FCC Ag Economics:

Farmland Values Explained

Summer 2015

Introduction

Agriculture is a diverse and complex sector. Like a CEO of any business, a producer cannot solely focus on the production aspects, but must also focus on financials such as managing working capital and maintaining a healthy balance sheet. They also need to keep an eye on farmland values –the largest driver of the increases in both farm assets and farm debt. From 1981 to 2014, farm asset values have increased 308 per cent to $531 billion, according to Statistics Canada. Conversely, farm debt has increased 362 per cent to $84 billion. Over the same time period, real property values have increased over 300 per cent to $2,460 per acre for farmland and buildings.

Farmland is a limited resource. It is estimated that only one to four per cent of land exchanges hands each year. This means a piece of farmland only becomes available every 40 years on average. Currently, strong demand and limited supply have been impacting the price of land.

In this report we assess trends in Canadian farmland values, putting emphasis on the connections between farmland values and profitability indicators in the agriculture sector. We expect moderate growth for farmland values in 2015, heading towards a soft landing.

Characteristics of Canadian farmland

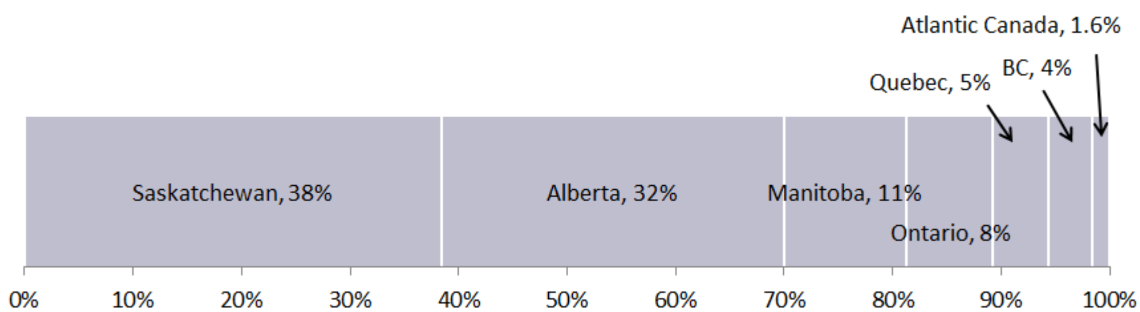
Farmland values are determined by factors that are connected to both the macro economy and agricultural economy. Therefore it is imperative to understand the characteristics and drivers of Canadian farmland values to build a complete picture of the farmland market.

Saskatchewan has the largest farmland market

Saskatchewan and Alberta hold the greatest proportion of Canadian farmland at 38 and 32 per cent respectively, followed by Manitoba at 11 per cent. Combined, the Prairie Provinces account for 80 per cent of total farmland in Canada and therefore are major drivers of national trends.

A small percentage (1.6) of farmland is located in Atlantic Canada. Ontario has eight per cent of farmland, Quebec has five per cent, and British Columbia has four per cent.

Figure 1: Prairie Provinces dominate the farming landscape



Most farmland in Canada is used for crops

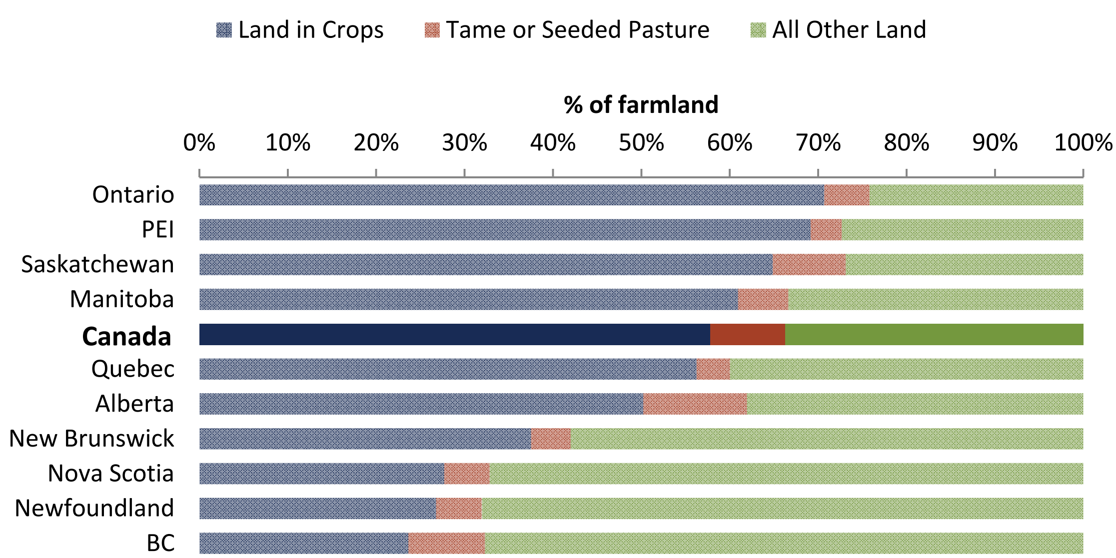
Crop production accounts for the greatest proportion of farmland usage in Canada at 58 per cent, according to Statistics Canada. Nine per cent of farmland is reserved for pasture, and 34 per cent is reserved for other usage, including woodland, wetland, Christmas tree land, and unplanted land.

Production activities in different provinces track farmland use. Ontario has the largest percentage of land in crops, at 71 per cent, while BC has the smallest amount in cropland, at only 24 per cent. Newfoundland, Nova Scotia, and New Brunswick all have low levels of cropland and high levels of other land usage. Alberta has the largest percentage of farmland used for tame or seeded pasture at 12 per cent, followed by BC at nine per cent.

Of land used for ag production (crop and pasture land), over 90 per cent is used for crops in PEI, Quebec, Ontario, and Manitoba. Over 80 per cent of this land is used for crops in New Brunswick, Saskatchewan, Nova Scotia, Newfoundland, and Alberta. BC has the lowest amount of land in crops at 73 per cent.

The mix of crop, pasture, and other land will affect the overall market valuations for land. Each land use has a unique farmland market associated with it, and unique market valuations. Cropland tends to demand a higher price than pasture land, therefore provinces with more cropland will generally command higher land values.

Figure 2: Ontario, PEI have large percentage of cropland



Land represents the greatest proportion of producer's asset values

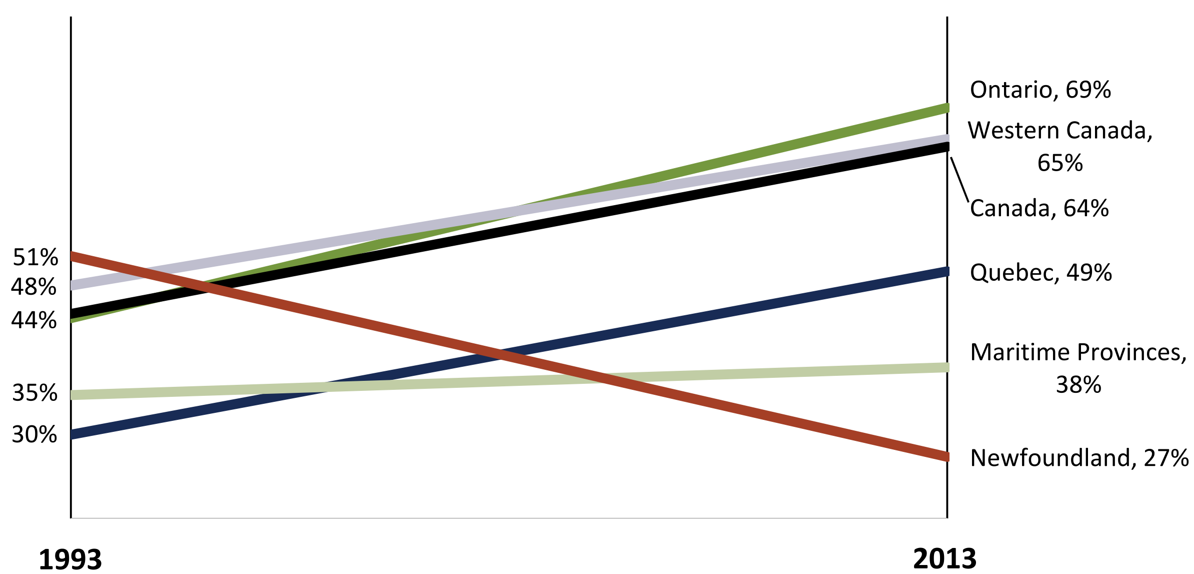
In 1993, land only comprised 44 per cent of farm assets in Canada. By 2013, farmland grew to 64 per cent of the value of farm assets in Canada, according to Statistics Canada. The largest year-to-year change was three per cent. A higher allocation to a single asset category implies a higher concentration of risk in the balance sheet of producers.

Since 1993, producers in British Columbia have increased the value of assets held in land by 16 per cent, Alberta by 23 per cent, Saskatchewan by 13 per cent, Manitoba by 14 per cent and Ontario by 25 per cent.

The Maritime Provinces (Nova Scotia, New Brunswick, and PEI) show this ratio to be low compared to the Canadian average, and constant over time. Since 1993, the ratio has increased from 35 per cent to 38 per cent.

Newfoundland is the only province to have a decline in the per cent of assets held in farmland. This is because land values haven't been increasing at the same rate as the rest of Canada. This allowed for the increases in the value of all other assets (equipment, storage, inventories) to become more pronounced compared to land.

Figure 3: All provinces increased their percentage of assets held in land except Newfoundland

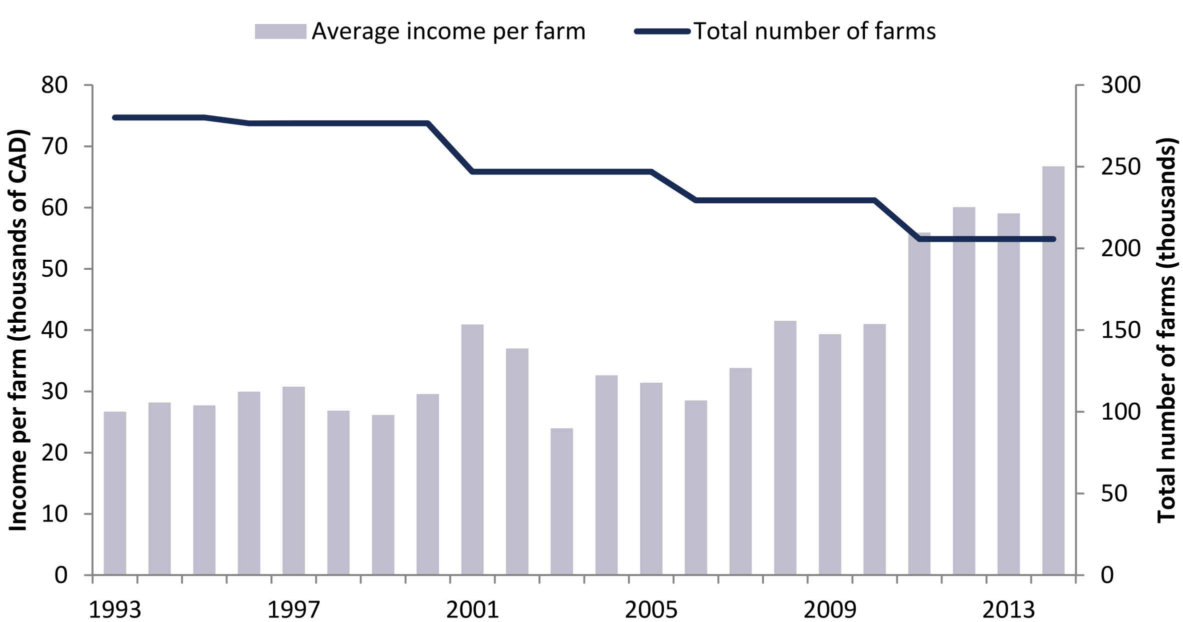


High farm incomes fuel demand for farmland

Farm cash income reached an all-time record high in 2014 of $13.85 billion, or $67 thousand per farm, according to Statistics Canada. Preliminary forecasts suggest farm net cash income will be down moderately in 2015, but remain high at around 13 billion dollars.

The expected decline in farm income will be driven by a combination of factors including lower grain and oilseed prices as well as lower hog prices. Conversely, strong cattle prices will help support strong livestock receipts in 2015. Dairy production is up in 2015, yet the price of milk could be lower on average. The Canadian dollar is projected to be lower on average in 2015 than what it was in 2014. A weaker loonie makes Canadian products more competitive on the world stage, and supports farm income. Low fuel costs will also contribute positively to producers' bottom line.

Figure 4: Number of farms decreases while income per farm increases



Farmland values showed strength in 2014

All changes in the value of farmland apply only to cultivated land. This excludes pasture and other land.

Average farmland values increased 14 per cent in 2014 according to Farm Credit Canada (FCC)'s report on farmland values. This follows increases of 22 per cent in 2013 and 20 per cent in 2012. To put the recent increases in value in perspective, the average increase in farmland value from 1993-2005 was seven per cent. All provinces have recorded constant or increasing farmland values since 1993.

Atlantic Canada showed more moderate increases last year than the national average. New Brunswick, Prince Edward Island, and Nova Scotia all showed increases between five and 10 per cent, while Newfoundland showed no increase for the fourth year in a row.

Quebec and Ontario both showed large gains in farmland in 2014 of about 14 per cent. Despite the large increases in land values, it is still a smaller increase than in 2012, where Ontario land values increased by 30 per cent and Quebec by 27 per cent.

Western Canada showed some of the largest gains in farmland values in 2014. Saskatchewan experienced the highest average increase at 19 per cent, while Manitoba showed an increase of 12 per cent, and Alberta nine per cent. British Columbia only showed an increase of four per cent, the lowest of the non-Atlantic provinces.

Given these recent trends, it begs to question what has driven these increases in farmland values and what is expected to happen in the land market moving forward?

Farmland values are driven by three major factors

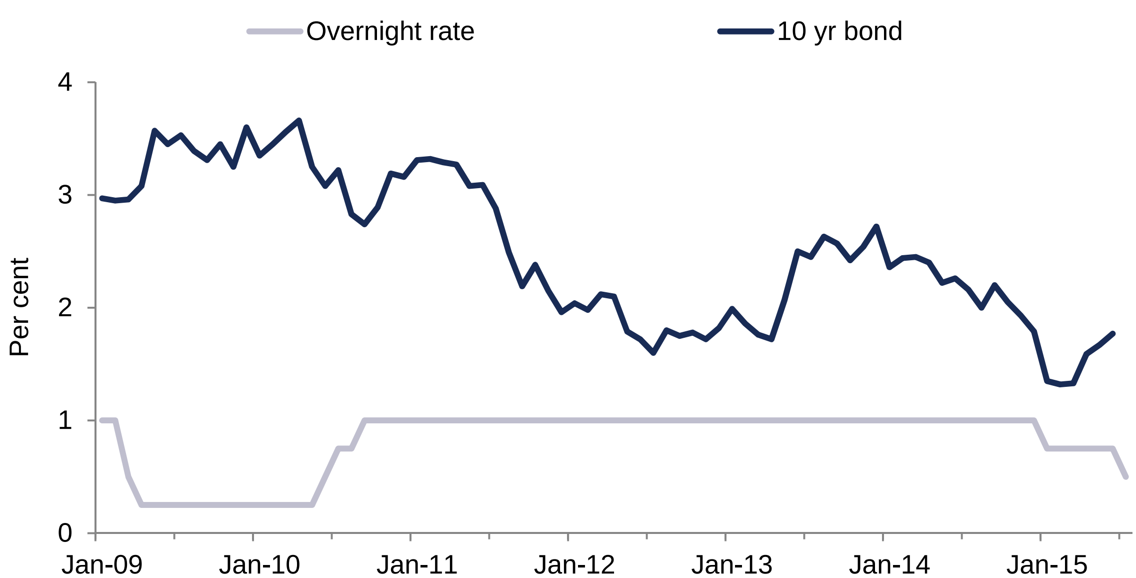
A thorough statistical analysis reveals that the most relevant factors that explain market values of farmland are interest rates, crop receipts, and a momentum effect. Let's investigate briefly all three factors in more detail.

Interest rates

Interest rates affect both the supply and demand of farmland. Low interest rates allow buyers to more easily expand their operations and capture economies of scale. They can also lower the incentives of owners to sell their land as capital earned out of potential sales would only collect a low return in the financial markets. Low supply and strong demand has always been a recipe for higher prices.

Mortgage rates are based off both the overnight rate and the bond market. The overnight rate is the bank of Canada's preferred indicator of monetary policy. It influences the cost of short-term funds, and thus impacts the prime rate set by financial institutions. Mortgage rates are influenced by the overnight rate and the yield on government bonds of similar maturity. Most interest rates have followed a declining trend since the early 1990s. The overnight rate has been at or below one per cent since January 2009, an exceptionally long time. The consensus is for the overnight rate to stay low, with the earliest projections of a rate hike by the Canadian chartered banks being early 2016.

Figure 5: Low interest rates mean inexpensive credit for farmland buyers

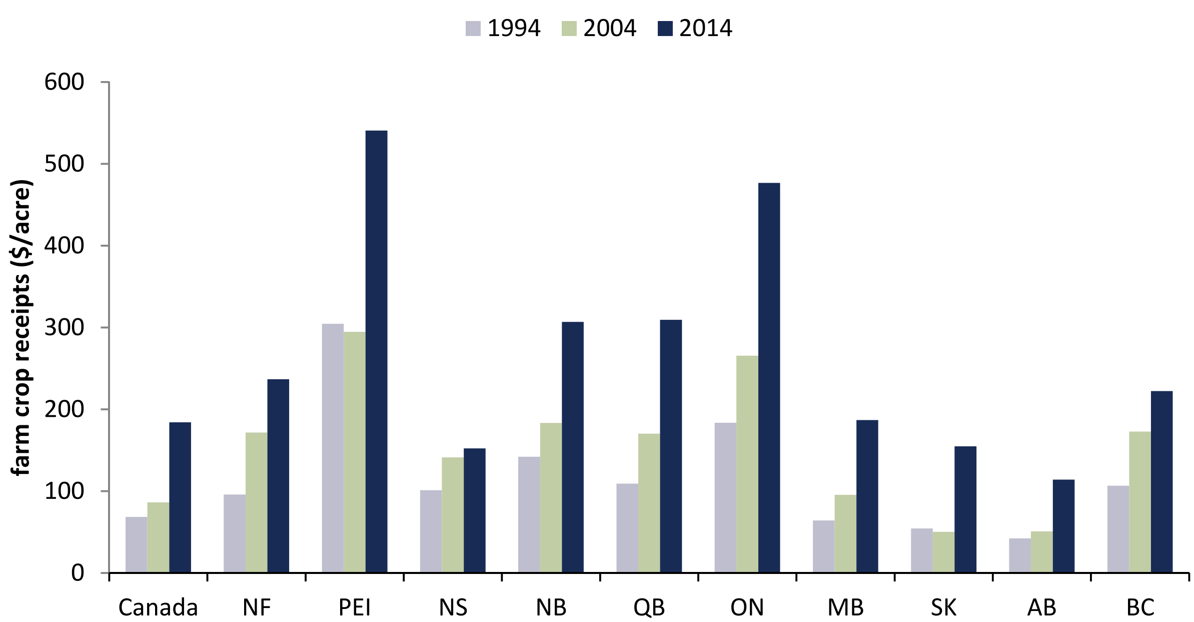


Crop receipts

Crop receipts reflect the profitability of farming and the health of the ag sector. Crop receipts have been increasing at a rapid pace. Data from Statistics Canada reveal that from 1971 to 2005, the average increase in crop receipts per year was 2.07 dollars per acre. From 2005 to 2014, it was 11.41 dollars per acre.

The ability to pay for land is perhaps more connected to net cash income than cash receipts. The former measure reveals true profitability associated with land. Yet crop receipts are a more important driver of farmland values from a statistical standpoint. It is important to emphasize the importance of the last point: the purchase of land should be based on profitability and debt repayment capacity. Yet, revenues appear to drive the value of farmland at the aggregate level.

Figure 6: Farm crop receipts strong in 2014



The momentum effect

Finally, the momentum variable is thought to reflect the human element in the marketplace, affecting buying and selling decisions. With the momentum effect, rising asset prices tend to rise even further, and falling prices continue to fall. A large increase in farmland values is more likely to trigger a large appreciation in the value of farmland in the future.

Demographics and sectors connected to agriculture also have an influence on farmland values

Ontario's population is 13.75 million people. More people and domestic migration patterns create urban pressure that impacts land values. A growing population introduces potential new buyers into the market; people interested in farmland are no longer just career farmers. More buyers in the market lead to increased demand for farmland, and an increase in value.

Oil extraction and production is a significant component of Alberta's economy. It turns out that high oil prices are positively correlated with farmland values. The recent downturn in oil prices might soften the market for farmland in the province.

Projecting farmland values going forward

Projections about future market values of farmland are obtained through a statistical model relying on assumptions about the three drivers of farmland values. Farmland values are predicted to stay strong through 2015. However, we project more moderate increases in value than have been seen through 2012, 2013 and 2014.

Low interest rates persist into 2016

Low interest rates will persist through 2015 and into 2016. The bank of Canada lowered the overnight rate to 0.5 per cent in July 2015, following a cut to 0.75 per cent in January 2015. Interest rates will eventually climb, with some degree of normalization expected in 2016.

Crop receipts expected to soften, but remain high

Farm crop receipts have been at record highs in recent years. Projections from AAFC suggest moderate declines in most provinces in 2015. Crop receipts could decrease by six per cent at the national level, their lowest point since 2011 ($173 per acre). Predictions vary by province: farm crop receipts are predicted to decrease in 2015 by three per cent in Ontario, nine per cent in Manitoba, seven per cent in Saskatchewan, eight per cent in Alberta, and one per cent in British Columbia.

Lower growth in farmland values expected for 2015, heading towards a soft landing

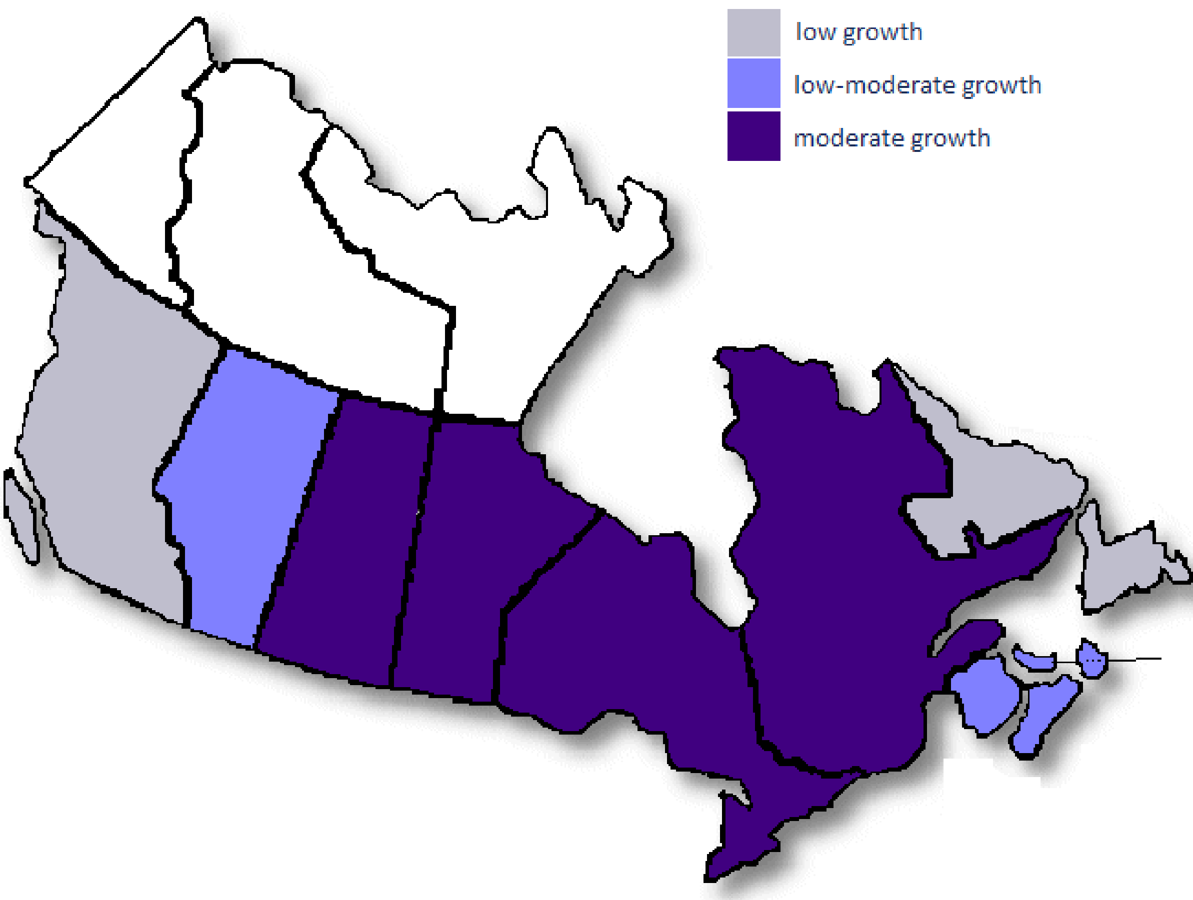
Statistical projections suggest farmland values in Canada could increase by as much as seven per cent on average in 2015. As expected not all provinces are projected to record a similar increase in land values.

Farmland values will likely increase very little in Newfoundland and BC, and could possibly show no appreciation at all. Low to moderate increases in land values are projected in Alberta and the Maritime Provinces. This is due to lower crop receipts in the Maritime Provinces, and low oil prices in Alberta. Increases in land values could be in the range of one to three per cent, or even higher.

Manitoba and Ontario are projected to show moderate increases in land values through 2015, as high as five to six per cent. Ontario has had large appreciations of land values in the recent past. Appreciation in 2015 should be lower.

Moderate farmland value appreciations are projected for Quebec and Saskatchewan, with Saskatchewan showing the largest possible increase in land values in Canada. Large increases in land values have been seen in these provinces in the past, and the trend is likely to continue. Increases could be as high as nine per cent, with some upside to reach higher.

Figure 7: Projected 2015 increases in land values projected to be lower in 2015 than in 2014



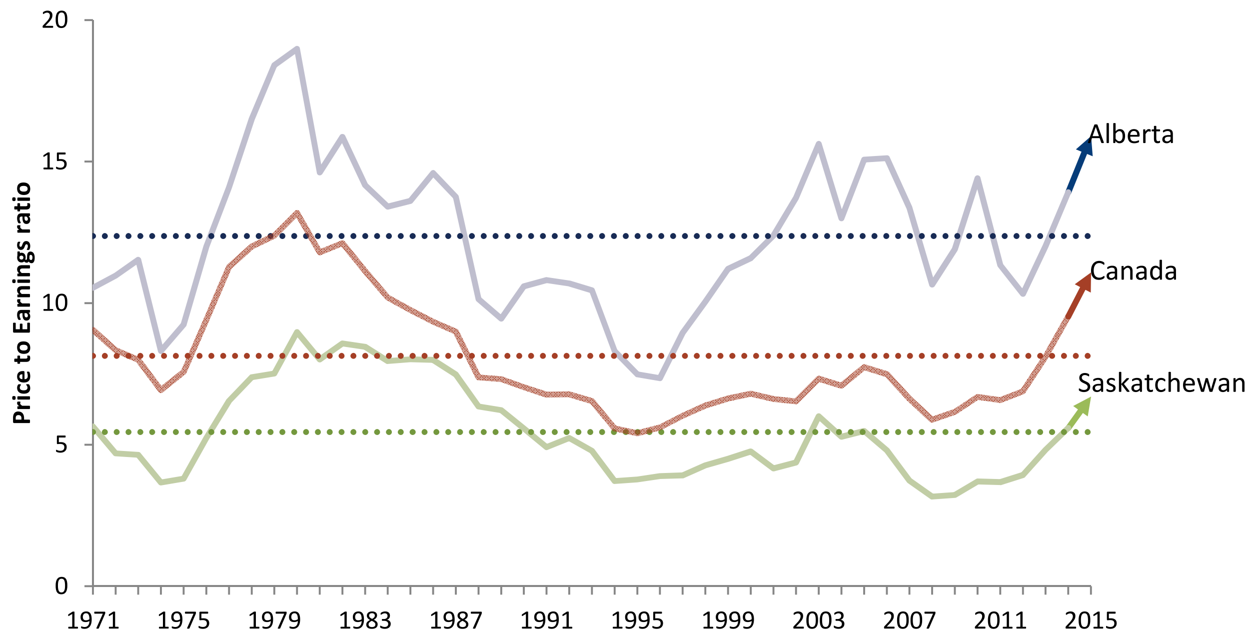
It's important to remember that the projections rely on assumptions for interest rates and crop receipts. The latter could evolve very differently in the last six months of the year as function of weather, the value of the Canadian dollar and a host of other variables. Projections are not a measure of what farmland values should be in 2015, or give an indication of over or under valuation. They're simply the result of a statistical model.

How do patterns in farmland values compare to market indicators?

Are the patterns in farmland values consistent with the income earning potential of the land? This is a difficult question – but some insights can be glanced by using a tool used in financial markets, called the price-to-earnings ratio (PE). The price is equal to the value of farmland per acre, and the earnings are equal to crop receipts per acre. Crop receipts are not earnings as such, net income would be. But we explained above that crop receipts track the patterns in farmland values better than net income.

There is no ideal level for a PE ratio. Instead, we must look to what historically the market has chosen as a fair valuation and what ratios have emerged. The long-term average of the PE ratio suggests a value that the market has deemed to be fair through history. It's entirely possible that today a higher or lower valuation is ideal, but we have no way to identify if that is the case.
In the late 1970's there was a run up in land values and the PE ratios exceeded their average. This was followed by a decline in land values as the market could not sustain higher than normal farmland values at a moment when interest rates were climbing and farm receipts were softening.

Figure 8: Price to earnings ratio increase across Canada

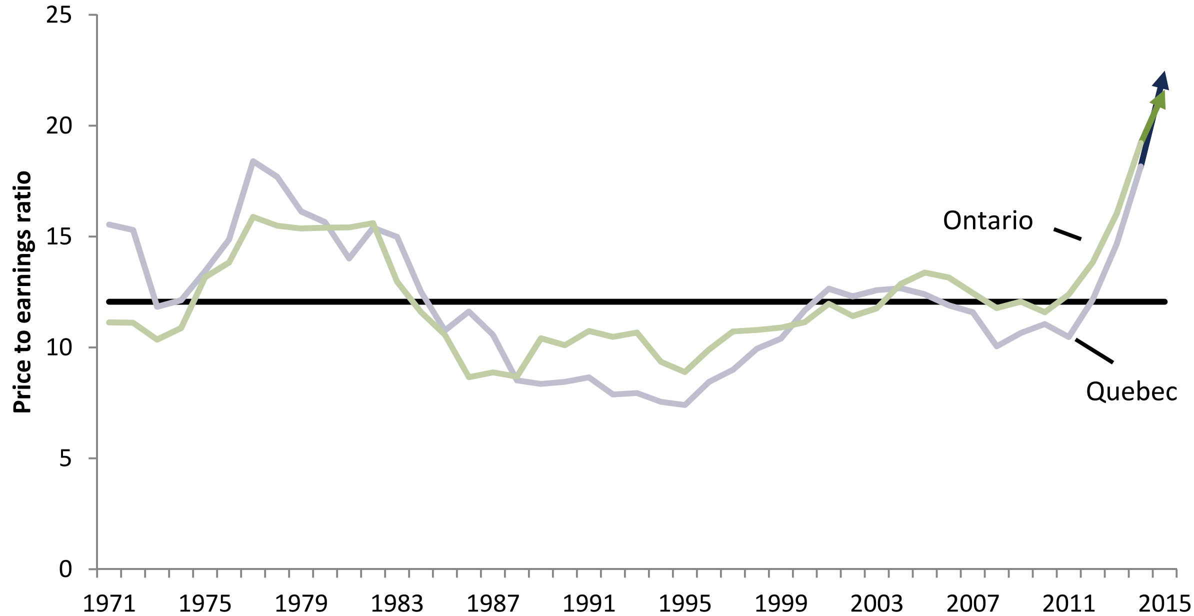


The mid 2000's have seen a significant increase in land values that has brought up the PE ratio. The long term average Canadian price to earnings ratio is 8.1. In 2014 the price to earnings ratio was slightly above that at 9.6. Although the ratio is increasing, it is still close to the long-term average. This suggests that farmland values are still consistent with the strength of crop receipts.

In 2014, Prince Edward Island and Newfoundland had PE ratios below their long term averages. Newfoundland has had a cool farmland market since 1995. The current PE ratio is 4 points below the long -term average. The price to earnings ratio in Prince Edward Island lies only 1.5 points below the long-term average. The PE ratios of Nova Scotia and New Brunswick are in line with their respective long-term averages, and are even projected to decline slightly in 2015.

Ontario and Quebec are where the farmland market has drifted further from the average PE ratio. In Ontario, the PE ratio was 60 per cent higher than the long term average in 2014. In Quebec the PE ratio was 51 per cent above average in 2014. Both these ratios are projected to increase in 2015, putting the PE ratios further from their respective averages.

Figure 9: Price to Earnings ratio climbs in Ontario and Quebec



In Saskatchewan and British Columbia, the PE ratios are almost exactly equal to their respective averages, while in Manitoba and Alberta they lie slightly higher at 1.2 and 2 points above the long term average respectfully.

The above evidence suggests caution in the market for farmland. Higher PE ratios are not a perfect tool to evaluate farmland values. In fact, the higher PE ratios are to be expected in the current environment of low interest rates and given a strong outlook for the demand of agricultural commodities. As noted earlier, demographic trends evolve, shifting the market equilibrium. Bottom line is farm operations must be able to service the required debt payments from a future real estate purchase under a number of different assumptions with regards to interest rates and farm cash receipts.

Conclusion

In order to compete in modern agriculture, producers need to have a firm grasp on their operations working capital and knowledge of the balance sheet. Farmland represents 64 per cent of farm assets in Canada, making it an essential component of the farm management strategies.

Farmland values are expected to continue to increase in 2015, but at a more moderate pace than in 2014. Record increases in farmland values have been seen across Canada in 2012, 2013, and 2014. More moderate increases would result in a soft landing in the market for farmland. That is, a scenario in which farmland values will gradually stop increasing and stabilize at levels consistent with the long-term outlook for agricultural markets. Crop receipts are expected to weaken but remain strong in 2015 compared to historical averages.

Canadian agriculture is healthy and resilient. Farming operations will adapt their business decisions to the evolution of market conditions. Developing sound risk management strategies is critical in the current environment.

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