

**【Summary】**

## Structural Change, Technical Efficiency and Land Lease for Chinese Family Farms

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This study sheds light on structural and technological changes in China's farms. In the past 40 years, in tandem with rapid economic growth and drastic urbanization, farm land size in China however did not increase, mainly due to the hukou system and demographic change. Though the total population is still increasing, the rural household size decreased from 5.10 in 1985 to 3.88 in 2012 mainly due to the One-Child Family Plan Policy, and at the same period average farm size also shrunk from 0.7 ha to 0.6 ha.

Similar to Japan and other developed economies, off-farm employment becomes the major income source for farmers, and currently more than half of their income come from off-farm employment. Ageing of farmer labors is now a major problem for sustainable development of Chinese agriculture.

Land transferring and increasing scale are being an option for some farmers to be independent and increase income. From a perspective of ensuring food security, this is also supported by China's government. China's government sets a special institutional arrangement for land rights: They are separated into ownership right, contract right and operational right. The government encourages transferring of operational right.

However, the trend of farm operation size expansion is often challenged by increases of the labor and land costs and high domestic protection purchase prices. From 2008 to 2013, the total agricultural production costs for rice, wheat and corn increased by 73%, 83% and 93%, while the land and labor costs increased by more than 150%. In contrast, as the intensive labor parts for agricultural production have been replaced by machinery, and aged farmers can just do some regular maintenance, the traditional small-scale farming system is still prevalent.

At the same time, domestic grain prices in China are much higher than the international prices. China's agricultural production has lost its international competitiveness. The family farming system in China is facing severe challenges.

In this background, we use the Fixed-Point Survey from 1995-2008 in the Research Center of Rural Economy to compare the technical efficiency between the traditional smallholder

farms without land lease and the modern farms main driven by land lease. Generally, we find no significant difference for input elasticities and technical efficiency between them, but a slightly higher scale effect is detected for lease-in farms.

In conclusion, we believe the traditional smallholder farms are not less efficient, and will exist in the long run, in competition with large lease-in farms.