Skilled and less-skilled interregional migration in China: A comparative analysis of spatial patterns and the decision to migrate in 2000–2005

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ABSTRACT

This paper conducts a comparative analysis of skilled and less-skilled migration in China, using the 2005 one percent population sample survey data. It is found that migration asymmetry existed among less-skilled migration in the period 2000–2005. The degree of migration asymmetry is less severe among skilled migrants than less-skilled migrants as the origins of less-skilled migration were much more concentrated than those of skilled migration. The top regions of relative attractiveness for skilled migration were similar to those of less-skilled migration. The relative emissiveness of skilled migration was less evenly distributed than that of less-skilled migration. Logistic models indicated that individuals who were younger, did not have children and elderly household members, and were engaged in non-agricultural work were more likely to migrate away from their original province than their counterparts, regardless of their skill levels. Less-skilled migrants tended to leave areas with a large population, a small non-agricultural sector, a high unemployment rate, and a small amount of foreign investment, while skilled migrants tended to migrate away from areas with a small population, an excessive supply of university graduates, a small non-agricultural sector, and a low wage level.

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1. Introduction

Recent scholarship has highlighted the important role played by human capital accumulation in regional economic growth (Lucas, 1988; Romer, 1990). A growing body of literature has examined the migration of skilled labor in western developed countries (Abreu, Faggian, & Mccann, 2014; Findlay, Mason, Harrison, Houston, & Mccollum, 2008; Fratesi, 2014; Tang, Rowe, Corcoran, & Sigler, 2014; Tano, 2014). Most previous studies on migration patterns and determinants in China have focused on either general population or floating population (Fan, 2005; Liang, Li, & Ma, 2014; Liang & Ma, 2004; Liu & Xu, 2015; Shen, 2012, 2015, 2016, 2013). It is only recently that the mobility and migration of skilled workers in China have received academic attention. Some studies have examined factors that affect skilled migration by using census and sample survey data of China (Fu & Gabriel, 2012; Liu & Shen, 2014a, 2014b). Some other studies on the mobility and migration trajectories of skilled people are based on questionnaire survey data

collected at either the origins or the destinations (Cui, Geertman, & Hooimeijer, 2014, 2015; Du, 2015).

Nevertheless, previous studies have rarely made a quantitative comparison between skilled and less-skilled migrants. Little is known about their differences in migration patterns, determinants, and decision-making processes. In order to fill this research gap, this paper aims to conduct a comparative analysis of skilled and less-skilled migration in China, using the 2005 one percent population sample survey data. Migration is a highly selective, uneven and asymmetric process. Some regions receive many migrants while some other regions lose many migrants under such process (He & Pooler, 2002; Rogers & Sweeney, 1998). Furthermore, migration asymmetry should be different between skilled migrants and less-skilled migrants. Thus migration asymmetry is one main focus of this paper. The paper will address following research questions. First, does migration asymmetry exist among both skilled and less-skilled migration? Is there any difference in the extent of asymmetry between two kinds of migration? Second, is the relative emissiveness of skilled migration more evenly distributed than that of less-skilled migration among origins? Are the top regions of relative attractiveness for skilled migration different from

that of less-skilled migration? We particularly focus on how skilled migrants differ from less-skilled migrants in terms of demographic and socio-economic characteristics, migration patterns, and factors influencing their decision to migrate.

The paper is organized as follows. The next section introduces research data and methodology. This is followed by a comparison between skilled and less-skilled migrants in terms of demographic and socio-economic characteristics. The next section compares the migration patterns of skilled and less-skilled people. Then binary logistic regressions are used to estimate the effects of regional and individual factors on the decision of skilled and less-skilled people to migrate. Some conclusions are reached in the final section.

2. Research data and methodology

Our analysis is based on the 2005 one percent population sample survey data (hereafter, 2005 Survey). We define migration as the change of usual place of residence within a five-year interval. A stayer is defined as a person whose usual place of residence is the same as five years ago. Skilled people are defined as those whose highest level of education is tertiary education, and less-skilled people are defined as those whose highest level of education is senior secondary education or below. Skilled migration and less-skilled migration refer to the migration of skilled and less-skilled people respectively. We include those who were aged 24–64 and economically active on the survey day, excluding retirees, students, homemakers, and the disabled. We set the lower age limit for all migrants to be 24 to ensure that both skilled migration and less-skilled migration are comparable in terms of age spans.

We focus on 30 province-level units (hereafter, provinces) in mainland China, excluding Tibet due to a very small number of skilled migrants moving to and away from Tibet (Fig. 1). We only analyze inter-provincial migration as information on intra-provincial migration is not available from the dataset. Our final dataset comprises 1,222,004 observations, including 4658 skilled migrants, 96,280 skilled stayers, 44,034 less-skilled migrants, and 1,077,032 less-skilled stayers. The actual size of interprovincial migration flows is computed using the number of observed migrants and the province-specific sampling ratios. It is estimated that there were 1.62 million interprovincial skilled migrants and 17.36 million interprovincial less-skilled migrants in 2000–2005.

The method used by He and Pooler (2002) will be used to analyze the spatial patterns of migration. The coefficient of variation of out- and in-migration flows will be calculated for each province. Previous studies have shown that the migration scale in China has increased and the temporary labor migrants still dominate the interregional migration in China (Sun & Fan, 2011). He and Pooler (2002) found regional concentration (asymmetry) of interprovincial migration flows in China. However, the origins of skilled migrants are different from less-skilled migrants as less-skilled migrants mainly come from a few origins (Shen, 2015). In other words, migration asymmetry is less likely to occur among skilled migrants than less-skilled migrants. Thus the following two hypotheses can be tested in this stage:

H1. Migration asymmetry exists among less-skilled migration in the period 2000–2005.

H2. The degree of migration asymmetry is less severe among skilled migrants than less-skilled migrants.

The approach of spatial migration structure will be used for a more detailed analysis of spatial patterns of migration (Rogers, Willekens, Little, & Raymer, 2002). The relative emissiveness and relative attractiveness for various regions can be calculated for skilled and less-skilled migration respectively. Location quotients

can be calculated to reveal regions with stronger or weaker emissiveness and attractiveness in skilled migration versus less-skilled migration.

Following the previous reasoning, the less-skilled migration mainly originates from a few regions while the origins of skilled migration may be more diversified. The skilled and less-skilled migration will move to different destinations. This will also be reflected in different location quotients of skilled and less-skilled migration. Thus we can set up the following hypotheses:

H3. The top regions of relative attractiveness for skilled migration should be different from those of less-skilled migration.

H4. The relative emissiveness of skilled migration (location quotients) should be more evenly distributed than that of less-skilled migration.

Finally, binary logistic regressions are used to estimate the effects of regional and individual factors on the decision of skilled and less-skilled people to migrate. Such analyses will be useful to explain the existence of asymmetric migration.

3. The demographic and socio-economic characteristics of skilled and less-skilled people

Table 1 presents the summary statistics of skilled migrants, skilled stayers, less-skilled migrants, and less-skilled stayers. We firstly compare skilled migrants with less-skilled migrants. On average, skilled migrants were younger than less-skilled migrants. Nearly 60% of skilled migrants were aged 24–29 and they migrated within a few years after graduation (most Chinese people obtain their bachelor's degree or college diploma at the age of 21–23). Chinese government started to expand the higher education system in 1998, resulting in a surge of university graduates in the subsequent years (Levin & Xu, 2005).

Less-skilled migrants had a more balanced gender composition than skilled migrants, because many female migrants work in manufacturing and service sectors in the coastal region. But skilled migrants showed a lower percentage of being married and having children. This is because skilled migrants were younger than less-skilled migrants on average. Furthermore, many couples in the countryside migrated to the city for employment either with or without their children (Fan, 2011; Fan, Sun, & Zheng, 2011). Both skilled and less-skilled migrants had a similar percentage of having elderly family members in the household.

With respective to the socioeconomic status, skilled migrants on average had more prestigious and higher-paid jobs than less-skilled migrants. Nearly half of skilled migrants had a managerial or professional occupation, while more than 80% of less-skilled migrants were employed as commercial/industrial workers. Skilled migrants (29.04%) were more likely than less-skilled migrants (6.27%) to be employed in the state sectors, including government and public organizations, and state-owned enterprises, while less-skilled migrants (25.79%) were more likely than skilled migrants (6.86%) to be individual business owners or self-employers. This suggests that the migration of skilled people was more determined by the state sector. Skilled migrants on average earned higher wages than less-skilled migrants. More than 90% of less-skilled migrants earned less than 1000 *yuan* per month, while nearly 80% of skilled migrants earned more than 1000 *yuan* per month.

In addition, there was a larger share of skilled migrants holding local *hukou* and non-agricultural *hukou* than less-skilled migrants. Skilled migrants had more chances than less-skilled migrants to get local *hukou* status at the host city. Indeed, most *hukou* places were allocated to skilled migrants who were supposed to contribute more to the economic growth and fiscal revenue of the host city