Did the Reform of China's Agricultural Commodity Support Policy Affect Grain Production: The Case of Corn?

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Abstract

Agricultural commodity support policies play an important role for agricultural production, farmer income, and food security in both developed and developing countries. Recognizing the resultant significant distortions to production, supply and prices from the price support for agricultural commodities implemented in 2000s, China initiated reforms of the agricultural support policy for two major non-staple commodities (soybean and cotton) in 2014, and then for staple commodities (corn) in 2016. The reform for corn was piloted in four major corn-production provinces. Specially, in April 2016 the government decided not to purchase corn surplus anymore; in June 2016 the government announced to provide income subsidy to corn farmers based on their acreage and called the four provinces for detailed subsidy plans. A total of 6,106 farm households in 2015-2017 were analyzed in addition to the provincial data in 2010-2017.

We find that the removal of surplus purchase by the government caused a statistically significant reduction in total production, acreage, and cost of input per mu for corn in 2016. The income subsidy based on the price difference and acreage took effect for the 2017 corn production. As we expected, total production and acreage increased in 2017. No statistical yield change was found in both 2016 and 2017, suggesting the production reduction in 2016 and the production increase in 2017 were mainly due to the acreage change rather than the yield change. The causal effects of the policy reform on corn production are robust based on the four different robustness checks based on a) the estimated policy effects for wheat and paddy that were not directly exposed to the reform; b) a placebo test by assuming the policy reform took place in 2015; c) a falsification test by using neighboring provinces without the policy reform as a treatment group instead of the four pilot provinces.