

CHANGJUN YUE**GENDER AND MIGRATION: EVIDENCE FROM COLLEGE GRADUATES IN CHINA****Abstract**

Based on a national scale survey data of 2013 and methods of statistical descriptive and econometric analysis, this paper has given an empirical analysis on the frequency, flowing direction, return and influential factors of college graduates' migration. Meanwhile gender comparison in migration has been analyzed. The empirical results are concluded as follows: Firstly, the percentage of migration for female graduates is much lower than male graduates. 50.8 percent of male graduates migrate but only 39.1 percent of female graduates migrate. Secondly, inter-provincial migration may increase incomes significantly for both male graduates and female graduates. Thirdly, the economy development level is one of the key factors for inter-provincial migration. Fourthly, individual personal characteristics, individual human capital variables and family social and economic background are main factors influencing migration.

Key words: Graduates, Migration, Return

Introduction

Since the implementation of the reform and opening up policy in 1978, China has enjoyed an economic boom. In 2010, China's Gross Domestic Product (GDP) amounted to 5.88 trillion United States dollars (USD) and China overtook Japan (5.46 trillion USD) to become the second largest economy in the world, ranked only behind the United States. In 2013, China's GDP rose to 9.40 trillion USD and China will be most likely to overtake the US and become the world's largest economy in 2025.

The fast economy growth owes much to China's opening up policy in an economy globalization era. China's taking parting the economy globalization lies in three main aspects: international trade, foreign direct investment (FDI), and Multinational Corporation. International trade is crucial for China's economy. China's economy is regarded as being export-led and the degree of dependence on exports has increased rapidly since China entered World Trade Organization (WTO) in 2001. In 2013, China's foreign trade volume rose to \$4.16 trillion and overtook the US to become the world's largest trading nation.

Reform measures and improved policies make China more attractive to global investors. Foreign direct investment in China showed robust growth in 2013, reflecting global investor confidence in the world's second-largest economy. Foreign direct investment in China rose to \$117.6 billion in 2013.

The number of registered Foreign-funded Enterprises rose to 446 thousand in 2013. The city of Beijing has a total of 48 Fortune Global 500 companies' headquarters in 2013, replacing Tokyo at the top of the ranking for the first time.

The strong FDI and Multinational Corporations inflow gained support from the nation's reform initiative, an improved investment environment and the opening-up

of the service sector. Moreover, China's abundant labor force with higher education and lower wage has become comparative advantage in global competition.

With the fast development of economic globalization, international flows of commodities and capitals increased rapidly while large-scale flows of labor force have also become notable in labor market. There are frequent flows of labor force among different countries as well as among different cities, regions, industries, sectors and positions within a country. As China entered WTO and improved its urbanization level continuously, hundreds of millions of surplus rural laborers have flowed into the eastern coastal areas and into big or medium cities. In recent years, the number of college graduates increased gradually, which rose to 6.99 million in 2013. The employment of college graduates has become a key problem faced by Chinese government. College graduates are precious human resources and are the sources of scientific and technological inventions, technique innovations and economic development. Therefore, reasonable allocation and migration of graduates are very important for the efficient utilization of China's human resources and for the coordinate development among different regions.

Hereby, it is worthwhile to focus on and study the migration status of Chinese college graduates. What's the characteristics of Chinese graduates' migration? What are the influential factors? And what's the return to migration? Especially, what is gender difference of migration? Relative researches are still limited. Lai & Ji (2003) shows that the driving force for graduates' migration is the economic disparities between the costal and interior areas as well as between the urban and rural. The empirical results based on the data of Chinese graduates' employment status by Yue & Zhou (2005) reveal that inter-provincial or within-provincial job seeking cost nearly the same, while inter-provincial employment enjoys significantly higher starting salary than within-provincial employment with other factors controlled. Ma (2010) studies the migration behaviors of Chinese graduates and shows that individual personal characteristics, family background, regional economy and the scale of education are important factors influencing graduates' enrollment and employment migration.

Based on national scale survey data of graduates' employment status in 2013, the paper will classify graduates into five types according to their migration characteristics, and analyze the influence of various factors on their migration, which include individual personal characteristics, individual human capital status, family social and economic background, and regional situation of economy and higher education. And this paper pays more attention on the gender difference of migration.

Relative Theoretical Analysis

Migration or flow is one of the core issues in labor economics and demography which has been studied for a long time. There are a number of relative theories. As for the causes, abilities and returns of graduates' employment migration, the related theories can be concluded as follows.

Push and Pull Theory of Migration

"Push and Pull Theory" is the most important demographic theory in explaining the causes of migration, which was first advanced systematically by Bagne (1969). Bagne indicates that labor force migration can be resulted from the pull factors of

favorable economic development as well as the push factors of unfavorable economic development. In the outflow regions, push factors are the dominant power for residents to emigrate, which include exhaustion of natural resources, increase of production cost, unemployment brought by laborer surplus, low income level and etc. In the inflow regions, pull factors are the dominant power for outlanders to immigrate, which include more employment opportunities, higher wages, better living conditions, better educational opportunities, more perfect culture and traffic conditions, better climate and etc. However, in rural areas there exist not only push factors for outmigration but also favorable pull factors including familiar community environment, social network shaped in a long time and unity with family members. While in inflow regions, there also exist push factors unfavorable for immigration, such as possible separation from families, fierce competition and strange environment. Nevertheless, push factors exceed pull factors as the dominant power in outflow regions, while it is the opposite in inflow regions.

The “Push and Pull Theory” is highly interpretable in explaining the causes and returns of college graduates’ migration. Due to the large scale of Chinese college graduates, supply exceeds demand in the short term, so seeking for employment opportunities is a significant reason for graduates to migrate. There are relatively more employment opportunities with relatively higher wages in eastern coastal areas and big or medium cities, thereby the main orientation of graduates’ migration is from the central and western areas to the coastal areas, and from rural areas to big or medium cities.

Human Capital Theory

Human capital is the overall condition or level of laborers’ skills, knowledge and health accumulated through education, training, healthcare and migration. Similar to education, migration is also a kind of human capital investment, which is a necessary cost to obtain expected future revenue. What’s more, migration and education are complementary for each other, since investment in one aspect will increase the return to investment in the other aspect. The mental cost and benefit of migration varies among groups with different education levels. Those who are better educated are more willing to migrate to gain economic return.

The human capital theory is highly interpretable in explaining college graduates’ abilities to migrate. Compared to students graduated from four-year universities, two-year colleges and vocational colleges, graduate students have better migration abilities. People choose to receive higher education because it can improve individual productivities so as to improve the income level. Besides the direct return to education, higher education can also improve people’s migration abilities so as to obtain the extra benefit through inter-regional and inter-professional migration.

Data and Methodology

Data

To understand the employment status of college graduates and provide rich and effective information for educational decision-making and graduates’ employment, Peking University carried out the sixth large-scale questionnaire survey on graduates nationwide in June 2013, following the former five surveys in June of 2003, 2005, 2007, 2009 and 2011.

The 2013 survey includes 30 colleges in 21 provinces of the eastern, central and western areas. The sample size is 15,060. In the sample, 22.4 percent students graduate from two-year colleges or higher vocational schools, 68.0 percent are undergraduates, 9.2 percent are graduates with master degree, and 0.4 percent is graduates with doctor degree. And there are 52.7 percent male graduates and 47.3 percent female graduates.

Methodology

Faggian et al (2006) classify graduate migrants into five types according to possible combinations of the places where their home, college and employer locate. (1) Repeat Migrant, who migrates for two times. The first is to migrate from original area to where the college locates for learning, and the second is to migrate to other regions (besides original area and where the college locates) for employment. (2) Return Migrant, who migrates from original area to where the college locates for learning, and return to original area for employment after graduation. (3) Sticker, who migrates from original area to where the college locates for learning, and stays where the college locates for employment. (4) Late Mover, who enters college in original area but migrates to other regions for employment. (5) Stayer, who learns and gets employed in original area without any migration.

Based on this classification, this paper will give statistical comparison and regression analysis on the frequency, flowing direction, influential factors and return of the migration of college graduates.

Descriptive Analysis on Migration of College Graduates

Migration Proportion

In the sample, 8,006 graduates have already decided where to work. Within all of them, 1,008 are Repeat Migrants (accounting for 12.6 percent), 885 are Return Migrants (accounting for 11.1 percent), 727 are Stickers (accounting for 9.1 percent), 1,042 are Late Movers (accounting for 13.0 percent), and 4,344 are Stayers (accounting for 54.3 percent).

Within graduates who have already decided where to work, Stayers account for the biggest proportion of 54.3 percent, indicating that most students study and obtain employment in their original areas without migration. Students who migrate for employment (get employed in non-original areas) account for 34.7 percent, including Repeat Migrants, Stickers and Late Movers. Students who migrate for learning (enter colleges in non-original areas) account for 32.8 percent, including Repeat Migrants, Return Migrants and Stickers.

The gender difference on migration is significant. The percentage of migration for female graduates is much lower than male graduates. The percentage of migration for female graduates is only 39.1 percent while it is 50.8 percent for male graduates. Furthermore, for each kind of migration of Repeat Migrants, Return Migrants, Stickers and Late Movers, male graduate has bigger percentage than the female.

Return of Migration

It shows that there are significant gaps among the incomes of all kinds of migrants and Stayer. Stayer has the lowest monthly starting salary averaging 2,676 Yuan, which is notably lower than migrants. In all kinds of migrants, Repeat Migrant enjoys the highest salary averaging 4,572 Yuan. Sticker ranks the second

highest salary averaging 4,521 Yuan. Return Migrant ranks the third highest salary averaging 3,630 Yuan. Late Mover has a salary on average of 3,352 Yuan.

When gender factor is taken into account, the above conclusion is still correct. Both the male Migrants and female Migrants have significant higher salaries than Stayers. For male graduates, the Sticker enjoys highest monthly starting salary, which averages 4,890 Yuan. While for female graduates, the Repeat Migrant enjoys highest monthly starting salary, which averages 4,518 Yuan. Generally speaking, graduates who migrate for employment enjoy higher average monthly starting salary than those who get employed in original areas. The relatively big income gap is one of the important causes for migration.

Return to Migration by Migration Direction

In China, the regional income gap between eastern region and central and western region is so large that graduates prefer to work in eastern region. The phenomenon of people in central and western region migrate into eastern region has existed for many years and will continue in the future. Therefore, college graduates from central and western region have strong motivation to migrate.

The statistics shows the comparison on monthly starting salary of central and western region graduates by migration direction. Two conclusions could be drawn: first, starting salaries of migrants are much higher than Stayer. Second, starting salaries of migration from central and western region to eastern region are much higher than migration within central and western region.

Influential Factors on Migration of College Graduates

Regression Model

The paper analyzes the influential factors on college graduates' migration using regression model. The dependent variable represents different types of migration, so it is a categorical dependent variable, with the value equals to 1, 2, 3, 4 or 5, respectively. Therefore, Multinomial Logit model will be used, with one type as the base category. This paper sets the group of Stayers as base category, and the other four types are compared to it.

Based on "push and pull theory", "human capital theory", and the individual personal characteristics of graduates, influential factors on college graduates' migration can be reduced to four aspects:

The first group is graduates' individual personal characteristics, including: gender, minority, one child family.

The second group is graduates' human capital variables, including: (1) academic qualification, classified into college, undergraduate and postgraduate; (2) college's prestige, classified into key university, ordinary four-year university, other university; (3) academic grades, classified into top 25 percent group and last 75 percent group; (4) English certificate.

The third group is graduates' family background variables, including: (1) family economic status; (2) family social relationships; (3) parents' schooling year; (4) home area; (5) parents' occupation.

The fourth group is regional economic variable, which is GDP per capita in the employment province.

Regression Result

The regression results indicate:

Individual personal characteristics have significant influence on employment migration. The male, minority and non-only-one child show higher migration rate. *Compared to female graduates, male graduates are more competent to be migrants.*

Human capital variables have significant influence on employment migration too. (1) Postgraduates and undergraduates are more likely to migrate than those from two-year colleges. (2) Graduates from key universities are more likely to be Stickers. This means that students are likely to migrate if they can go to key universities, but after graduation they will stay the same places as their universities to work. (3) Graduates who have obtained English certificates have advantage to migrate in that the regression coefficients of English certificate for repeat migrants, return migrants, stickers and late movers are all significantly positive.

Social capital variables also have significant influence on employment migration. (1) Graduates with broader family social relationships prefer local employment. (2) Graduates whose parents have more schooling years are more likely to migrate. (3) Graduates from rural area families are more likely to migrate.

All the regression coefficients of GDP per capita in employment province are positive significantly, indicating the pull effect of "Push and Pull Theory". The bigger GDP per capita in destination is, the more migration probability graduates have.

Return to Migration of College Graduates

Regression Model

Income is an important index reflecting migration status. Both the push and pull theory and human capital theory consider higher income as one of the primary purposes of migration. To estimate the return to migration more exactly, this part will study the net return to migration with other variables controlled using multivariate linear regression model.

The dependent variable is graduate's monthly starting salary. The explanatory variables include all influential factors on starting salary involved in previous part. In addition, the migration variable is also included, with the Stayer as base category and other types included in regression model as dummy variables.

Regression Result

The regression results indicate:

Migration can enhance income, the return of migration to income is between 10.7 percent and 21.1 percent. The regression coefficients of the four dummy variables for migration are all significantly positive. Within the four types, Repeat Migrant enjoy the highest starting salary (the coefficient is 0.211), Stickers enjoy the second highest salary (the coefficient is 0.156), Return Migrant enjoy the third highest starting salary (the coefficient is 0.125), with Late Movers the fourth (the coefficient is 0.107), which indicates that graduates employed in non-original areas enjoy higher income.

There is significant gender income gap. Male's average salary is 9.0 percent more than female's.

Human capital variables have significant influence on income. (1) The regression coefficients of academic qualification are highly significant, which makes clear that postgraduates and undergraduates have more income than those from two-year colleges. (2) The regression coefficients of academic grades and English

certificate are significantly positive. It makes clear that graduates with better academic performance enjoy higher salary too.

Social capital variables also have significant influence on income. The regression coefficients of family income and parents' schooling year are significantly positive, indicating that graduates from high and medium income families or with better educational background enjoy higher salary than those from low income families.

The regression coefficient of GDP per capita in employment province is significantly positive, indicating the pull effect of "Push and Pull Theory".

Conclusions and Suggestions

Based on a national scale survey data of 2013 and methods of statistical descriptive and econometric analysis, this paper has given an empirical analysis on the frequency, flowing direction, return and influential factors of college graduates' migration. Meanwhile gender comparison in migration has been analyzed. The empirical results are concluded as follows:

Firstly, the percentage of migration for female graduates is much lower than male graduates. 50.8 percent of male graduates migrate but only 39.1 percent of female graduates migrate. Secondly, inter-provincial migration may increase incomes significantly for both male graduates and female graduates. Thirdly, the economy development level is one of the key factors for inter-provincial migration. Fourthly, individual personal characteristics, individual human capital variables and family social and economic background are main factors influencing migration.

There are some policy suggestions for colleges, graduates and the government based on the results above.

Firstly, for regional distribution of graduates' employment, the allocation effect of market is remarkable. The push and pull theory explains why graduates mainly migrate from central and western interior provinces to eastern coastal provinces, and from less developed provinces to better developed ones. The human capital theory shows graduates with higher academic qualifications are more likely and capable to migrate. Both the push and pull theory and the human capital theory explain why graduates who obtain employment after inter-provincial migration enjoy higher salaries. In future, the function of employment markets should be further perfected to utilize the allocation effect of market sufficiently. It will not only promote college graduates' employment, but also improve graduates' satisfaction degree of their employment. Universities should consider the demands of labor market adequately in the aspects of subject design, curriculum construction, practice and internship arrangement, and etc, so as to improve graduates' abilities to obtain employment.

Secondly, governmental macro regulation should be implemented when and where the market fails to play well. The paper does not include policy variables in analyzing inter-provincial migration due to data limitation. So the influence of policies of central and local government on graduates' migration cannot be explored. In fact, Chinese government put forward a series of policies to encourage and induce graduates to work in organizations of grass-root level, central and western areas, small and medium enterprises. The effects of those policies need further evaluation. However, the results of the paper provide some instructions for the allocation of higher education resources. The Stayers amount to a proportion of 54.3 percent,

which indicates that graduates prefer to work in home areas because of the familiar social and cultural environment. The government should insist the local recruitment as the main recruitment policy, and meanwhile, provide more supports of investment and teacher resources for colleges in central and western areas to improve the quality of higher education in those areas.

Thirdly, student groups with difficulties to obtain employment should receive more assistance. The paper shows graduates from rural areas or families with fewer social relationships are more likely to migrate. To a certain extent, they are forced to migrate under the push effect of the push and pull theory.

Lastly, since the empirical results shows that female graduate is disadvantaged in migration capacity and income level, therefore, special policy support should given to help female graduates find better jobs.

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