Land Use Policy 74 (2018) 142–150

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

Agricultural land and rural-urban migration in China: A new pattern

Wei Xiao*, Guochang Zhao

Research Institute of Economics and Management, Southwestern University of Finance and Economics, 555, Liutai Avenue, Wenjiang District, Chengdu 611130, China

ARTICLE INFO

Keywords:
Agricultural land
Rural-urban migration
Time allocation
China

ABSTRACT

This paper investigates the effects of agricultural land on rural-urban migration and the labor market outcomes in the context of China. We employ the rural sample of the 2009 RUMiC data, which cover approximately 8000 rural households in 82 counties of China. We find that an increase in the agricultural land of a household tends to increase the household members' propensity for migration for working in cities. We also find that an increase in land significantly decreases the number of days of migration, increases the number of days of farming work, and decreases the number of days of local non-farming work. More interestingly, the negative effect on time for local non-farming work is much larger than that for non-local non-farming work. The increase in the amount of agricultural land also pushes household members to move further. These results show us a new pattern different from the literature. To explain such a difference, we compare the effect of land among different age-groups and find that the positive link between agricultural land and rural-urban migration only exists for young people. Therefore, our results may reflect the change of the role of agricultural land over time. Our finding that less agricultural land hinders rural-urban migration suggests that, to help rural residents access opportunities in cities, governments should implement policies targeting households with less agricultural land.

1. Introduction

Developing countries are usually characterized by rapid migration from the traditional agricultural sector to the modern urban sector. For example, the annual growth rate of urban population in Africa, Asia and Latin America during the period 1950–2005 has been 3.9%, 2.9% and 4%, respectively (UN, 2006). In the agricultural sector, land plays a fundament role: it affects rural residents' income from agricultural production, and then the choice of migration to urban areas. This paper investigates the effects of agricultural land on rural-urban migration and the labor market outcomes.

China provides an ideal context to test the link between agricultural land and rural-urban migration. First, China has been experiencing a rapid process of rural-urban migration since the beginning of the 1990s (Meng, 2012). More importantly, the unique agricultural land system in rural China helps us examine the causal effect of land on migration. In rural areas of China, the amount of land within a village depends on history rather than its current residents. Residents in a village collectively own all land within the village. The government distributes land to every household in the village based on the number of household members who have *hukou* in the village.[1] However, an individual household only obtains the usage right of land rather than ownership. This outstanding feature gives us an opportunity to identify the casual effect of land on migration and other labor market outcomes.

Precisely, we address the following questions in this paper. How does the amount of agricultural land affect mobility of rural residents? How does the amount of agricultural land affect time allocation of rural people between work outside, local farming work, and non-farming work in their home county? Does more agricultural land push migrants to move further? Finally, why does agricultural land play such a role in current China?

To address all these questions, we employ a data set extracted from the rural household survey in the 2009 Rural-Urban Migration in China (RUMiC) project conducted in 82 counties which are either in the main migrants sending provinces or in the main migrants receiving provinces in China. Therefore, this survey provides an ideal context for investigating rural-urban migration. The rural household survey involves the usual personal information such as migration, employment, occupation choice, income, education, and some other personal characteristics. It also collects much household information such as the size of household, the number of children, and the number of elderly people. More importantly, it collects the information of agricultural land

* Corresponding author.
E-mail address: xiaow@swufe.edu.cn (W. Xiao).

[1] Hukou is a residence registration system in China, which is related with many different rights. In urban areas, holders of urban hukou have the rights to access public welfare, such as education and medical care, and get employed in state-owned enterprises in the area where they are registered. In rural areas, an individual has the right of land usage in a village where her/his hukou is. A detailed introduction can be found in Chan and Zhang (1999) and Meng (2012).

http://dx.doi.org/10.1016/j.landusepol.2017.05.013
Received 20 December 2016; Received in revised form 27 March 2017; Accepted 13 May 2017

occupied by each household, which makes it possible to examine the link between land and mobility. Finally, the village information, such as location, population, and infrastructure construction, are also collected using a village questionnaire, which is usually reported by the head or other carder of the village committee.

Empirically, we find that household land does affect individuals' decisions and outcomes in the labor market. First, an increase in household land tends to increase the propensity for migration for work. Both the probability of future migration and that of migration in the past one year increase with the amount of household land. Second, land affects individuals' time allocation among different types of work. It significantly increases the number of days for farming work and decreases the number of days for non-farming work. More interestingly, its negative effect on time for local non-farming work is much larger than that for non-local non-farming work. Finally, land affects the destination of migration. The more agricultural land that an individual's household has, the further she/he will move. Finally, by adding an interaction term between land and the dummy for the developed destination provinces in our estimation, we check the potential heterogeneous effect of land between regions at different stages of economic development. The result shows that heterogeneity is significant only for time allocation of rural residents. Our findings here are different from the results in Zhao (1999a,b) who finds that, in the middle 1990s, increasing agricultural land always decreases the propensity for migration to urban areas in China. One potential explanation for the difference between our results and the literature is that, compared with the middle 1990s, the role of agricultural land have changed after many years of rapid growth in non-agriculture sectors in China.

Our study contributes to the literature on internal migration in developing countries. Traditional theories on rural-urban migration in developing countries don't emphasize the role of agricultural land in the process of rural-urban migration. In a seminal work, Lewis (1954) argues that workers in the agricultural sector are underemployed so the urban sector can grow by accumulating capital and absorbing rural workers who only obtain the average rural product. Todaro (1969) discusses urban unemployment by pointing out that policies aiming at reducing urban unemployment may not work because they can attract rural people to enter urban labor markets. In these two classic studies on rural-urban migration, the rural sector is simple and the importance of agricultural land is not emphasized. Following these two seminal works, a large number of studies have discussed rural-urban in developing countries (see e.g., Harris and Todaro, 1970; Fields, 1975, 2005; Todaro, 1976; Blomqvist, 1978; Banerjee, 1984; Bencivenga and Smith, 1997). However, most studies put their focus on urban areas or industrial sectors by simply assuming that rural areas are exogenously given. Studies on China pay their attention to the impact of policies, social status, international economic situation, and the dynamic change of population (e.g., Cook, 1999; Meng and Zhang, 2001; Cai, 2010; Golley and Meng, 2011; Huang et al., 2011; Knight et al., 2011; Meng, 2012). To a large extent, the importance of agricultural land in the process of rural-urban migration is ignored in both theoretical analyses and empirical studies.

When discussing agricultural land, the existing studies put their focus mainly on different land rights and their effects within the agricultural sector. As summarized in Besley (1995) and Besley and Ghatak (2010), land rights improve investment because they enhance freedom from land expropriation, make it easier to use land as collateral, and reduce individuals' costs of renting or selling their land. The positive effects of land rights have been identified in a large amount of studies. Deininger and Jin (2003) and Deininger et al. (2011) find that secure land tenure combined with transferability of land leads to an increase in agriculture investment. However, the positive link between land rights and investment was not identified in some other studies (e.g., Feder and Nishio, 1999; Migot-Adholla et al., 1991; Jacoby and Minten, 2007; Bezu and Holden, 2014).

Some studies have discussed how the institutional arrangement of agricultural land affects the migration decision of individuals in rural areas. In many developing countries, peasants have the ownership of their land. If they decide to work in non-agricultural sectors, they can sell their land in the market and move to cities. In China, however, rural households only have the land-use rights but not ownership. They have no rights to sell their land in the market even if they want to leave the countryside. As a result, the rural land system in China raises migration costs and hinters labor mobility (Yang, 1997). Land tenure is also an important factor affecting rural people's choice of migration. Land tenure insecurity prohibits households from quitting agriculture and the recognition of land rights through formal certificates encourages rural-urban migration (Mullan et al., 2011; Deininger et al., 2014). By employing data from a survey in one province of China, Zhao (1999a,b) examines the effects of different factors on migration choice by rural people's individual characteristics, household characteristics, and village characteristics. She finds that agricultural land hinders rural-urban migration because it plays the role of opportunity costs of moving to cities and working in non-agricultural sectors. Our results are different from Zhao (1999a,b). We find that the role of agricultural land in rural-urban migration is beyond "opportunity costs".

Conditions of the labor market also affect the development of the land market. Kung (2002) finds that the land rental market becomes more active with the development of off-farm labor markets. Using data from Ethiopia, Deininger et al. (2003) find that the experience of being employed in the non-agriculture sector makes rural households expect their land to be taken away through administrative means. Deininger et al. (2014) find that higher levels of non-agricultural labor market participation contribute to the development of the land rental market in China.

How agricultural land affects the propensity for migration and other labor market outcomes is of high policy relevance in developing countries like China. Using household land information from a survey implemented in the whole country, our study contributes to the literature by focusing on the impacts of the amount of agricultural land rather than its institutional arrangements. Our finding that more land leads to a higher propensity for rural-urban migration is different from previous results in the literature. This new result has important policy implications.

The rest of this paper is organized as follows. Section 2 introduces the background and data. Section 3 presents the theoretical framework and the empirical model. Section 4 presents the empirical results. Section 5 does a heterogeneity analysis. Section 6 discusses our results and introduces the corresponding policy implications. Finally, Section 7 concludes.

2. Background and data

2.1. Rural land system in China

Before 1949, China had established the private ownership of land for more than 2000 years; and even in the early 1950s, private ownership still continued except that the land was more evenly distributed because of the "Land Reform Movement". Since the middle 1950s, the socialist movement pushed peasants to form Agricultural Production Cooperatives and alienate their private land to the People's Commune in the end. At the beginning, peasants only lost their agricultural land, and until 1962 the residential land also became collectively owned though the houses built on the residential land were still privately owned by rural households. This established the base of the current land system in China. With the establishment of the People's Commune, the Chinese society was segregated into two sectors − rural and urban − by the household registration system (hukou) (Meng, 2012). From then on, the rural-urban mobility was severely restricted.

In the late 1970s, the Peoples' Commune crashed and an overwhelming amount of villages in China gradually founded the system of