



# Aging population, farm succession, and farmland usage: Evidence from rural China<sup>☆</sup>



Baoling Zou<sup>a</sup>, Ashok K. Mishra<sup>b,\*</sup>, Biliang Luo<sup>a</sup>

<sup>a</sup> National School of Agricultural Institution and Development, College of Economics and Management, South China Agricultural University, Guangzhou, 510642, China

<sup>b</sup> Morrison School of Agribusiness, W. P. Carey School of Business, Arizona State University, 7271 E Sonoran Arroyo Mall, Mesa, AZ 85212 USA

## ARTICLE INFO

### Keywords:

Aging farming population  
Farm succession  
Farmland usage  
Multinomial logit  
China  
Leasing out  
Farmland

## ABSTRACT

The aging farming population has a significant influence on production agriculture, succession planning, successors, and farmland usage. Given recent trends in urban migration and increased opportunities for off-farm work, aging farmers increasingly face problems with farmland succession and usage in China. This study investigates the usage of farmland in the absence of a farm successor. Using multinomial logit regression model and data from rural households, we find that aging farmers without successors tend to have options for farmland usage. Specifically, the presence of a grain subsidy increases the likelihood of keeping the farmland in agriculture—albeit by hiring labor or leasing out farmland and decreases the likelihood of pooling farmland into farming cooperatives as shareholders. Off-farm work decreases the likelihood of using hired labor and leasing out farmland. Rich rural households are less likely to keep farmland idle. Large farm operators are more likely to lease out farmland. Finally, rural people with pension plans are more likely to pool their land in land cooperatives — a less-risky option.

## 1. Introduction

The issue of an aging society has become a highly prevalent social problem not only in developed countries (Fichtner, 2018) but in developing countries (Masters, 2013). The most significant impact of an aging population, however, occurs in production agriculture. Production agriculture is back-breaking work that relies on labor, and farm operators tend to be older than average worker in the overall workforce. Older workers, on average, tend to be less productive than younger workers. Moreover, due to small land holdings, large family sizes, and higher off-farm wages, young and middle-aged individuals prefer to participate in off-farm labor activities (Rizwan et al., 2017). Older farm operators want to retire from farming, and retirement and succession decisions in family farms are interrelated (Kimhi and Lopez, 1999). As a result, older farm operators face a farm succession problem. In many cases, older farm operators end up with no successors and then have to decide on the future of their farmland—whether to rent it out, hire labor, or participate in a profit-sharing venture by pooling their

farmland with others.<sup>1</sup>

The prosperity and sustainability of agriculture depends on an effective succession of farmland, according to several studies in the literature (Bertoni and Cavicchioli, 2016; Joosse and Grubbström, 2017; Mishra et al., 2010). However, the children of older farmers—the new generation of potential farmers—are more likely to participate in the off-farm labor market because off-farm income is higher and stable and offers a strategy for exiting agriculture (Corsi and Salvioni, 2017). In addition, the lack of a successor may lead to declines in productivity, financial performance, and innovation in farming (Harris et al., 2012; Sottomayor et al., 2011). Therefore, current old-age operators without successors face the dilemma of farmland usage.

China, a developing country with the world's largest population, has about 35% of its labor force in agriculture, compared to 2.5% in the United States. According to the third National Agricultural Census, China had about 314 million agricultural operators in 2016. The age distribution of the agricultural operators is interesting. For example, the population under age 35 was about 60 million and accounted for just

<sup>☆</sup> The authors would like to thank the anonymous reviewers for their helpful and constructive comments that greatly contributed to improving the final version of the paper. They would also like to thank the Editor for support during the review process.

\* Corresponding author.

E-mail addresses: [bzou2@asu.edu](mailto:bzou2@asu.edu), [Zoub190@163.com](mailto:Zoub190@163.com) (B. Zou), [Ashok.K.Mishra@Asu.edu](mailto:Ashok.K.Mishra@Asu.edu) (A.K. Mishra), [luobl@scau.edu.cn](mailto:luobl@scau.edu.cn) (B. Luo).

<sup>1</sup> In China, land shareholding cooperatives system tend to pool farmland (on share basis) in villages and cultivate the land. Profits are then shared with shareholders. Chen (2016) notes that “the purpose of Land Shareholding Cooperative System is to achieve economies of scale for agricultural production through reconcentration of village land.” Under the LSCS farmers give up operational land use rights and is entrusted to the cooperative. The cooperative can entrust the land use right to the broker (operator) through the bidding. The broker will perform the production and management of the cooperative's land and ensure that the farmers can share the satisfactory dividends (cash income).

19% of the total agricultural operators; the population ages 36–54 was about 149 million and accounted for about 47% of total agricultural operators; and the population age 55 and above was about 106 million and accounted for 34% of total agricultural operators (NBS, 2016). Like the U.S., China suffers from an aging farming population. Since 93% of China's total agricultural operators are involved in crop production, farmland succession is a serious social problem. Note that in China the state technically owns and controls farmland, but farm families are allocated land that they operate and pass on to the next generation.<sup>2</sup> However, farm families can lease their farmland to others but cannot sell it. Land reforms under the Deng Xiaoping era have allowed individuals to lease land from villages.

Readers also should note two salient features of the Chinese farmland structure and ownership. First, under the China's Household Contract Responsibility System and households have only three rights: to transfer the rights of operation of the farmland, only rural households, as members of the collective village, have the original contractual and operational rights (Wang and Zhang, 2017). Although farmland leasing is emerging in China, farming households can only transfer the rights of operation of farmland, return the contractual rights of the farmland to the collective village, or pass the farmland to their family members. Second, China's dual-track structure of socio-economic development requires households in mainland China to register as either a Rural Hukou or an Urban Hukou. This law also restricts household migration (and by extension, labor migration) between Hukous. Migration from rural areas to urban areas is possible. Because of Hukou law requirement, however, the opposite is not realistic because only members of a Rural Hukou can receive rights to operate farmland in a village.<sup>3</sup> Considering these two features and the rising share of aging farmers, farm operators are concerned about their farmland usage decisions. The issue is paramount in cases where farm operators lack successors.

Therefore, this study's objective is to investigate the factors affecting farmland usage decisions in the absence of successors in China. We use farm-level data from nine Chinese provinces (see Fig. 1) and multinomial logit modeling technique to study this objective. The survey was conducted in 2015. This study's contributions are unique in several ways. First, the study addresses a timely issue faced by a country with the largest number of farmers, with smallholdings, and with a large share of farm operators ready to retire. Second, the issue of farmland usage in the absence of a successor is interesting in a country where a farmland market<sup>4</sup> does not exist and where economic and political systems (defined Hukous per household) discourage the movement of urban people to rural areas. Finally, this is the first study, to best of our knowledge, to investigate farmland usage by farm operators in the absence of successors.

The rest of this paper is organized as follows. The next section discusses the background of farmland, property rights of farmland, and farmland usage in China. Section 3 presents the survey data and descriptive statistics. The empirical framework and estimation procedure are developed in Section 4. Section 5 analyzes and discusses the empirical findings. The last section concludes the study and provides policy implications.

## 2. Background

Land is a key factor of production and the most important asset of livelihood. This is particularly true in China, where resources are distributed unequally between urban and rural areas. Farmland in China takes the role of social security, providing livelihood security, old-age security, and employment security (Yao, 2009). According to China's Contracting of Rural Land Law (Wang et al., 2015)<sup>5</sup>, rural households are designated as contractors and have the right to use the land for growing crops, to sell those crops and to make a profit. However, as contractors they are obligated to maintain the farmland and keep it for production agriculture. To our knowledge, farmland has granted livelihood opportunities to the villagers, but such opportunities are influenced by the availability of non-farm employment opportunities (Shirai et al., 2017). Furthermore, based on China's Measures for the Administration of Circulation of Rural Land,<sup>6</sup> the contractor (the land's operator) also can subcontract the operational rights of the farmland. Changes in operational rights become important for old-age rural farming households. In this case, old-age operators have five options for farmland usage. These include designating a successor, leaving farmland idle<sup>7</sup>, hiring labor to cultivate the farmland, leasing out farmland for rental income, and joining a land shareholding cooperative. In the last option, rural farm families can pool farmland into a cooperative, essentially becoming shareholders in the cooperative, which in return shares the profits with the shareholders.

In China, farmland is an important symbol of membership in a village. Rural households are able to trace their families' history for several generations (Lobley and Baker, 2012). Rural households also dominate production agriculture, and traditionally, farm succession within the family is preferred (Baker et al., 2016). Recent studies reveal that farms with designated successors may have higher farm investments (Calus et al., 2008) and increased borrowing capacity to invest in farming (Stiglbauer and Weiss, 2000). Conversely, farms without successors tend to take up other activities and diversification schemes (Potter and Lobley, 1992), disinvest or enter a static management mode (Inwood and Sharp, 2012).

In China, with its booming non-farm economy, migration to urban areas, and limited family members, aging farm operators face a decision on farmland usage. This problem is severe when aging farmers have no successors to take over the farming business. In the absence of successors, many rural Chinese households leave their farmland idle (Lin and Wang, 2014). In a study, (Sottomayor et al., 2011) noted that the choice to leave farmland idle is directly related to the absence of a successor. This is consistent with the fact that aging farmers have deeper feelings than their children have for their farmland (Zhong and Luo, 2013). Other factors that could encourage aging Chinese farmers without successors to leave farmland idle include the high transaction cost of leasing farmland and the absence of a mature and perfect farmland market, which leaves farmland price undefined (Wu, 2017).

Technological innovation and off-farm work opportunities have increased labor migration from rural to urban areas. The emergence of off-farm employment has a significant and positive impact on stimulating rural households to lease out their farmland (Che, 2016). For example, Kung (2002), using data from 824 rural households concluded that active participation in off-farm labor markets (measured by number of days worked) resulted in reduced amount of land rented.

<sup>2</sup> China has about 120 million hectares of farmland—making the size of the average plot per rural family less than 0.5 hectares.

<sup>3</sup> Rural Hukou grants rural families the rights to operate the allocated, by village collective action, piece of farmland. However, the opposite is not true because the total land in the village has already been divided among the families living in the village. New residents will not be able to get to work the land for a living because they belong to urban Hukou.

<sup>4</sup> Recall that unlike in many market economies, farmland in China cannot be bought or sold in the market (Ma, et al., 2015).

<sup>5</sup> Law on the Contracting of Rural Land of the People's Republic of China (promulgated by the Standing Committee of the National People's Congress, August 29, 2002, effective March 1, 2003), material source available at: <http://www.lawinfochina.com/Display.aspx?lib=law&Cgid=41762>.

<sup>6</sup> Measures for the Administration of Circulation of Rural Land (promulgated by the Ministry of Agriculture, January 19, 2005, effective March 1, 2005), <http://www.lawinfochina.com/display.aspx?lib=law&id=3933&CGid=>

<sup>7</sup> Though it is illegal to leaving the land idle based on the Law on the Contracting of Rural Land, much of the land still become vacant because the lack of effective supervision in China.

Download English Version:

<https://daneshyari.com/en/article/6546167>

Download Persian Version:

<https://daneshyari.com/article/6546167>

[Daneshyari.com](https://daneshyari.com)