CAPI
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The Economics of Farmland Use, Farmland Values and Returns and Futurability

A *Research* Report prepared for CAPI by Courtney Anderson

Research Report

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The Canadian Agri-Food Policy Institute's mission is to lead policy development, collaborate with partners and advance policy solutions within agriculture and food

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Note from CAPI

This report explores the economics of farmland use, value, and returns across Canada, using Census of Agriculture data to fill key knowledge gaps. While farmland has appreciated significantly over the past 30 years, rising land values alone don't deliver sufficient returns for most investors—especially in high-density regions where development pressures distort the economics of farming. Farmland rentals and on-farm operations offer better returns but come with added risk. The data reveals intense competition for rental land and regional disparities that impact farm viability. For policymakers, the message is clear: safeguarding Canada's agricultural land base—and the ability of future generations to farm it—requires nuanced, regionally grounded strategies. Continued investment in detailed, farm-level data is essential to ensure policies support productive, economically viable farmland use and long-term food security.

This report is part of CAPI's Policies for Land Use, Agriculture & Nature (PLAN) program focused on advancing solutions that enable us to feed the world sustainably, protect farmland, preserve nature and biodiversity, and promote food security. The initiative is supported in part by the RBC Foundation through RBC Tech for Nature.

Key Takeaways

- **Farmland is Finite—and Under Pressure.** Despite strong demand, actively used farmland in Canada is in long-term decline, particularly near urban areas. Understanding its economic drivers is essential for protecting the land base needed for future food security.
- **Data from the Census of Agriculture is a Hidden Asset.** The CEAG offers unparalleled insight into farmland values, rents, and returns. It's underused but uniquely suited for detailed, regionally granular analysis to support evidence-based land use policy.
- **Farmland Appreciation Alone Isn't Enough.** In most regions, rising land values have not matched the returns required by typical farmland investors—especially in provinces where land prices reflect non-farm pressures like development.
- **Rentals and Farm Operations Offer Returns—With Risk.** Farmland rental and active farming can provide stronger returns than appreciation alone, but they carry significant uncertainty and depend heavily on regional conditions and policies.
- **Policy Must Address Regional and Generational Realities.** To sustain viable farm operations, policy should account for competition for land, urban encroachment, and the financial challenges future generations face in accessing land.

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Introduction

Land is a finite resource and farmland in Canada is even more finite. Actively used farmland in Canada is on a long slow decline, despite growing domestic and international demand for food and strong farmer returns in recent years. The economics driving farmland use in Canada is widely variable between regions of the country and between farm sizes and type. Understanding better the economics of farmland use is a key component of advancing evidence-based policy solutions.

This project will explore:

1. An approach to measure farm returns, farmland values and farmland rental rates across Canada, its provinces and regions over time using publicly available data that can be updated in regular intervals.
2. An analysis of the relationship between farm returns, farmland values and farmland rental rates across Canada, its provinces and regions over time.
3. An analysis of the degree to which farmland rental rates reflect economic rents at the farm level and if this reflects in farmland values based on appropriate discount rates.
4. An analysis of implied farmland values based on farmland rental rates.
5. Policies and other considerations based on the findings important for the future viability of active farmland use across Canada, its provinces and regions (such as land quality, sector support, zoning and urban proximity).

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Background

The economic relationship between farmland values, rental rates and profitability is well established and analyzed. Deaton and Lawley 2022, provide a comprehensive review of Canadian focused literature examining farmland prices. The challenge with analyzing this economic relationship, quantitatively, rather than theoretically, is lack of large scale robust data. There are very limited statistical resources in Canada that provide detailed datasets outlining farmland values, rental rates and profitability at the micro or farm level where these three variables occur and can most accurately be observed. Statistics Canada (STC), Agriculture and Agri-food Canada (AAFC) and the provinces do not have ready-made datasets of these variables at their disposal. Financial institutions including Farm Credit Canada (FCC), have financial and production data that would enable the calculation of these variables for their clients, but this information is not released due to obvious confidentiality issues. Financial institutions have the unique position of requiring farmers to provide balance sheet, income statement and production data to secure financing, It is these three pieces of farm data that offer an important lens and would help in this analysis. Instead, the paper uses proxy data from Statistics Canada to measure these variables to achieve the same objective.

Census of Agriculture Data and Definitions

Despite the concerns that the Census of Agriculture (CEAG) is not completely accuratel and comprehensive by some farmers, it provides a credible partial lens into each farm in Canada similar to what financial institutions possess. The CEAG provides an inventory of land, labour and capital for each farm in Canada that includes the ability to also examine the farm income statement used for tax purposes. The CEAG is also unique in that it provides a consistent measure of these variables over time allowing for trend analysis. Because the CEAG is done at the farm or firm level, it can also be totaled into key geographic areas including the national, provincial, regional, county, and municipal level. The CEAG can also be disaggregated into specific farm types and farm sales ranges as a proxy for farm size.

This report uses the CEAG to examine calculated net operating incomes, farmland values, and farmland rental rates at the Canada, province, and regional level from 1991 to 2021. While not in the scope of this report, these variables could also be calculated at the Census Division (CD) often referred to as county and Consolidated Census Subdivision (CCS) often referred to as municipality or township level in some provinces. These variables could also be calculated at the farm type and farm sales range for all years, subject to any data suppression.

Note that the geography represented by a few of the Census Agricultural Regions (CAR)s used by STC over time has changed. For this report, the CARs used in 2021 were calculated going back to 1991 using information provided by STC on how the CARs were adjusted in any one CEAG year.

The following variables are calculated using CEAG data for the purposes of this analysis and the data used for analysis and in the graphs for Canada and each province are provided in the appendix.

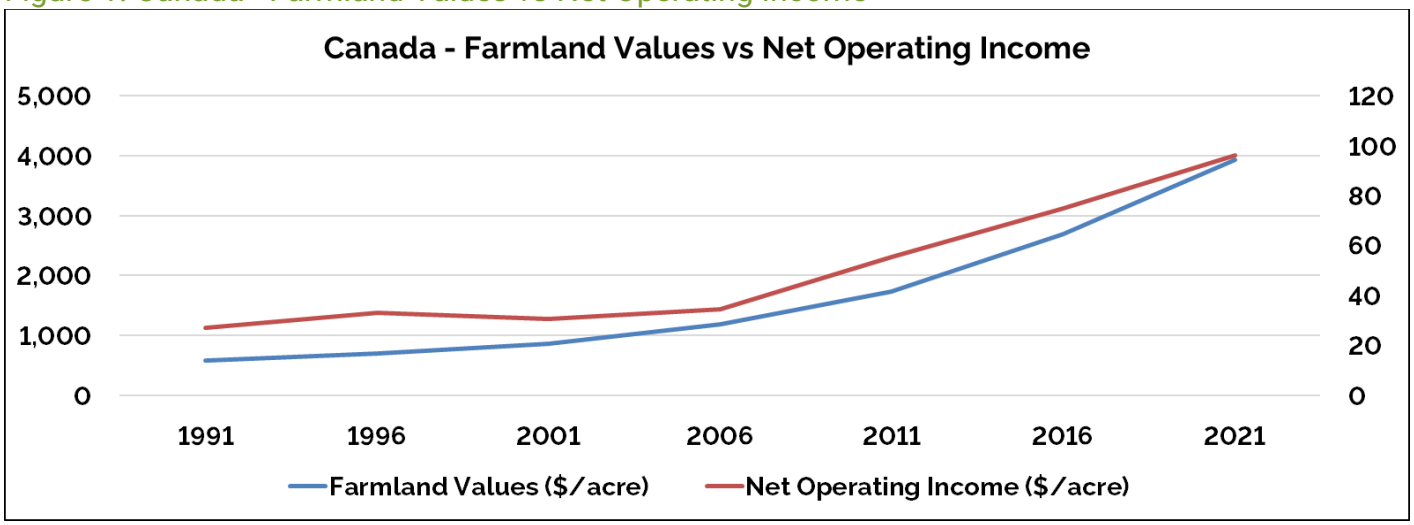
Variable	Calculation
Average Net Operating Income	This calculated by deducting total operating expenses as reported to CRA from total farm sales including business risk management payments. This calculation does not include depreciation or capital cost allowance as used for income tax purposes.
Net Operating Income per dollar of farm sales	This is calculated by dividing average net operating income by average farm sales.
Net Operating Income per acre of total farm area	This is calculated by dividing average net operating income by average total farm area per farm.
Farnland Value Per Acre	This is calculated by dividing the value of farmland and buildings reported by farms to the CEAG by the total farm area used by these same farms.
Farmland Rental Rate Per Acre	This is calculated by dividing the land rental expenses reported by farms to CRA by the total amount of farmland rented.

Relationship between Farmland Values, Farmland Rental Rates and Farm Profitability

The economic relationship between farmland values, rental rates and profitability is well established and has been analyzed over the years. Deaton and Lawley 2022, provide a comprehensive review of Canadian focused literature examining farmland prices. The challenge with analyzing this economic relationship, quantitatively, rather than theoretically, is lack of large scale robust data. This report builds a robust dataset to better examine these relationships across Canda over time.

The graphs below illustrate the movement of farmland values, rental rates and net operating income per acre over time in Canada. The positive relationship is clear in both graphs as expected. The correlation between these farmland values, rental rates and net operating incomes per acre is over 90% in all regions of Canada, again as expected. The correlation appears to be stronger between rental rates and net operating income per acre, again as expected. It also appears that the correlation is weaker between farmland values and net operating incomes per acre in regions with higher population densities (see appendix) and presumably more alternative, high value uses for the farmland in question. A further review of this preliminary finding examining the data at a more local level for various farm types and sizes would be quite instructive, but is beyond the scope of this report.

Figure 1. Canada - Farmland Values vs Net Operating Income



The relationship between farmland rental rates and net operating income per acre is less understood and clear. From 1991 to 2021, the average farmland rental rate in Canada was 0.66 of the average net operating income per acre. In 2021, the ratio was 0.86 having increased 85% since 1991. In 2021, Nova Scotia, New Brunswick, Manitoba, Alberta, and British Columbia all have a higher farmland rental rate to net operating income ratio than the Canada average. This could be an indication of stronger competition amongst farmers for farmland rental in these provinces, but further analysis would be needed, which is beyond the current scope of this report.

Capitalization Rates

Capitalization rates are measured by the relationship or ratio of farmland rental rates to farmland values for a particular region. The basic economic concept is that farmland as a productive unit has a specific economic value which is reflected in both the rental rate that producers will pay to use that productive land and the sale value of that same land. Capitalization rates provide a lens on the degree to which rental rates are related to the capital value of farmland and the degree to which these two measures change over time. In particular, for areas with similar populations, farm area, density and profitability, the capitalization rates in theory should be the same reflecting similar relationships. The degree to which the capitalization rates vary significantly will most likely be a reflection of other pressures coming from the intensity of demand for farmland for farming purposes versus demand for other purposes, such as for development or housing. Other factors might be related to the soil type, topology, the types of farms in the region (e.g. supply managed) or the presence of adjacent industries or agri-businesses (e.g. processing capacity, machinery suppliers etc.).

From 1991 to 2021, Canada's overall capitalization rate averaged 2.2% per year and has been quite steady around that level. In 2021, Ontario and British Columbia were the only two provinces with a capitalization rate lower than the national average. This would clearly reflect the disconnect in these two densely populated provinces, the difference between farmland rental rates and farmland values. Again, this implies that the value of farmland in Ontario and British Columbia exceeds the economic rent or profit from farming that can be achieved using that land.

At the same time, New Brunswick had the highest capitalization rate in 2021 at 5.2% indicating that farmland values were not as reflective of farm level profitability.

Interestingly, as commodity prices soared during the period of 2016 to 2021, and total farm area continued to decline in all regions of Canada, the capitalization rates in most provinces moved closer to the Canada average. While many reasons could drive this result, it is likely that at such price levels, the profitability of farming rose and farmland rental rates moved proportionally higher in many areas of the country.

Figure 2. Canada - Farmland Values vs Farm Product Index

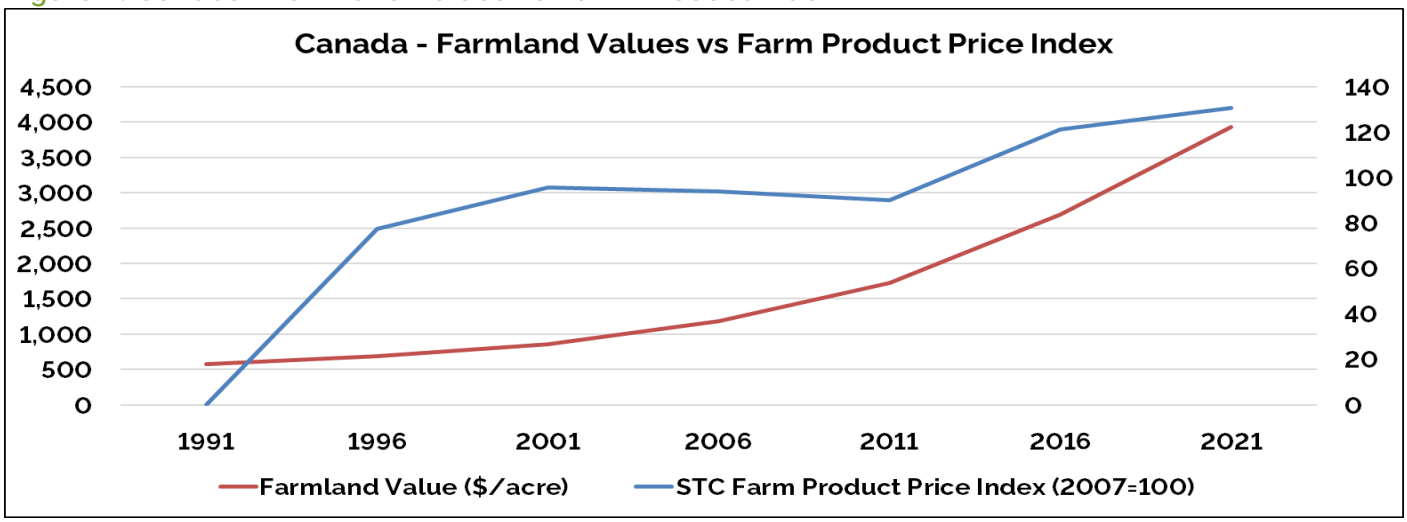
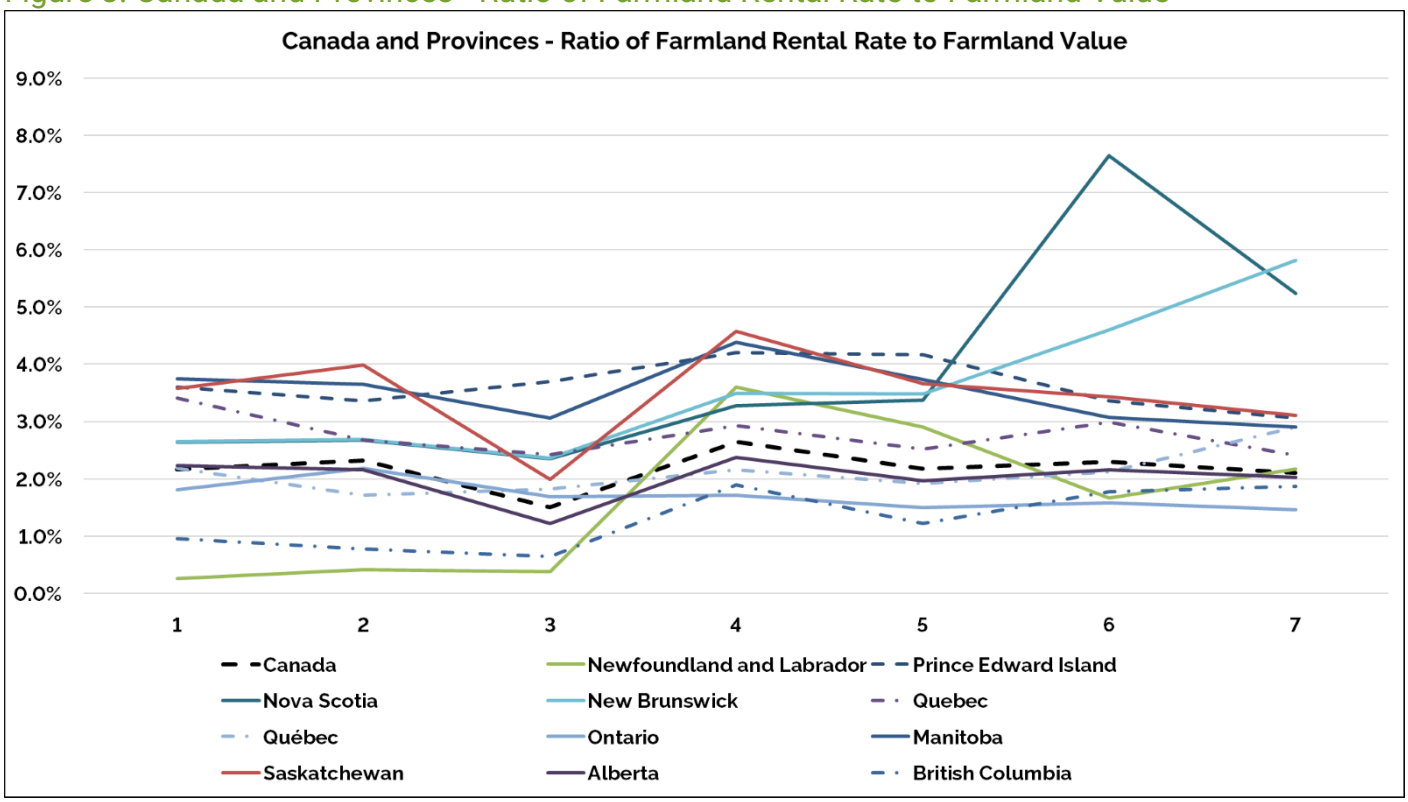


Figure 3. Canada and Provinces - Ratio of Farmland Rental Rate to Farmland Value



Farmland Value as a Return on Investment – Discount Rate

We need to start with the risk-free rate of return and then add a risk premium. It is generally accepted that the risk-free return for investments in Canada can be pegged to the 10-year Government of Canada Bonds. In the 1990's this equated to 10% plus and got as low as 0.48% in 2020. In February of 2025 the risk-free rate of return was 3.06%.

Determining what the risk premium is significantly more subjective and complex. An argument can be made that with farmland there is lower liquidity, increased climate and production risk and lastly, increased risk due to commodity, market and regulatory risks (look at the impact to canola farmers under the present tariff discussions). This could all contribute to a risk premium of 4% - 7%. The result is a combination of the risk-free rate of return (3.06%) and the risk premium (4% - 7%) which becomes an all-in discount rate for farmland investors where farmers are intending to farm the land between 7% - 11%.

If we have pure investors with no intention of farming the farmland then we can reduce the risk premium by eliminating the operating risk and factoring in lower risk due to a more stable cash flow and the ability for short term rentals to act as an inflation hedge to a rate of 3% - 4% and an all in discount rate of 6% or 7%. A pure investor in farmland would be more likely to use a 6% to 7% target for farmland (some institutional investors may require a higher rate *if* they allocate a higher factor due to the lack of liquidity) while an operating farm would need between 7% - 11%. The underlying recognition being that there is a difference in return expectations for investors farming the land as compared to investors renting the land.

An argument can be made that real estate and farmland specifically is a combination of fixed income and equities. Rent from farmland could be considered an income flow similar to fixed income instruments with low volatility and capital preservation, while also exhibiting long term growth, protection against inflation and income production, like many equity holdings. On the other hand, farmland is more illiquid, more complex to value and does not always change in value like either fixed income or equity holdings. Accordingly, farmland is best characterized as an "alternative" investment class.

Investment theory would suggest, depending on the investor, that some combination of fixed income, alternatives and equities make up an ideal portfolio. Alternatives would often make up between 5% - 15% of a portfolio (Morningstar suggests individual investors should hold 15% or less in alternatives). We could make the argument that farmland is closer to large cap equities by recognizing that farmland values have historically grown over time while producing income from rent (although farmland differs significantly due to its illiquid nature). Large cap stocks (S&P 500) between 1991 and 2021 returned between 9% and 12% (depending on whether we look at nominal returns or with dividends reinvested without factoring the taxation rate on dividends). A bonus with farmland, unlike equities, is that it does not have a price put on it every day so that even if you see it when you drive by the farm every day, this protects the assets from investor emotions. While we have chosen to compare farmland to the returns of large cap stocks for illustrative purposes, investing in farmland for a pure investor is an extremely sophisticated process and often relevant only for large institutional investors. As such arriving at a discount rate is extremely subjective and

perhaps as expected, would depend on the individual or institution making the investment while factoring in how farmland fits in with their overall holdings.

If we assume an all-in discount rate of 11% as outlined above, the value of the investment would need to grow 900% over the 30 years. Farmland values in Canada rose on average 580% from 1991 to 2021. The largest increase was in Quebec at 774% and the lowest increase was in Nova Scotia at 295%. Despite what is considered large appreciation in farmland values over the last 30 years, the rate of return in farmland ownership alone is not sufficient on average to meet this all-in discount rate.

Farmland Rental and Profitability as a Return on Investment

Farmland Rental

Renting out farmland is another way to generate a return to the purchase value of the farmland. Using estimated farmland rental rates from 1991 to 2021 and farmland values in 1991 as the purchase value, farmland rental in each of those 30 years would have generated a 149% return on investment over that period on average across Canada. In other words, the total annual rents per acre over the 30 years would equal 149% of the 1991 purchase value of that acre.

All provinces except Newfoundland, Ontario and British Columbia had rental returns exceeding the Canada average. Given the high value of farmland in Ontario and British Columbia in many cases based on non-farm uses, this result should be expected.

Manitoba had the highest return at 242%. Many provincial regions also had higher returns.

Farm Profitability

Farm profitability is another way to generate a return to the purchase value of the farmland. Using estimated farm profitability per acre from 1991 to 2021 and farmland values in 1991 as the purchase value, farm profitability per acre in each of those 30 years would have generated a 221% return on investment over that period on average across Canada. In other words, the total of annual per acre profitability over 30 years would equal 221% of the 1991 purchase value of that acre.

All provinces except Ontario, Alberta and British Columbia had farming returns exceeding the Canada average. Given the high value of farmland in Ontario and British Columbia in many cases based on non-farm uses, this result should be expected.

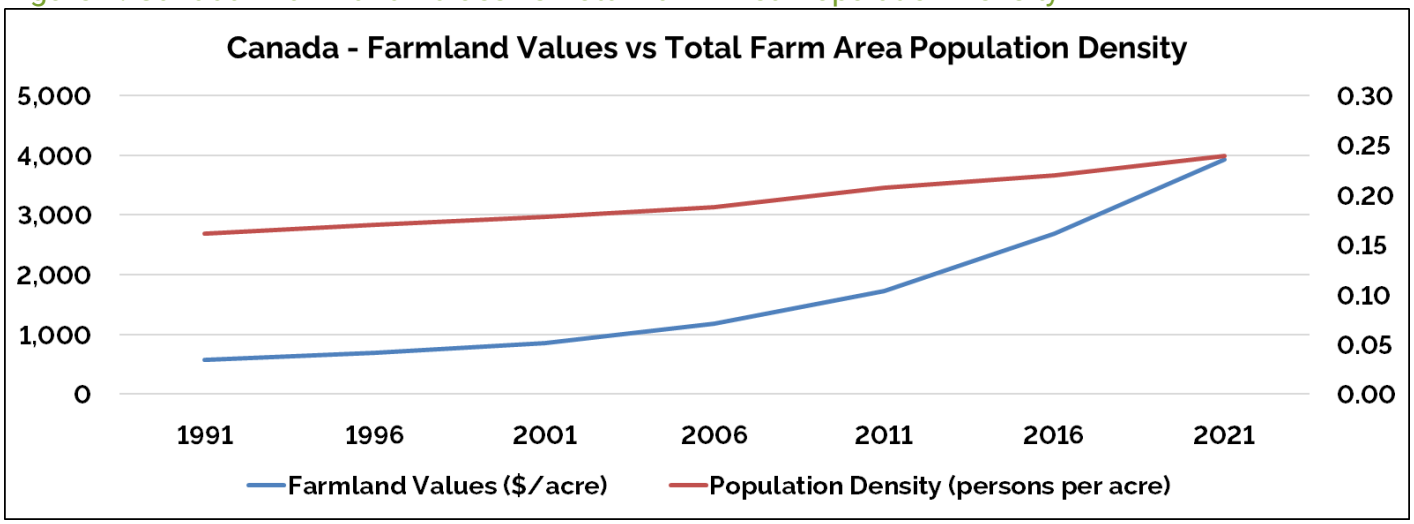
Quebec had the highest return at 476%. Many provincial regions also had higher returns.

Population Total Farm Area Density

This data (see appendix for detailed data tables) examines population density relative to the total farm area in a particular region. This attempts to understand the relationship between urban settings and farm area. The data calculated here provides a context with which to compare between regions. This calculation illustrates the degree to which farms and population coexist within a region. The premise being that regions with a higher population relative to total farm area

will experience greater pressures on farmland. These pressures would include more rapid loss of available farmland (not measured here), more rapid loss of active farmland, and farmland values and rental rates, which reflect economic conditions beyond farming and farm profitability.

Figure 4. Canada - Farmland Values vs Total Farm Area Population Density



Conclusion

The purpose of this paper was to analyze the data available from the Census of Agriculture to better understand the economics of farming to support evidenced based policy solutions. Some of the key economic observations around farmland in Canada were:

- As net operating income across Canada has risen in the last decade, farmland rental rates have caught up to farmland value appreciation in most areas of the country
- Provinces and regions with the highest population density have the lowest capitalization rates as expected
- Appreciation in the value of most farmlands alone, does not provide a high enough all-in discount rate of return for most investors
- Farmland rental and farming itself offer a strong potential additional return on investment to owning farmland but come at considerable risk and uncertainty
- On average, farmland rental rates represent almost 90% of the average net operating income per acre, suggesting strong competition for farmland rental

Policy Implications

Using this data to support farmland policy going forward in an effective way is in itself likely the subject of many future papers. The following observations are put forward for discussion:

- Farmland is under significant pressure from urbanization and consideration should be made for ensuring all agricultural lands are consistently in production.
- Various regions across the country have adopted policies with restriction around land ownership to minimize the reduction of farmland. The effectiveness and potential application of these policies to other regions may prove useful.

- Given the competition for farmland, understanding what future generations of farmers require to invest in farming and where possible renting of farmland in an economically viable manner to encourage growth, has value.
- Analysis of this data down to the municipality or township level (known as Census Division), and even by farm type and farm sales would be beneficial to further support evidence-based policy.
- This paper would not be possible without the collection of data at the farm level through the Census of Agriculture and accordingly maximum effort should be made to continue the collection of this data.

Appendices

The appendices can be found at the links below.

Appendix 1: Data tables

Appendix 2: Graphs of Key Calculations

References

Statistics Canada (1991, 2001, 2006, 2011, 2016, 2021), Census of Agriculture, Land Use and Farm data.

Statistics Canada (2016, 2021), Census of Agriculture, Custom Land Rental Expense run, accessed March 2025.

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