Rising *farmland* PRICES

REAL ESTATE, REAL ASSETS AND REAL WEALTH

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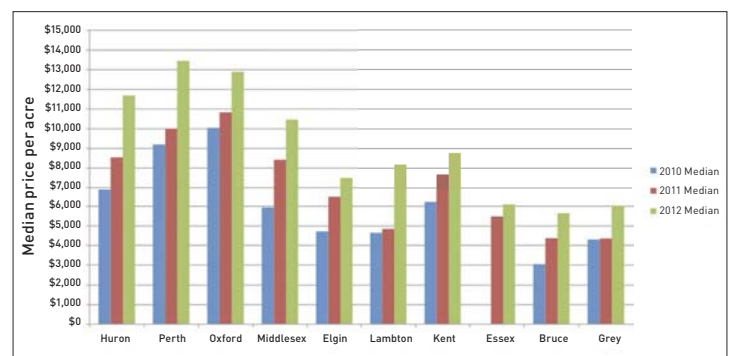
Note: This article is a revised and updated version of one first published in 1978 by this author in AIM magazine. That particular version dealt with rapidly rising residential property values rather than farmland values.

Farmland prices

Will Rodgers (an American humorist and showman 1879-1935) once wrote, *"Buy land, they ain't making any more of the stuff."*

Chart 1 shows the median price per acre of farmland in 10 counties in Western Ontario for 2010, 2011 and 2012. When first examining the chart, it is not hard to see why we often read that financial investments in real estate (farmland) will provide a good hedge against inflation. However, it is not as simple as it first seems.

CHART 1
2010-2012 LAND VALUES – BY COUNTY

Chart axis: Median price per acre ($0 to $15,000). Counties: Huron, Perth, Oxford, Middlesex, Elgin, Lambton, Kent, Essex, Bruce, Grey. Legend: 2010 Median, 2011 Median, 2012 Median.

This chart comes from a recent study of farmland prices in Southwestern Ontario completed by Ryan Parker, B. Comm, AACI, P. App, P. Ag, CAFA of Valco Consultants Inc. In his study, Mr. Parker calculated that the average percentage increase for the 10 counties between 2010 and 2011 was 21.4% and, between 2011 and 2012, was an astounding 29.13%.[1]

Briefly, recent factors driving farmland prices in Ontario to higher levels include: (1) historically low interest rates, (2) liberal lending practices by certain lenders,[2] (3) better than average crop yields, (4) higher commodity prices, (5) Dairy Farmers of Ontario (DFO) policy regarding the availability of milk quota (dairy farmers are now buying farmland instead of milk quota),[3] and (6) non-farm investment in farmland (both Canadian and foreign investment).[4] While these factors can change, our interest in this article is in real and nominal values and real and financial assets.

Real assets and financial assets

Individuals and businesses use their savings to accumulate assets such as consumer durables, real estate (including farmland), equipment and inventory. These items are real assets whose values are not tied to a certain number of dollars. Individuals or companies may also acquire financial assets or claims against governments, businesses or other members of society. Examples of such claims would be government bonds, stocks, corporate bonds and mortgages.

Further, these financial assets can be broken into two categories. Some such as money, bonds, mortgages, savings accounts and many others are fixed in nominal value. This simply means that they are fixed in a certain number of dollars. On the other hand, other financial assets are not tied to a certain number of dollars. These instruments, if representing equity, indicate indirect ownership of real assets and an example would be common stock.

To return to real estate, we can see that real property (such as farmland) is a real asset, while a mortgage is a financial asset (to the mortgagor, of course, it is a liability) and is fixed in nominal terms. Perhaps surprisingly, we can show that it can be the mixture of fixed-nominal-value assets and liabilities on one's balance sheet that changes real wealth rather than changes in the nominal value of real assets.

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Inflation

For the moment, assume that you have no assets or liabilities and are able to consume because you earn wages. The price of all goods and services (and wages) rises by, say, 10%. You are no better off than before because you are able to purchase exactly the same amount of items as you did before the inflation.

Now, suppose you had one asset – $1,000 in cash – no liabilities, and your wages and general prices rose by 10%. You are now able to purchase less after the inflation because the $1,000 cash, still worth $1,000 in 'nominal' terms, is worth less in 'real' terms because goods and services are now 10% more. The $1,000 cash can now buy fewer goods and services. In actual fact, to convert the nominal value to a real value, we divide the nominal value by the price index (here 110) and multiply by 100. Thus, the $1,000 would now have a real value of: $1,000 x 100/110 = $909.

Now, suppose you own farmland with a market value of $800,000. For simplicity, assume it is your only asset and you have no liabilities. If all prices rose by 10%, the nominal value of your farmland rises, but its real value in terms of goods and services would remain the same and, hence, there would be no change in your net worth as seen in Table 1.

TABLE 1

	Assets	Liabilities and net worth	
Current value	Farmland $800,000	Liabilities Net worth	$0 $800,000
Nominal value (N.V.) after 10% inflation	Farmland $880,000	Liabilities Net worth	$0 $880,000
Real value N. V. x 100/110	Farmland $800,000	Liabilities Net worth	$0 $800,000

Now, suppose we change the mix on the balance sheet such that you have the same $800,000 farmland, but also a mortgage of $600,000 (75% of the farmland value) with a net worth of $200,000. Again, assume it is your only asset and the mortgage is your only liability. Your balance sheet will change in Table 2, with a general inflationary rate of 10%. Notice the increase in your real wealth.

TABLE 2

	Assets	Liabilities and net worth	
Current value	Farmland $800,000	Mortgage Net worth	$600,000 $200,000
Nominal value (N.V.) after 10% inflation	Farmland $880,000	Liabilities Net worth	$600,000 $280,000
Real value N. V. x 100/110	Farmland $800,000	Liabilities Net worth	$545,455 $254,545

Further, if another individual held the $600,000 mortgage on your property and it is his/her only asset, then that person's balance sheet before and after the 10% inflation would appear as in Table 3. Notice the decrease in real wealth for the creditor.

TABLE 3

	Assets	Liabilities and net worth	
Current value	Mortgage $600,000	Liabilities Net worth	$0 $600,000
Nominal value (N.V.) after 10% inflation	Mortgage $600,000	Liabilities Net worth	$0 $600,000
Real value N. V. x 100/110	Mortgage $545,455	Liabilities Net worth	$0 $545,455

We can see from Table 3 that a transfer, in terms of real wealth, takes place between the two individuals (this is a zero sum game). The debtor gained $54,545 ($254,545 - $200,000) and the creditor lost $54,545 ($600,000 - $545,455). There are two reasons for this: first, there has been inflation, and second,

there has been a financial arrangement between members of society in terms of fixed-nominal-value financial instruments.

We can see this zero sum game by combining Tables 2 and 3 into Table 4. When the fixed-nominal-value financial assets and liabilities equal one another on an individual's balance sheet, there will be no change in the individual's net worth. In Table 4, the individual owns farmland, has a mortgage (a liability) of $600,000 and also holds a mortgage (an asset) of $600,000.

	Assets	Liabilities and net worth	
Current value	Farmland $800,000 Mortgage $600,000	Mortgage Net worth	$600,000 $800,000
Nominal value (N.V.) after 10% inflation	Farmland $880,000 Mortgage $600,000	Mortgage Net worth	$600,000 $880,000
Real value N. V. x 100/110	Farmland $800,000 Mortgage $545,455	Mortgage Net worth	$545,455 $800,000

Back to Table 2, we have taken the extreme case where the assets of one member of society took the form of only one real asset to make our point. However, it was not changing values in farmland that caused changes in real net worth, but rather the ratio of fixed-nominal-value financial assets to liabilities. Look again carefully at Tables 2 and 3. In Table 2, there is no fixed-nominal-value asset, while in Table 3 there is no liability.

In these cases, we have assumed that the general rate of inflation (10%) applied to all assets. In reality, as we see in Chart 1, real property (farmland in this instance) can, but not always does increase more rapidly than the general level of inflation. In that sense, it can be a hedge against inflation. By purchasing a real asset that increased faster than the rate of increase of other real assets, it can later be sold for a gain in real wealth. In Table 1, the farmland might have increased from $800,000 to $1,000,000 (a 25% increase) in nominal value. Then, if its nominal value is deflated by the general 10% inflation rate to its real value of $909,091, we see the increase in real wealth to be $109,091. In actual fact, in this case, the transfer of wealth is from the seller of the asset to the purchaser, and financing of the asset need not be a consideration.

Unanticipated inflation and financial assets

In addition, because one can finance the purchase of real estate with fixed-nominal-value instruments such as mortgages, there is a second situation that can benefit the holder of real estate.

Normally, holders of fixed-nominal-value instruments such as mortgages, in order to protect themselves against the effects of inflation, will demand a premium be incorporated into the interest rate they earn. This will be over and above both a pure rate of interest (for the use of money) and a risk premium. We have ignored this up to this point. However, if the 10% inflation was fully anticipated, then the mortgagee would demand an interest-inflation premium of 10%. Then, in Tables 2 and 3, the change in real net worth would not take place. Interest rates normally incorporate some premium for inflation, but because of a variety of complicated factors including (1) a lack of knowledge about future price increases, (2) forced and contractual savings, (3) the relationship between interest levels and savings rates, and (4) federal monetary policy,[5] lenders

(savers) do not often get an adequate rate of return to fully compensate them for inflation such that our previous examples in Tables 2 and 3 become quite realistic.

We can see this effect in Table 5. Farm Credit Corporation (FCC) publishes a *Farmland Values Report* on a semi-annual basis and figures for farmland across Canada are presented in Table 5.

Year	Percentage change in farmland values Canada [6]	Lending rate (1-year fixed conventional mortgage rate)	Percentage change in the Consumer Price Index	Real rate of interest (3) – (4)
2008	5.8%	6.9%	2.3%	4.6%
2009	4.3%	5.0%	0.3%	4.7%
2010	3.3%	3.6%	1.8%	1.8%
2011	4.8%	3.3%	2.9%	0.4%
2012	7.8%	3.5%	1.5%	2.0%
2013	10.0%	3.0%	0.6%	2.4%

In 2011, farmland prices rose across Canada by 4.8% (as indicated previously, they rose by 21.4% in Southwestern Ontario) which was higher than the general inflation rate, leaving a real gain for the owner of the farmland. As well, the interest rate on mortgages was 3.3%, leaving only a 0.4% real rate after subtracting the rate of inflation of 2.9% for that year. This left the holder of the mortgage, the creditor, with only 0.4% to cover the burden of management, the risk and the reward for giving up the use of the money. When viewed against a historical real rate of interest of about 3%, this is clearly an inadequate amount for the creditor, but a benefit to the debtor who enjoyed the use of the real estate for a cost of 0.4%.

In 2012, again, both factors were at work. Farmland prices rose much more rapidly (7.8% across Canada and 29.1% in Southwestern Ontario) than the general rate of inflation, and the real rate of interest was only about 2%. As a result, there was a massive transfer of real wealth from creditors to debtors. In such a situation, heavily mortgaged real estate such as farmland was certainly a 'good hedge' against inflation.

Farmland prices have not always increased at a faster pace than inflation and, in some instances, have either stagnated or fallen. [7]

Extra leverage

Another aspect of real estate investment that should be mentioned is extra leverage. In Table 2, if we had assumed that the owner [8] of the farmland had a mortgage for 90% of the

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value of the farmland (not the typical 75%, as indicated in Table 2), and farmland rose by 30%, then the real net worth would have increased from $80,000 to $290,909, as shown in Table 6, for a stunning gain of about 363% on the $80,000 investment.[9]

TABLE 6

	Assets	Liabilities and net worth	
Current value	Farmland $800,000	Mortgage Net worth	$720,000 $80,000
Nominal value (N.V.) after 30% inflation	Farmland $1,040,000	Liabilities Net worth	$720,000 $320,000
Real value N. V. x 100/110	Farmland $945,454	Liabilities Net worth	$654,545 $290,909

Conclusion

In addition to those factors mentioned at the outset of the article, farmland's attractiveness as a vehicle for investment then depends in part on relative inflationary rates, the real rate of interest and the ratio of the mortgage to market value. These factors are at work simultaneously and add to the complexity of the real estate investment analysis.

Two final points that we have ignored for simplicity are transaction cost and tax considerations. These can vary dramatically depending upon one's circumstances, but they can be incorporated into the analysis. Neither of which, however, change the underlying concepts about inflation, fixed-nominal-value financial instruments and real estate assets.

Some concluding notes of caution for appraisers

If there are few expanding farm operations in a particular market area, resulting in few buyers, farmland prices can stagnate.

Farmland markets are local by nature and averages can be misleading. For one thing, soils (and resulting productivity) can vary dramatically across a township, across a concession and, indeed, across a farm.

The fact that farmland markets are local can be illustrated by the following examples. Recently, a farmer sold some tiled farmland in Eastern Ontario for $5,764/acre and then bought some tiled farmland for $3,500/acre, for a difference in sale price of about 40%. The two parcels of farmland are only about 24 km apart, but are in two distinctly different markets. [10]

In another instance, five 2013 farmland sales in a single township in Eastern Ontario ranged from a low of $10,000/acre to a high of $15,000/acre. All of the parcels were tile drained at the date of sale. The parcels were across five concessions, but had reasonably similar soils. The range in sale price was 50% and reflected the imperfect nature of farmland markets.

Such variations in the price of farmland, even if the land has an identical soil, can come from factors such as the proximity of the property to the purchaser's operation, the purchaser's knowledge of the land base, field size, and the degree of market exposure (many farmland sales are private transactions between neighbours without full market exposure).

These variations create imperfect markets. Imperfect markets are markets where the same item sells at the same time for different prices. This is true of farmland and we need to indicate this fact to our clients in our appraisal reports.

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Farmland markets are also very thin and paired sales (to support adjustments) are difficult to find in thin markets. Paired sales involve the sale of two properties whose characteristics are highly similar, such that the only difference between them is the passage of time. Paired sales can also be used to support other adjustments, if there are sales of two properties at the same time whose characteristics are highly similar except for one feature. The difference in sale price would be attributable to the different feature (such as field size or shape). Generally, the market needs to be active (a large number of sales) and also deep (a high degree of similarity of properties) in order to find paired sales. In a similar manner, we need to indicate the fact that farmland markets are thin to our clients in our appraisal reports.

Finally, in rapidly rising markets, we need to be on top of the market using the most recent sales possible.

End notes

[1] Ryan Parker is an associate with Valco Consultants Inc., a real estate appraisal firm in London, ON. Chart 1 is reproduced with Mr. Parker's permission.

[2] In certain circumstances, the Farm Credit Corporation has loaned some farmers money to buy additional farmland with interest only, i.e., no principal payments. FCC is the largest farm lender, holding about 45% of all farm mortgages in Canada.

[3] The Dairy Farmers of Ontario has a new policy that no longer allows the transfer of milk quota from one farm to another. A resulting incentive for dairy farmers who might wish to expand their operations is to purchase more farmland.

[4] Bonnefield and the Walton Group are two examples of this. Bonnefield does not use borrowed money, as described in this article, rather, it relies on farmland values increasing at a greater rate than inflation.

[5] The recent massive quantitative easing by central banks (led by the US Federal Reserve) has reduced interest rates to all-time lows.

[6] FCC calculates the changes on a semi-annual basis. The figures in the table (except for 2008 and 2013) have been 'averaged' for each year for comparison purposes.

[7] FCC calculations for PEI, for example, show farmland prices declining slightly in both 2008 and 2009 – see its spring 2013 *Farmland Values Report*.

[8] The term 'owner' is used rather than farmer for good reason. In 2006, about 2/3 of all farmland in Ontario was owned (8,889,694 acres) and about 1/3 was rented (4,420,522 acres).

[9] While the typical lending ratio is 75% on vacant farmland by the major banks, as indicated in Table 2, FCC will sometimes lend up to 100% of the value of farmland.

[10] Since farmland (indeed any land) is fixed in location, no arbitrage can take place in farmland markets.