A Bonnefield Research Paper

The Economic Value of Farmland



September 2012

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Introduction

The agricultural commodities bull market over the past five years has dramatically increased the profitability of global crop production, and the value of the factors used in production. Cropland in particular has experienced substantial gains in value. The US Corn Belt has experienced greater than 20% annual increase in farmland value in recent years. Canadian farmland has also experienced substantial increases in value with a few localized regions experiencing value growth approaching those of the US Corn Belt.

Given that the vast majority of farmland transactions each year in Canada are undertaken by farmers, it appears to be farmers themselves that have been driving farmland prices. This paper highlights some aspects of a farmer's economic decision making framework that influence their view of land value. Much of this research is modeled on analysis originally undertaken by Professor Joe Horner of the University of Missouri. With Professor Horner's permission we have adapted and extended his research relating to farmland prices in Missouri and applied his approach to the Canadian farmland context.

Increasing Revenue in the Grain and Oilseed Sector

A farmer determines the price he is willing to pay for land based on the revenue he expects to generate from that land. Farm revenues for North American grain and oilseed sector have reached record levels in recent years, driven by record crop prices and strong yields. Long-term trends such as global population growth, rising protein consumption in the developing world, climate change and water shortages have all contributed to rising commodity prices in recent years, while continued development and adoption of production technologies continue to improve yields.

The 2012 crop season saw further spikes in agricultural commodity prices spurred by an extreme drought across much of the US and production challenges in Russia and parts of South America. The continuing trend in rising crop prices and crop yields have improved the revenue and profitability of most grain and oilseed producers in Canada and the US, which is expected to continue 2012. Despite the devastating drought experienced in the US, the USDA still expects record net farm incomes, due to high commodity prices and a robust system of crop insurance which guarantees a minimum level of revenue. With the exception of pockets of Quebec, Southwestern Ontario, and Eastern Ontario, Canada did not suffer drought conditions. Farmers in Western Canada expect bumper crop yields, and will benefit both from excellent agronomic conditions, and advantageous market conditions caused by the extreme drought in the US. The following charts (see Figures 1 and 2) estimate per-acre revenue for the primary commodity crops in Eastern and Western Canada between 2006 and 2012.

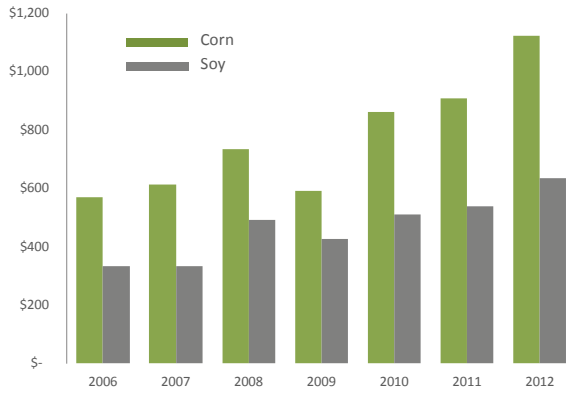


Figure 1: Pro Forma per Acre Revenue of Average Ontario Cropland

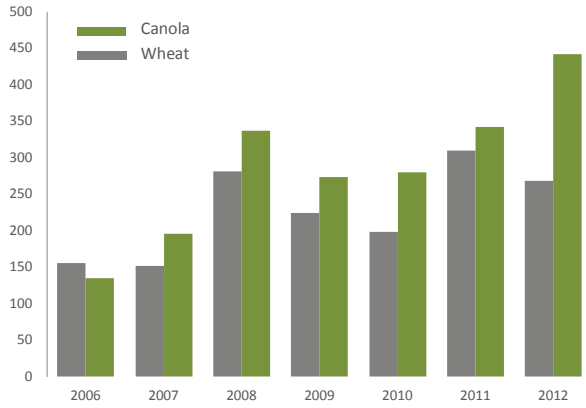


Figure 2: Pro Forma per Acre Revenue of Saskatchewan Dark Brown Soil Cropland

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While revenues have increased dramatically, input costs have also increased, though not nearly to the same extent. As a result gross margins per acre before real estate costs have increased significantly more than total revenue between 2006 and 2012 as shown in Figures 3 and 4.

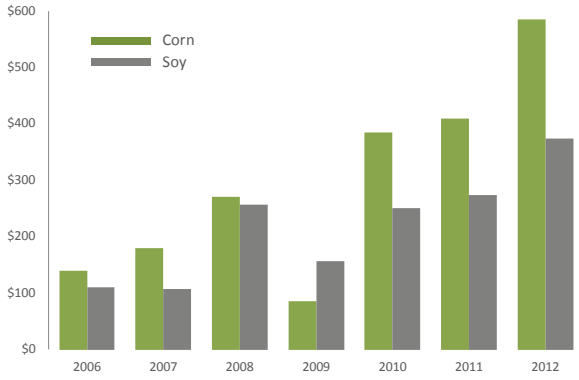


Figure 3: Pro Forma per Acre Gross Margin on Average Ontario Cropland 2006-2012

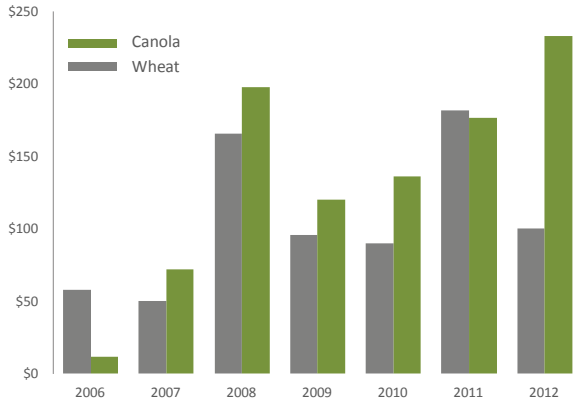


Figure 4: Pro Forma per Acre Gross Margin on Saskatchewan Dark Brown Soil Zone Cropland 2006-2012

As the following figure illustrates, (see Figure 5) top line revenue for primary Canadian commodity crops has approximately doubled in both Eastern and Western Canada between 2006 and 2012 (using normalized three-year trailing averages for the base year).

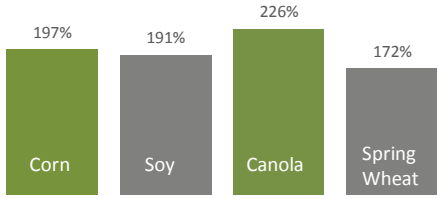


Figure 5: Normalized per Acre Changes in Revenue by Major Crop 2006-2012
Source: Bonnefield estimates based on OMAFRA, Government of Saskatchewan, USDA, AFSC data

While revenues have approximately doubled, gross margins on a per-acre basis have increased three, four, and up to nearly six times depending on the crop (see Figure 6). These increases have been particularly dramatic in canola production, where margins were especially thin for several years prior to 2007.

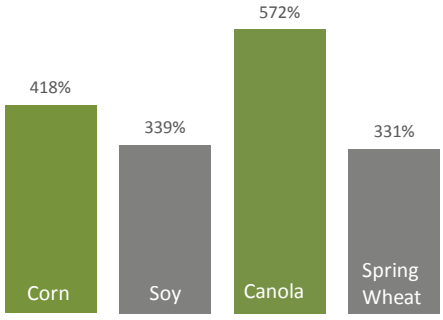


Figure 6: Normalized Changes in per Acre Gross Margin by Major Crop
Source: Bonnefield estimates based on OMAFRA, Government of Saskatchewan, USDA, AFSC data

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On a relative basis, areas with thin margins experience greater growth in profitability when revenues rise. The relative increase in profitability partly explains differences in land value appreciation across Canada: provinces with greater concentrations of grain and oilseed farming, particularly crops that have experienced greater relative increases in gross margin, have also seen similarly greater increases in land values. As the following table illustrates, the Prairie Provinces, particularly Saskatchewan which produces over half of Canada`s canola crop, experienced the greatest increase in land values over the past five years.

	AB	SK	MB	ON
Farmland Value Growth Rate 2007-2012	8.8%	12.1%	8.1%	7.5%

Table 1: 2007-2012 Annual Growth Rate of Farmland Value by Province
Source: Farm Credit Canada

The Economic Value of Farmland

Evaluating the relative affordability of land to an operator in terms of his production can provide insight into the economic viability of current land prices. Despite falling interest rates, higher land values increase mortgage payments, and substantially increase the equity required to obtain land financing. When these costs are viewed as a portion of revenue however, land still appears relatively affordable to a farmer.

The following charts estimate land payments in Saskatchewan and Ontario. We estimated typical land payments in Ontario in terms of bushels of corn and soybeans and in Saskatchewan in terms of wheat and canola. These bushel land costs are compared to their cost in dollars and also as a portion of total revenue. The figures clearly show that despite significant increases in land costs, typical mortgage payments have remained relatively flat or declined over recent years as a percentage of crop revenue and continue to appear affordable from a farmer's perspective.

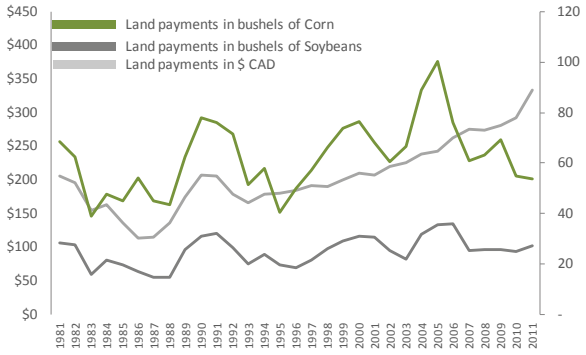


Figure 7: Land Payments per Acre of Ontario Cropland in Bushels of Corn, Soybeans, and in Canadian Dollars

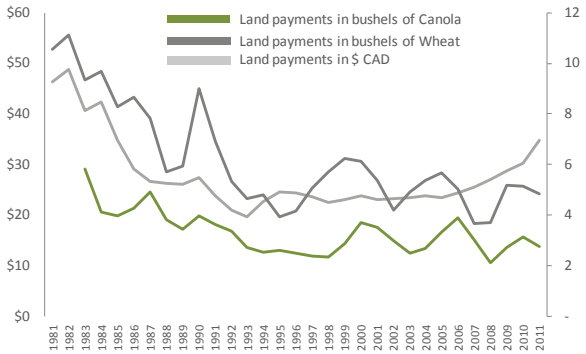


Figure 8: Land Payments per Acre of Saskatchewan Cropland in Bushels of Wheat, Canola, and in Canadian Dollars

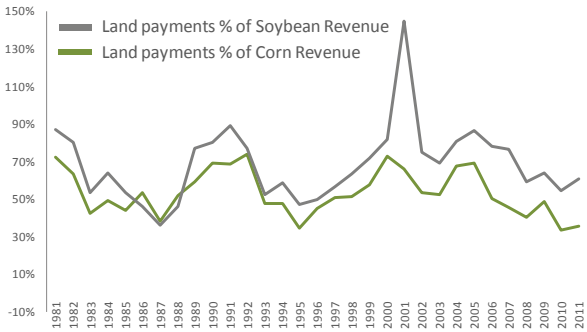


Figure 9: Portion of Total per Acre Production Revenue Needed for Land Payments on Ontario Cropland

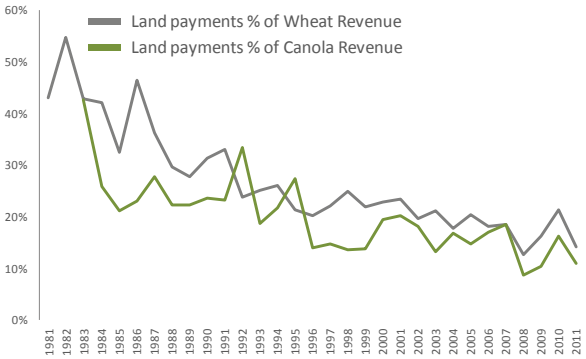


Figure 10: Portion of per Acre Total Production Revenue Needed for Land Payments on Saskatchewan Cropland
Source: Bonnefield estimates based on Statistics Canada, OMAFRA, Government of Saskatchewan, ASFC data

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Conclusion

Given that farmers undertake the vast majority of farmland transactions each year in Canada, it is clear that farmers' perceptions of value have been the main driver of increasing farmland values across the country. Farmers establish the price they are willing to pay for farmland based on the revenue they expect to earn from that land. The analysis outlined in this paper shows that revenues and gross margins from typical crop farming operations in both Eastern and Western Canada have risen with farmland prices in recent years. This observation suggests that, in the main, farmland prices have been driven by farm economics and that farm profitability has not suffered as a result of increases in land costs.

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About the Authors

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Tom Eisenhauer is President of Bonnefield Financial and has over 23 years of finance industry experience. Prior to Bonnefield, Tom was the founder and Managing Partner of Latitude Partners a private equity fund manager. Previously, Tom was Managing Director of TD Securities and a Managing Director of Lancaster Financial.

Tom holds a M.A. Economics from Queen's University with a specialization in natural resource economics. He holds a B.A. (Gold Medal) in Economics and Russian Literature from Dalhousie University. His professional designations include the SME Board Effectiveness Program from the Institute of Corporate Directors and the Rotman School of Management and the PDO from the Canadian Securities Institute.

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Marcus Mitchell is an Associate with Bonnefield Financial. Previously, Marcus was a Research Analyst with Colliers International with a focus on real-estate-related research and analysis.

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