Ontario Farmland Values and Cash Rental Rates

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Abstract

We explore trends in Ontario farmland values, rental rates, and interest rates over the last twenty-five years up to 2016. This analysis suggests that the increasing prices in farmland values are consistent with theoretical expectations associated with interest rates, the relatively high commodity prices experienced in 2012-2013, and rising rental rates. However, looking forward, should these trends reverse, in areas not under urban pressure, the trend in farmland values and rental rates should experience downward pressure for the very same reasons they experienced upward pressure from 1991-2016.

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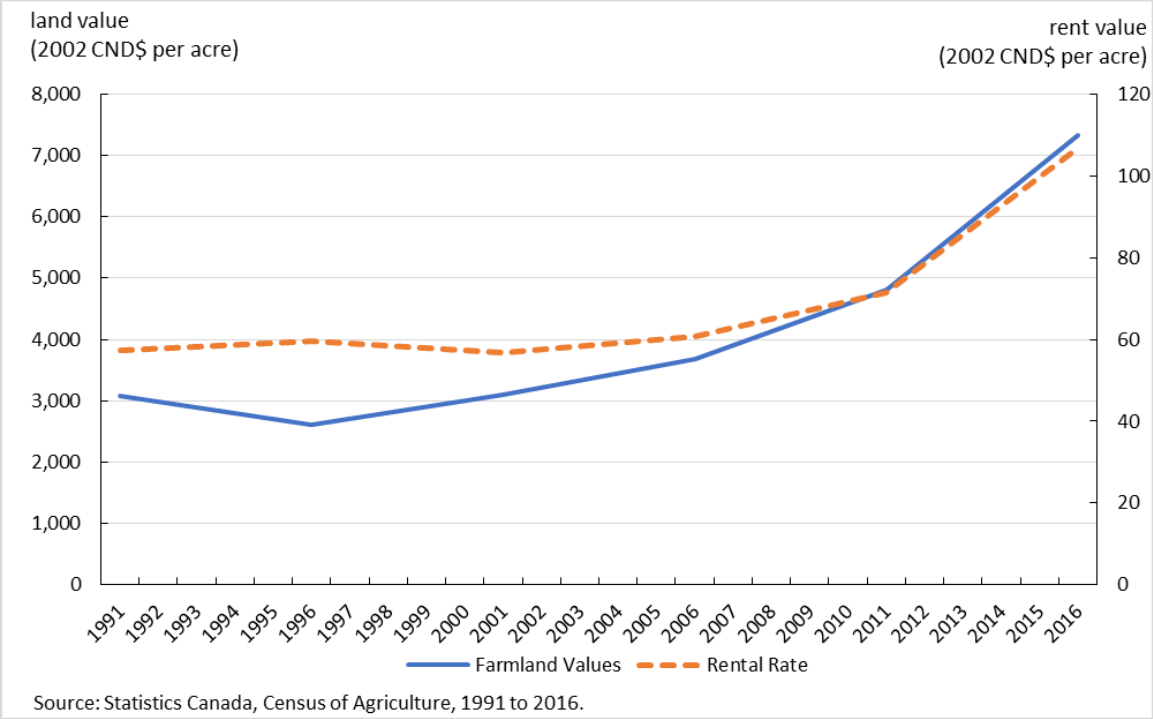
One topic that generates widespread interest, in both the academic and non-academic communities, is farmland values and farmland rental rates. Both are essential to determining the wealth and income of a farm operation. They also influence long term decisions to invest in agriculture; whether to expand farm activities and how to pass land to the next generation. Farmland values depend on a range of factors such as soil quality, topography, drainage, interest rates, potential use for non-farming activities, etc. This short paper describes the relationships between farmland values, rental rates, and the interest rate.

Farmland is a primary input in agricultural production and a measure of wealth. The per-acre rental rate *(r)* is a measure of cost from the tenant's perspective; and, a measure of financial return to owning farmland from the farmland owner's perspective. Where farmland is expected to remain in agricultural use, the per-acre price of farmland *(p)* is expected to depend on the discounted stream of future net-revenues associated with farming. Rental rates are often used as a proxy for these net-revenues. Hence, rental rates and land values generally move in a similar direction. Figure 1 characterizes trends in farmland values and rental rates across Ontario from 1991 to 2016. (The graph is constructed from price and rent information available every five years: e.g., 1991, 1996…). In general, these trends appear to reflect similar fundamentals. The high grain and oilseed prices in 2012-13 placed upward pressure on both rental rates and land values.

Figure 1:
Farmland Values and Real Rental Rates, Ontario, 1991 to 2016

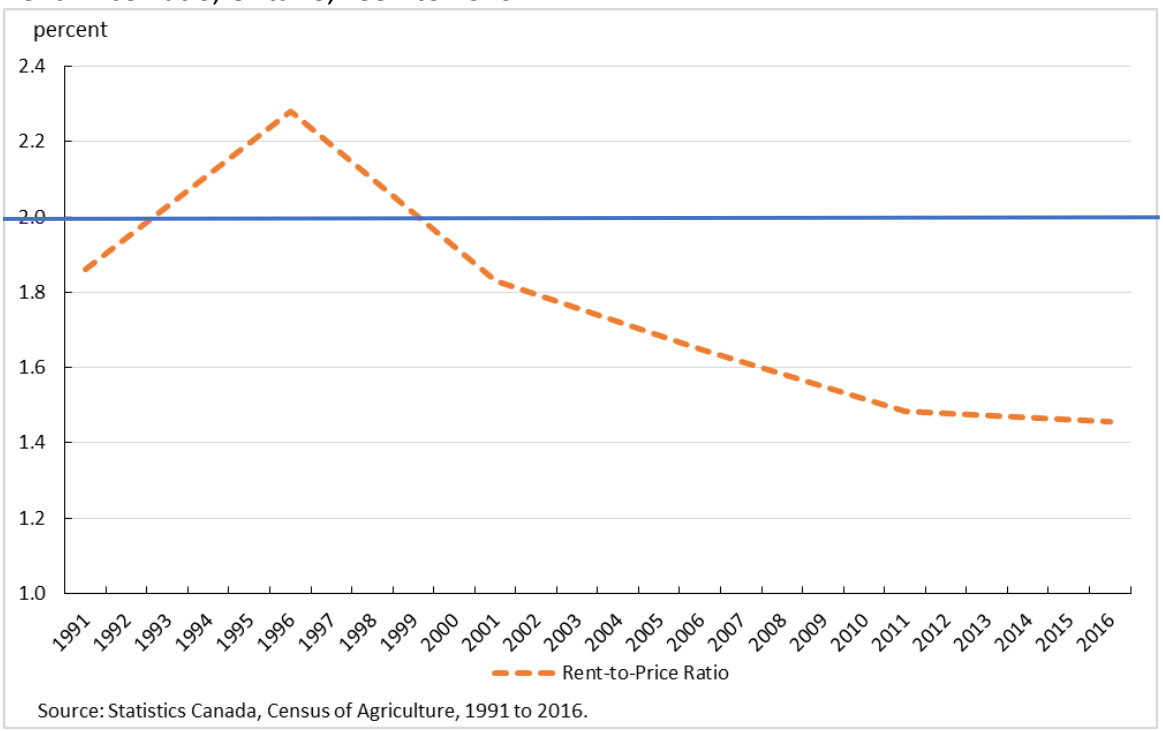


Farmland Rent to Price Ratio

Rental rates and farmland values can also be used to approximate the return to investing in farmland: We divide the per-acre rental rate *(r)* by the per-acre price of farmland: i.e., *r/p*.

Figure 2 indicates that the rent-price ratio remained below 2% for most of the twenty-first century (since 1999). This return appears relatively lower than other farm areas in the United States. For example, according to a U.S. report[1], the rent-price ratio in Iowa is well above 2%. One reason for the relatively low rent-price in Ontario is upward pressure on farmland values due to its proximity to large urban areas. This urban pressure to develop farmland for non-agricultural uses, increases the per-acre price in the denominator but not for reasons related to its agricultural value. The effect of urban pressure was documented elsewhere, most notably in the Greater Toronto Area (reports available here[2]).

Figure 2:
Rent-Price Ratio, Ontario, 1991 to 2016



[1] https://www.extension.iastate.edu/agdm/articles/edwards/EdwJuly12.html
[2] https://www.uoguelph.ca/fare/bios/f_deaton.html

Capitalization Values:

Another way of thinking about the relationship between land value and rental rates is to measure the capitalized value of farmland and compare it to the actual value of farmland. Capitalized values are measured as follows:

$$\text{Capitalized values } = \frac{r}{i},$$

where *i* is a measure of the capitalization rate which can be measure in a number of ways.[3] For our purposes – to focus on the relationship between long-term interest rates and farm land values – we use a measure of the interest rate.[4] (Admittedly, this is a simplified measure of the capitalization rate.)[5] Given this measure of capitalized value, falling interest rates are expected to increase capitalized values and be associated with increases in real farmland prices.

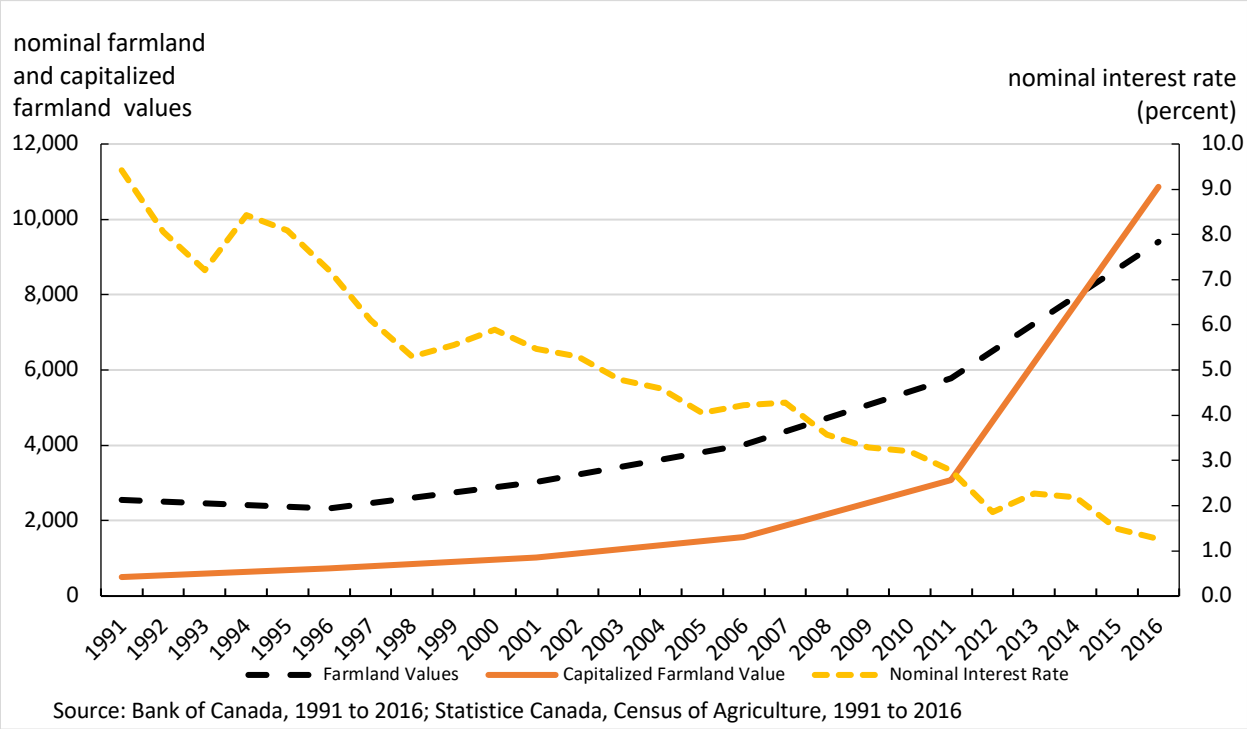
Figure 3 shows changes in farmland values and capitalized farmland values (using the above formula), measured in dollars on the left axis, compared to changes in the interest rate, measured in percentages on the right axis. Our focus is on the trend between capitalized values and farmland values over time rather than using capitalized value to predict an exact farmland value. From this standpoint, the upswing in capitalized values that seems distinct after 2012 is consistent with declining interest rates and the relatively high grain and oilseed prices during 2012 and 2013. This suggests that the trend (not necessarily the magnitude) in the recent appreciation of farmland prices was consistent with fundamentals.

[3] https://agecon.unl.edu/cornhusker-economics/2018/economics-capitalization-rate-farmland

[4] We use an annual average of monthly 10-year Government of Canada benchmark bond yields (V122543) to calculate the nominal interest rate

[5] For a similarly simple approach https://farmdocdaily.illinois.edu/2015/10/2016-farmland-price-outlook.html

Figure 3:
Farmland Values, Capitalized Farmland Value and Nominal Interest Rate[3], Ontario, 1991 to 2016



Source: Bank of Canada, 1991 to 2016; Statistice Canada, Census of Agriculture, 1991 to 2016

Looking Forward:

This short paper explores the general relationship between farmland values, rental rates, and interest rates. We emphasized their theoretical and empirical relationships over the last twenty-five years. There are many other factors that are important, such as exchange rates, urban pressure, input costs, etc. There are also non-monetary factors that influence willingness to pay for farmland. That said, looking forward, the important relationships we identify are likely to continue to play an important role. If long-term trends in rental rates were to decline or stay the same and/or interest rates continue to increase – as they have since 2016 – we would expect farmland prices to level off or, possibly, decline in areas not under urban pressure.