

Can the Promotion of Agricultural Production Capacity bring about Economic Growth and Structural Transformation? ——Evidence from China



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This paper examines the role of agriculture in economic growth and structural transformation. Based on county-year panel data from 2000 to 2016 and difference-in-difference strategy, we identify the impact of the grain production growth program on the county's economic growth and structural transformation. The research shows that the grain production growth program makes the per capita GDP significantly increase by 3.3%, and this result is robust for different variable measures and model settings. Further research finds that this growth effect is not achieved through the expansion of economic scale, but originated from the outward migration of the population. Additionally, the policy also brings about structural transformation. In the primary industry, grain output increases by replacing labor with capital, and labor are transferred out of the agriculture sector, but the overall output value of this sector does not change significantly. In the secondary industry, the spillover effect is caused by the increase of fixed investment makes the sector expand significantly. In the tertiary industry, the reduction of consumption scale due to population outflow has led to a significant decline in this sector.

Objectives and research questions



What role does agriculture play in economic growth and structural transformation? It is difficult to find convincing evidence at the national level to prove the causal effect of agriculture on economic growth and structural transformation. This paper takes the “National Plan for Increasing 50 billion kg of Grain Production Capacity (2009-2020)” released by China in 2009 as an exogenous shock to identify the effects of the grain production growth program on economic growth and structural transformation. Reveal the important role of agriculture in economic growth and structural transformation. And also analyzes the specific impact mechanism.

Methods



Based on China's county-level panel data from 2000 to 2016, we use the difference in difference strategy to identify the impact of the grain production growth program on the county's economic growth and the possible mechanism path. The main challenge is to select appropriate control groups for 800 major grain-producing counties. To address that the treatment group may not be randomly selected, we control for the differences in the trends in outcomes between major grain-producing counties and non-major grain-producing counties depending on the key determinants in the selection of major grain-producing counties.

Main results



This study finds that the grain production growth program leads to a significant increase of 3.3% in per capita GDP, and this result is robust for different variable measures and model settings. Further research finds that this growth effect is not achieved through the expansion of economic scale, but originates from the outward migration of the population. In addition, the policy also brings about structural transformation. In the primary industry, food output is increased by replacing labor with capital, and labor is transferred out of agriculture, but the overall output of this sector does not change significantly; In the secondary industry, the spillover effect is caused by the increase of fixed investment makes the sector expand significantly; In the tertiary industry, the reduction of consumption scale due to population outflow has led to a significant decline in this sector.

Policy recommendations



Our analysis demonstrates that agriculture plays an important role in economic growth and structural transformation. Investing in the agriculture sector can drive the growth of the whole economy. This paper provides new evidence to prove the role of agriculture in economic growth and structural transformation in developing countries, which has important guiding value for policy formulation in China and other developing countries.