Extended Abstract
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Paper/Poster Title	**State-Trading Enterprises and Productivity: Farm-Level Evidence From Canadian Agriculture**

Abstract prepared for presentation at the 96th Annual Conference of the Agricultural Economics Society, K U Leuven, Belgium

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Abstract	***200 words max***
The Canadian Wheat Board (CWB) was a state-trading enterprise that controlled the sale and distribution of cereal crops produced in Western Canada. The CWB's regulatory and bureaucratic structures (e.g., pooled pricing, initial payments) have been investigated as sources of several market effects, including prices and spatial production patterns. We examine the effects of the CWB on farm-level productivity in an empirical model applied to farm-level data, and identify how deregulation of the CWB in 2012 affected total factor productivity (TFP) for the production of CWB-regulated crops. Farm-level production and input data for 13,000 grain farms over 15 years are used to generate a within-farm difference-in-difference (DID) estimator that identifies how relative TFP changed between CWB and non-CWB crops after deregulation. Our empirical strategy identifies the effects of deregulation on changes in relative TFP between crops, and controls for many of the confounders that complicate TFP measurement in other approaches. The benchmark empirical results from various empirical specifications reveal that the CWB led to moderately lower farm productivity levels. This research makes a methodological contribution to the literature on estimating TFP by generating a within-farm DID estimator, and contributes to the understanding of how regulatory and marketing interventions affect farm-level productivity.	

Keywords	Farm Productivity; Panel Data; Risk; Canadian Wheat Board; Difference-In-Difference
JEL Code	Q12; Q18; Q19 see: www.aeaweb.org/jel/guide/jel.php?class=Q)

Introduction	***100 – 250 words***
The Canadian Wheat Board (CWB) was a state-trading enterprise that controlled the sale and distribution of cereal crops produced in Western Canada. The CWB's regulatory and bureaucratic structures have been investigated as sources of several market effects, including farm incomes (Carter, Loyns, & Berwald; 1998) and spatial production patterns (Carter & Ferguson; 2019). These structures, most importantly pooled pricing and initial payments, affected output-price risk faced by individuals producers, thereby impacting farmers' decisions to undertake risky productivity-enhancing investments. The deregulation of the single-desk authority of the CWB resulted in a change to these structures and could have changed producers' willingness to undertake productivity-enhancing investments.	

Productivity-enhancing investments could affect farm-level productivity. We investigate whether deregulation of the CWB affected farm-level total factor productivity (TFP) for the production of CWB-regulated crops.

Methodology

100 – 250 words

We investigate the effects of the CWB on farm productivity in a panel empirical model applied to farm-level data, and identify how deregulation of the CWB in 2012 affected TFP for the production of CWB-regulated crops. Farm-level production and input data for 13,000 Manitoba grain farms over 15 years from Manitoba Agricultural Services Corporation are used to generate a within-farm difference-in-difference (DID) estimator that identifies how relative TFP changed between CWB and non-CWB crops after deregulation. Cereal farm operators typically grow several (CWB and non-CWB) crops in a single season, which allows us to estimate production functions for multiple crops on the same farm in the same year. Our within-farm DID empirical strategy therefore identifies the effects of deregulation on changes in relative TFP between CWB and non-CWB crops, and controls for many of the confounders that complicate TFP measurement in other approaches, including challenges dealing with unobserved differences between farms and unobserved changes within farms over time.

Results

100 – 250 words

Our empirical model allows us to test the null hypothesis that removal of the CWB had no effect on the difference in farm-level TFP between CWB and non-CWB crops. The benchmark empirical results from various empirical specifications that include farm-specific effects and time-specific effects reveal that the CWB led to moderately lower farm productivity levels. The results are similar across alternative specifications that include farm-by-year specific effects and municipality-by-year specific effects, and that account for CWB-unrelated trends in crop productivity. Also, the results remain robust when allowing for distinct input effects on crop yields, and when using alternative clustering criteria through the regressions.

Discussion and Conclusion

100 – 250 words

This research makes two main contributions that will generate discussion. The first is a methodological contribution to estimating the effects of policy changes on farm-level TFP through the development of the within-farm DID estimator. Our methodology allows us to observe changes in relative productivity at the farm level for two different (regulated and unregulated) agricultural products. Second, we make an applied policy contribution to understanding how government regulatory and marketing interventions, such as the CWB, can affect farm-level productivity. We find the Canadian state-trading enterprise that regulated wheat production and marketing until 2012 had a negative average effect on farm productivity.