Extended Abstract

Returns to Education and Earnings Inequality inSegmented Labour Market:

A Study of Migrants and Locals in Large Chinese Cities

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Increasing earnings inequality has been a feature of China’s emerging urban labour markets during the exceptional expansion of economy in recent decades. The increase appears to be related to an increased demand for skilled labour in some sectors and unskilled or semi-skilled migrant labour in other sectors, as well as an increase in returns to education. Studies show that the considerable rise in returns to education occurred after 1992 and reflected an increase in the wage premium for higher education (Wang, Fleisher, Li, & Li, 2007). The higher returns to education are observed within groups defined by gender, work experience, region, and employment sector (Liu, Park, & Zhao, 2010). However, how the labour market segmentation has influenced the earning differentials across hukou-defined socioeconomic groups has not been fully and empirically unrevealed (Fu & Ren, 2010).

In view of the importance of understanding the segmentation of labour market in China, this paper aims to examine the effects of hukou-induced segmentation on earnings inequality and returns to education in the context of urban China’s socioeconomic divides. We estimate returns to schooling using an original dataset from a survey conducted in four large Chinese cities in 2008, with particular emphasis on three socioeconomic groups of hukou holders (i.e. urban locals, urban-to-urban migrants and rural-to-urban migrants) and their performance in the urban labour market that segmented by the hukou system.

Background and theoretical framework

The Nobel Prize-winning economist Arthur Lewis suggests that “development must be inegalitarian because it does not start in every part of the economy at the same time” (Lewis, 1954). China classically manifests two of the characteristics of development that Lewis had in mind: rising return to education and rural-to-urban migration. China began its reform with relatively few highly educated people and with a small proportion of the population living in cities. In pre-reform China there was very little return to education manifested in wages due to the dominance of egalitarianism. The Opening-Up Reform since late 1970s has created a labor market in which people can pursue for jobs with higher pay, and one result of this is that salaries for educated people have gone up dramatically. In the short period between 1988 and 2001, the returns to education increased from only 4.0 percent to 10.2 percent (Zhang, Zhao, Park, & Song, 2005).

The large productivity and wage gap between cities and countryside has been driving a high volume of rural-urban migration (Z. Zhao & Guo, 2007). Lewis argues that the initial shift of migrants from agricultural sector to urban sector is disequalizing, a pattern which is very evident in the history of the U.S., with inequality rising during the rapid industrialization period from 1870 to 1920, and then declining thereafter. The same market forces that have produced the rapid growth in China predictably led to higher inequality. The income inequalities between eastern and central/western regions and between rural and urban areas have been widening since mid-1980s, boosting the national Gini
coefficient to the warning threshold of 0.4 (Li & Sato, 2006), or even to higher than 0.5 within large cities from our recent study (Guo & Cheng, 2010).

The enlarging inequality implies the underlying relationship between earnings and human capital. Some scholars have contributed to its theoretical development in terms of the case of China. The importance of education as a determinant of labor productivity and wage has increased in rural industrial sector since the reform (Meng, 1995) and the private returns to education has also been proved to be significant in the cities (Byron & Manaloto, 1990; Qiu & Hudson, 2010). At the same time, it is argued that there is extreme underpayment of skilled workers and such relatively large ‘exploitation’ of skill workers explains low private returns to schooling in rural China (Fleisher & Wang, 2004; Y. Zhao, 1997). There is evidence showing that the China’s hukou system restricts migrants to enter some better occupations and sectors in cities, and even if migrants are able to get into better occupations and sectors, their earnings are deterred by labour market discrimination. In addition, the hukou system excludes migrants to access to local social welfare and security, further contributing to inequality (Guo & Gao, 2008).

In addition to the factors discussed above, other factors also influence the returns to education. One other important factor may be the uneven allocation of educational resources that has preferred urban area under the hukou system. The Chinese Government invested only a relatively small proportion of public expenditure in human capital with a focus on funding senior secondary and tertiary education in cities.

Data

To examine the three notable groups in urban labour market, the authors collected original data through an Australian Research Council Discovery Project on labour migrants in four of the largest cities in China. Data collection was conducted in 2008 in Beijing, Tianjin, Shanghai municipalities and Guangzhou (the capital of Guangdong province) by employing a stratified random sampling. In each city, one urban and one suburban district were randomly selected. After that, two neighbourhoods (juweihui) were chosen also at random from each of the two districts. In each neighbourhood, approximately one hundred questionnaires were conducted. The valid sample size is 1,979. The numbers for urban locals, urban migrants and rural migrants are 397 (22 percent), 378 (21 percent) and 1017 (57 percent) respectively.

Methodology

Considering the methodological issues raised in Brauw and Rozelle (2008) and in Chen and Hamori (2009) that OLS estimates of the returns to education may underestimate the true rates, we will implement a method as they suggest to control of endogenous bias. Our first endeavour is to estimate returns to education in urban China by estimating separate Mincer equations for the three groups in the form of:

$$\ln(Y) = \alpha + \beta_1 S + \beta_2 EXP + \beta_3 EXP^2 + \sum \delta_i CONTROLS_i + \varepsilon$$

where \(Y\) is hourly wage, \(S\) is years of schooling, \(E\) is experience gained from jobs and \(E^2\) is experience squared. Hourly wage in logarithm is used to smooth the influence of working hours on wage income as some people (e.g. migrants who are in low-paid occupations) have to work longer hours to gain the same level of wage as some others. As a general rule, the experience variable is defined by \(EXP = (age-S-6)\), assuming that the average person began his/her schooling at 6-year-old and that time not spending in formal schooling was spent gaining work experience. The term of experience squared is used to account for the fact that the lifecycle of earnings is not linear. The control variables include gender (female = 1), age cohorts to control for cohort effects and to improve the fit of the model as advised by previous studies (Lemieux, 2006), and three types of hukou status. This regression equation
estimates the monetary return per year of completed schooling separate from the effects of post-school investment and experience. The results from these equations will allow us to compare the determinants of returns to education across different groups of hukou holders, accounting for their educational attainments and human capital.

In addition to the estimation of earning equation, which generates mean effects of education on earnings, a quantile regression for selected deciles of the log hourly wage of each hukou and education group is used to examine the effects of covariates on earnings at different points of the conditional distribution (Bargain, Bhaumik, Chakrabarty, & Zhao, 2009; Koenker & Hallock, 2001). This would allow us to test the effects of education and hukou on different stratified income groups.

Finally, we decompose earnings differentials between hukou groups to further identify the effect of education on earnings inequality using the Blinder-Oaxaca approach (Blinder, 1973; Oaxaca, 1973) in the form of:

\[
\ln Y_1 - \ln Y_2 = X_1 (\beta_1 - \beta_2) + (X_1 - X_2) \hat{\beta}_1
\]

where subscripts 1 and 2 represent different hukou groups and vectors \( \beta \) and \( X \) refer to the estimated coefficients and the endowments in the Mincer equation, with the first term for the coefficients effect and the second term for the endowments (education) effect. More detailed discussion about the methodology will be provided in the chapter.

**Results and Discussion**

Our preliminary results indicate factors such as downward mobility, fewer years of schooling and jobs in informal sectors have negative effects on rural migrants (but less so on urban migrants). More importantly, education is an important source of inequality. Inequality in educational attainments plays an important role in determining returns in urban labour market.

Education is of primary importance to transitional and developing country. Despite the importance of building human capital in rural China, education has not had a prominent role in government development efforts during the past two decades, and faces serious fiscal problems. Market reform indicates that there are increasing opportunities for skilled people and it creates an incentive for families to increase the education of their children. However, there needs to be strong public support for education and reasonably fair access to the education system. Otherwise, inequality can become self-perpetuating: if only high-income people can educate their children, then that group remains a privileged and high-income group permanently. China is at some risk of falling into this trap, because it has developed a highly decentralized fiscal system in which local governments rely primarily on local tax collection to provide primary education. These differences in public spending translate into differences in social and economic outcomes.
References


