

# The Performance Improvement of Agricultural Leading Firms Program in China: Insights from the Productivity and Ownership Perspectives

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### Thesis Summary

Using 1998–2013 Chinese Industrial Enterprise Database (CIED) and a manually collected list of leading agri-food processing firms, this study focuses on the relationship between policy incentives, ownership effects and the total factor productivity (TFP) of Chinese agri-food processing firms. First, I mainly use Levinsohn and Petrin (LP) method (Levinsohn & Petrin, 2003) to calculate the firm level TFP. Second, using the panel quantile regression proposed by Koenker (2004) to examine the effect of state-owned capital on the TFP distribution of agri-food processing firms. Third, using ALFP as a policy experiment to explore the ownership heterogeneity in the effect of policy incentives on the TFP of Chinese agri-food processing firms based on Propensity Score Matching–Differences-in-Differences (PSM–DID). Finally, testing the transmission mechanism of ALFP from the perspective of research and development (R&D) expenditures and overinvestment respectively.

This study has following main findings: (1) Regarding the ownership effects and TFP, I find that for every one percent increase in the state-owned capital share, the TFP of firms in the 10% and 25% quantile decreases by 5.1 percent and 7.2 percent, respectively, and that the state-owned capital share has no significant effect on the TFP of firms with medium- and high- productivity. (2) Regarding the policy incentives and TFP, first, non-state-owned enterprises (non-SOEs) can increase their TFP due to policy preferences of ALFP, while the TFP of SOEs does not improve. Second, ALFP promotes R&D expenditures by both SOEs and non-SOEs. Further, it ameliorates underinvestment for non-SOEs but does not alleviate overinvestment among SOEs. Third, ALFP policy incentives for SOEs mainly manifest as credit support, while those for non-SOEs mainly comprise tax incentives and subsidies. (3) Regarding the effects of R&D expenditures and overinvestment on TFP, first, R&D expenditures can promote the TFP of all types of firms. SOEs have the strongest effect, followed by private firms, and have the least effect on foreign-invested firms. Second, in the first and second years after overinvestment, the firm TFP is improved, but from the third year onward, overinvestment starts to have a restraining effect on the TFP, and the restraining effect increases year by year. In our sample, approximately one-third of SOEs have 3+ year overinvestment age. This may be the reason that, overall, overinvestment caused by policy incentives inhibited the growth of SOEs' TFP.

The implications for policy improvement are as follows: First, the government should

appropriately reduce ALFP's loan facilities for SOEs and effectively supervise investment activities to control overinvestment by SOEs. Second, ALFP should establish an innovation incentive mechanism to encourage agri-food processing firms, especially SOEs, to utilize preferential policies and cultivate technological innovation capabilities. Third, the government should appropriately increase the proportion of non-SOEs in ALFP. In conclusion, this study shows that policy incentives under ALFP strongly improve the R&D expenditure and investment efficiency of non-SOEs.