

Did Removing the CWB Monopoly Reduce Wheat Acreage?

Dimitry Chakma, Jared Carlberg
Department of Agribusiness and Agricultural Economics, University of Manitoba



Abstract

This study examines the factors influencing farmers' spring wheat acreage decisions in the Canadian Prairie provinces. Small area data for a 40-year period from 1985 to 2024 are employed within a partial adjustment model to estimate the factors affecting spring wheat plantings. Results show that wheat futures markets, prices of substitute crops, lagged wheat yields, and growing season precipitation play roles in shaping farmers' decisions to grow wheat. Effects of the removal of the Canadian Wheat Board in 2012 are also calculated. The study concludes that policy measures should account for both price incentives and the broader production environment.

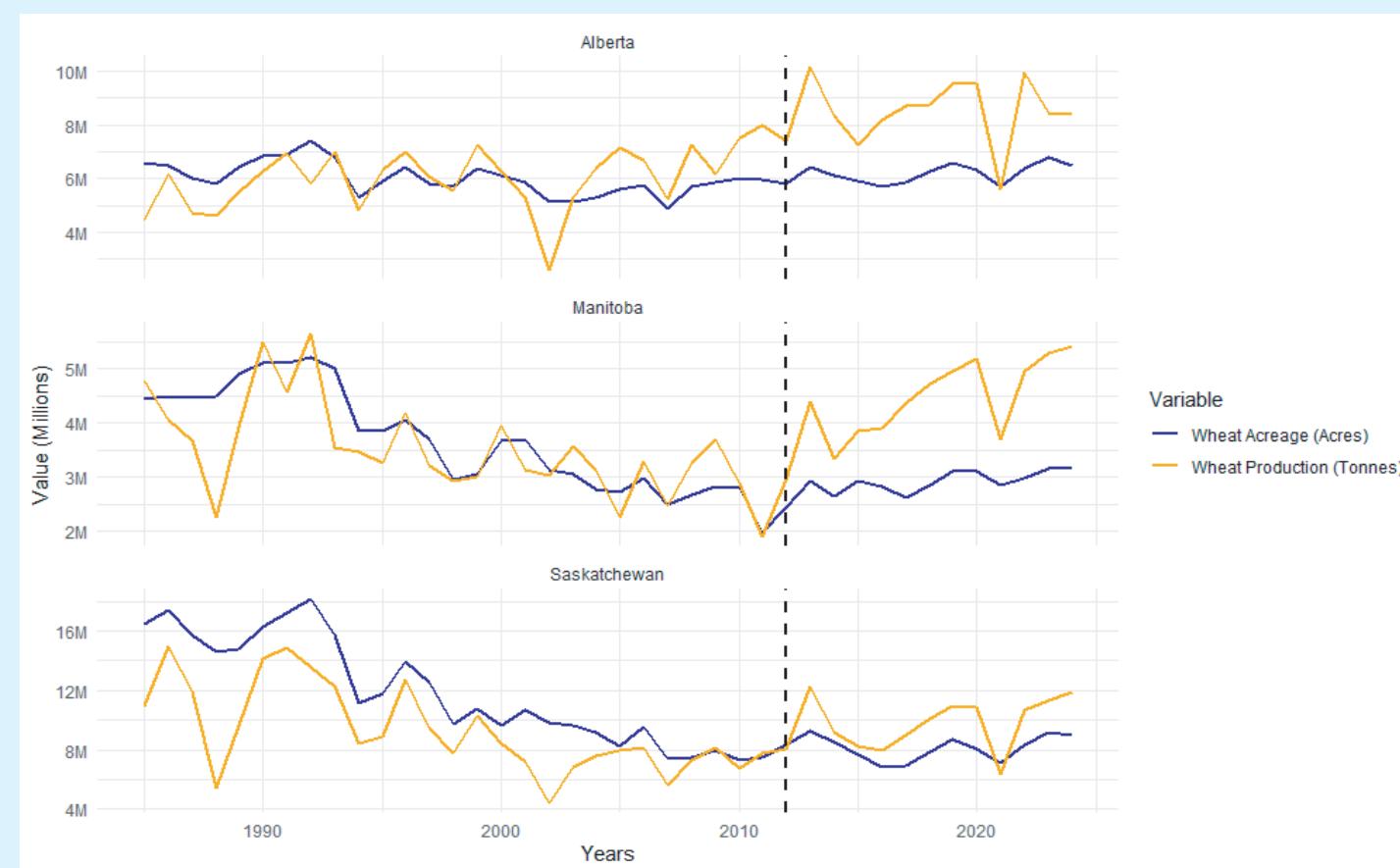
Introduction

Wheat has long been a major cash crop of Canadian agriculture, particularly in the Prairie provinces of Manitoba, Saskatchewan, and Alberta. The provinces account for 98% of Canada's total spring wheat area in 2024. Wheat production in these regions plays a critical role in both domestic food security and Canada's position in global grain markets. From 1935 to its abolition in 2012, the Canadian Wheat Board (CWB) operated as a single-desk marketing organization for wheat and barley that were produced in the Prairie region. As a major policy shift, the ending of such a centralized marketing power led to a fundamental change in market incentives for the farmers. The transition from a regulated to a more market-oriented system introduced new levels of price uncertainty and marketing responsibility for producers. Farmers were required to adapt to more competitive and volatile market conditions. Therefore, the hypothesis is that, given the CWB's historic role, the removal of the CWB has significantly affected the behavior, acreage decisions, and market expectations of the producers. In this regard, in evaluating market efficiency, risk exposure, and the effectiveness of agricultural policy, it is essential to understand how wheat producers respond to price signals and other economic forces. These responses may vary across regions depending on agronomic conditions and market access. This study uses a Nerlovian supply response framework to examine how acreage decisions in the Prairies respond to prices, weather, and institutional change over the period 1985–2024.

Research Objectives

- Estimate the supply response of spring wheat acreage in Canadian Prairie provinces.
- Quantify how abolition of the CWB influenced farmers' behavior.
- Derive policy implications for farm risk, price incentives, and marketing structures post-abolition.

Wheat acreage vs production (1985 – 2024)



Theory

$$A_{it}^W = \beta_0 + \beta_1 P_{it}^W + \beta_2 A_{it-1}^W + \beta_3 P_{it}^C + \beta_4 Precip_{it-1} + \beta_5 Y_{it-1}^W + \beta_6 CWB_{it} + \alpha_i + \varepsilon_t$$

Where,

- A_{it}^W = Acreage of Wheat,
- A_{it-1}^W = Lagged Acreage of Wheat,
- P_{it}^W = Futures price for wheat,
- $Precip_{it-1}$ = Lagged growing season precipitation,
- Y_{it-1}^W = Lagged spring wheat production,
- CWB_{it} = Dummy variable representing the existence of the CWB
- α_i = Fixed effects parameter capturing province-specific unobserved heterogeneity.

The Nerlovian framework assumes that farmers adjust wheat acreage gradually as they respond to expected prices, past planting decisions, and external conditions. Lagged acreage reflects adjustment costs and adherence to traditional cropping patterns in Prairie agriculture.

Data & Methodology

- 39 years of annual data (1985–2024) for Alberta, Saskatchewan, and Manitoba.
- Lagged wheat seeded acreage for Small Area Data (SAD/CAR) regions
- Futures prices, expected prices from MGEX March wheat futures
- Lagged wheat production
- Competing crop (canola) prices.
- Lagged growing-season precipitation (Apr-Aug)
- CWB as a dummy (1 = pre-2012, 0 = post-2012).

All price variables are deflated to real terms to account for inflation and improve comparability over time. A fixed-effects panel regression is used to control for unobserved, time-invariant provincial characteristics.

Results

Table : Fixed effects wheat supply response model

| | |
|-------------------------------------|-----------|
| Futures price | 0.136** |
| Lagged Wheat acreage | 0.954*** |
| Canola price | -0.224* |
| Lagged Wheat Production | -0.0621** |
| Lagged Growing Season Precipitation | -0.0966** |
| CWB Dummy Variable | -0.0401* |
| Constant | 2.763*** |
| R-squared | 0.8169 |
| Observations | 117 |

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The fixed-effects results show that wheat acreage in the Canadian Prairies responds strongly to past planting decisions and expected prices. Lagged acreage has the largest positive coefficient, confirming slow but persistent adjustment in farmers' land allocation. Futures prices also have a positive and statistically significant effect, indicating that higher expected wheat prices encourage additional plantings. In contrast, canola prices, lagged wheat production, and lagged precipitation all carry negative coefficients, suggesting that competing crop profitability, recent yield outcomes, and past moisture conditions reduce wheat acreage. The CWB dummy is also negative, consistent with a modest decline in wheat plantings following the end of the Canadian Wheat Board's single-desk system. Most coefficients are statistically significant, and the model exhibits strong explanatory power for observed variation in wheat acreage.

Key Findings

- Removal of the CWB is associated with a statistically significant change in wheat acreage, subtly hinting at a behavioral shift after 2012.
- Acreage response to price signals is weak in short run. Farmers react to futures prices, but adjustments are gradual rather than immediate.
- Short-term price elasticity is low (0.136), but the long-term elasticity is high (2.95), meaning the farmers respond much more strongly to sustained price changes over time than to short-term fluctuations.
- Canola prices have a statistically significant negative effect on wheat acreage, indicating a strong crop substitution effect in the Prairies.

Conclusion

The abolition of the CWB is associated with a modest decline in spring wheat acreage, consistent with changed marketing incentives. Although response to price changes remains modest in the short run, farmers adjust more strongly over time. These findings suggest that, in a decentralized market environment, policy-makers should prioritize measures that support farmers in better navigating through price uncertainty and market risk exposure.

Recommendations

- Policymakers should consider strengthening risk-mitigation tools, such as crop insurance and market education programs, to help offset the increased uncertainty farmers face in the absence of centralized marketing institutions.
- Policy design should consider collective marketing benefits and regional risk disparities when reforming agricultural marketing institutions.
- Future research should examine post-CWB policy adjustments, incorporate detailed farm-level data on costs, risk, and market conditions, and apply advanced dynamic models to better understand farmers' acreage decisions under uncertainty.