Return migration in China*. Beijing: China Finance and Economics Press. (in Chinese)
- Chan, K. W. (2008). Internal labor migration in China: Trends, geographical distribution and policies. *Proceedings of the United Nations expert group meeting on population distribution, urbanization, internal migration and development* (pp. 93-122). UN/POP/EGM-URB/2008/05, United Nations.
- Chan, K. W. (2013). China, internal migration. In I. Ness & P. Bellwood (Eds.), *The encyclopedia of global migration*. Hoboken, NJ: Blackwell Publishing.
- Chunyu, M. D., Liang, Z. & Wu Y. (2013). Interprovincial return migration in China: Individual and contextual determinants in Sichuan Province in the 1990s. *Environment and Planning A*, 45(12), 2939-2958. <http://dx.doi.org/10.1068/a45360>
- Duleep, H. O. & Dowhan D. J. (2002). Insights from longitudinal data on the earnings growth of U.S. foreign-born men. *Demography*, 39(3), 485-506. <http://dx.doi.org/10.1353/dem.2002.0026>
- Fan, C. C. (2004). Out to the city and back to the village: The experiences and contributions of rural women migration from Sichuan and Anhui. In A. M. Gaetano and T. Jacka (Eds.), *On the move: Women in rural to urban migration in contemporary China* (pp. 177-206). New York: Columbia University Press.
- Goodkind, D. & West, L. A. (2002). China's floating population: Definitions, data and recent Findings. *Urban Studies*, 39(12), 2237-2251.
- Knight, J. & Yueh, L. (2004). Job mobility of residents and migrants in urban China. *Journal of Comparative Economics*, 32, 637-660. <http://dx.doi.org/10.1016/j.jce.2004.07.004>
- Lewis, W. A. (1954). Economic development with unlimited supplies of labour. *The Manchester School*, 22(2), 139-191. <http://dx.doi.org/10.1111/j.1467-9957.1954.tb00021.x>
- Liang, Z. & Chen, Y. P. (2004). Migration and gender in China: An origin-destination linked approach. *Economic Development and Cultural Change*, 52(2), 423-443. <http://dx.doi.org/10.1086/380594>
- Liang, Z., Guo, L. & Duan C. C. (2008). Migration and the well-being of children in China. *Yale China Health Journal*, 5, 25-46.
- Liang, Z. & Ma, Z. (2004). China's floating population: New evidence from the 2000 census. *Population and Development Review*, 30(3), 467-488. <http://dx.doi.org/10.1111/j.1728-4457.2004.00024.x>
- Ma, Z. (2001). Urban labour-force experience as a determinant of rural occupational change: Evidence from recent urban-rural return migration in China. *Environment and Planning A*, 33, 237-255. <http://dx.doi.org/10.1068/a3386>
- Meng, X. & Zhang J. (2001). The two-tier labor market in urban China: Occupational segregation and wage differentials between urban residents and rural migrants in Shanghai. *Journal of Comparative Economics*, 29, 485-504. <http://dx.doi.org/10.1006/jce.2001.1730>
- Murphy, R. (2000). Return migration, entrepreneurship and local state corporatism in rural China: The experience of two counties in south Jiangxi. *Journal of Contemporary China*, 9(24), 231-247. <http://dx.doi.org/10.1080/713675936>
- Roberts, K. (1997). China's tidal wave of migrant labor: What can we learn from Mexican undocumented migration to the United States? *International Migration Review*, 31(2), 249-293. <http://dx.doi.org/10.2307/2547220>
- Roberts, K. (2002). Female labor migrants to Shanghai: Temporary "floaters" or potential settlers? *International Migration Review*, 36(2), 492-519. <http://dx.doi.org/10.1111/j.1747-7379.2002.tb00090.x>
- Rozelle, S., Guo, L., Shen, M., Hughart, A. & Giles, J. (1999). Leaving China's farms: Survey results of new paths and remaining hurdles to rural migration. *The China Quarterly*, 158, 367-393. <http://dx.doi.org/10.1017/s0305741000005816>
- Sjaastad, L. A. (1962). The costs and returns of human migration. *Journal of Political Economy*, 70(5), 80-93. <http://dx.doi.org/10.1086/258726>
- Solinger, D. J. (1999). *Contesting citizenship in urban China: Peasant migrants, the state, and the logic of the market*. Berkeley: University of California Press.
- Stark, O. (1991). *The migration of labor*. Cambridge, MA: Blackwell.
- Stark, O. & Taylor, J. E. (1989). Relative deprivation and international migration. *Demography*, 26(1), 1-14. <http://dx.doi.org/10.2307/2061490>

- Stark, O. & Taylor, J. E. (1991). Migration incentives, migration types: The role of relative deprivation. *The Economic Journal*, 101(408), 1163-1178. <http://dx.doi.org/10.2307/2234433>
- Todaro, M. P. (1969). A model of migration and urban unemployment in less-developed countries. *American Economic Review*, 59, 138-148.
- Wang, F., Zuo, X. & Ruan, D. (2002). Rural migrants in Shanghai: Living under the shadow of socialism. *International Migration Review*, 36(2), 520-545. <http://dx.doi.org/10.1111/j.1747-7379.2002.tb00091.x>
- Wang, W. W. & Fan, C. C. (2006). Success or failure: selectivity and reasons for return migration in Sichuan and Anhui, China. *Environment and Planning A*, 38, 939-958. <http://dx.doi.org/10.1068/a37428>
- White, M. J. & Lindstrom, D. P. (2005). Internal migration. In D. L. Poston and M. Micklin (Eds.), *Handbook of population* (pp. 311-346). New York: Kluwer Academic/Plenum Publisher. [http://dx.doi.org/10.1007/0-387-23106-4\\_12](http://dx.doi.org/10.1007/0-387-23106-4_12)
- Wu, W. (2002). Migrant housing in urban China: Choices and Constraints. *Urban Affairs Review*, 38(1), 90-119. <http://dx.doi.org/10.1177/107808702401097817>
- Wu, W. (2005). Migrant residential distribution and metropolitan spatial development in Shanghai. In L. J. C. Ma and F. Wu (Eds.), *Restructuring the Chinese city: Changing society, economy and space* (pp. 222-242). London and New York: Routledge.
- Yang, Q. & Guo, F. (1996). Occupational attainment of rural to urban temporary economic migrants in China, 1985-1990. *International Migration Review*, 30(3), 771-787. <http://dx.doi.org/10.2307/2547636>
- Zhao, Y. (2001). Causes and consequences of return migration: recent evidence from China. *Journal of Comparative Economics*, 30(2), 376-394. <http://dx.doi.org/10.1006/jcec.2002.1781>