

# Establishing the Value of Land

Putting a value on agricultural land can sometimes be difficult. In all cases, it is important that farmers remember that what they can and should be paying for farmland is not always what the market is indicating. Three methods people may choose to establish the “value” of land are economic value, non-economic value and market value.

## 1. Economic Value

Capital gain value and productive value form the economic value of farmland.

### Productive Value

The productive value of land is determined by the land’s ability to generate a financial return. To estimate the productive value, or the return to land, you must account for all income and costs (cash and non-cash).

There are four steps to determine land's productive value.

#### Step 1:

Estimate the gross income from the land to be purchased. This should be based on the crop rotation to be followed using long-term average yields for the management level that applies, and the long-term market price of the grain.

#### Step 2:

Estimate all costs of production, except for interest on the land. Industry or government costs of production estimates do not necessarily represent an individual's situation. As there is great variation in farming practices, crop rotations, soil type and climate, you must calculate your own expected costs. The cost of production should include an estimate of all costs associated with the land, except for an interest charge on the land investment. This would include all cash costs, such as seed, fertilizer, machinery repairs and taxes, and non-cash costs, such as depreciation on buildings and machinery, interest on building and machinery investment, and an allowance for labour and management.

Where available, you should use estimates based on your own past records and trends. An estimate for cash expenses such as seed, fertilizer and chemicals will need to be based on the condition of the land being valued and the crop rotation you are planning. Other cash expenses, such as machinery, fuel, repairs and insurance, etc., can be based on the costs per acre of the existing land, with the assumption that the costs on the new land will be similar.

You should determine non-cash costs (interest and depreciation on buildings and machinery) for the whole farm and prorate it to the additional land to be purchased. This procedure accounts for the non-cash costs on the existing buildings and machinery, plus the non-cash costs on additional buildings and machinery you acquired as a result of the land purchase.

**Step 3:**

Determine the return to land (Step 1 minus Step 2). This is the gross income minus operating costs, depreciation and interest costs for buildings and equipment, and an allowance for labour and management. Do not include interest paid on term loans in the operating costs.

Small variations in crop yields and prices can have a dramatic effect on the return to land and overall net income. Furthermore, it is difficult to predict prices accurately, and yields can vary significantly in the short run. You should make several calculations using different yield and price assumptions. The range of results provides a basis for assessing the risk involved in buying land. This is often called sensitivity analysis.

**Step 4:**

Divide the return to land by the capitalization rate. Capitalization is the conversion of future profits or earnings from the land into a current economic value.

By using the appropriate capitalization rate, you can estimate the value of land. The capitalization rate should be the rate of return that could be earned on other investments. A minimum rate is the earnings on a savings account, while the maximum rate would be the bank interest rate on loans.

The capitalization procedure converts future returns into today's value. For example, if your goal is to earn a six per cent annual return on an investment in land with an expected net income of \$30 per acre, the value of the land would be \$500 per acre. The capitalization formula is as follows:

$$\text{Productive Value of Land} = \frac{\text{Annual Return to Land}}{\text{Capitalization Rate}}$$

**Example:**

$$\text{Productive Value of Land} = \frac{\$30 \text{ per acre}}{\$0.06} = \$500 \text{ per acre}$$

## Capital Gain Value

Productive value is not the only factor you need to consider when determining the economic value of land. Another important consideration is the amount of capital gain you might realize when the land is sold.

To incorporate expected capital gain into the economic value formula, reduce the capitalization rate used by the expected annual rate of capital gain. For example, if the capitalization rate is estimated to be six per cent and the annual capital gain is expected to be one per cent, then the adjusted capitalization rate would be five per cent.

The formula to determine the economic value of land (with the productive value adjusted by a potential capital gain) is:

$$\text{Economic Value of Land} = \frac{\text{Annual Return to Land}}{(\text{Capitalization Rate} - \text{Annual Capital Gain})}$$

Using the above example, the economic value of land is:

$$\text{Economic Value of Land} = \frac{\$30 \text{ per acre}}{(\$0.06 - \$0.01)} = \$600 \text{ per acre}$$

The economic value of land is equal to the productive value plus its capital gain value.

## 2. Non-Economic Value

Non-economic factors affect the value of land. For example, a buyer may be willing to pay more to live in a particular community. A farmer may place more value on land that is adjacent to land already owned. Land may be of interest to some buyers because of its aesthetic value – it may be located near a river or a picturesque creek.

In some cases, non-farmers may be competing with farmers for land. These types of situations might include land with recreational or development potential. People who are interested in land for non-agricultural purposes are sometimes willing to pay much more than the land is worth or the market indicates, driving values.

## 3. Market Value

Land's market value refers to the price of transactions between informed buyers and sellers. It is always recommended that you hire an accredited appraiser in cases where an accurate valuation needs to be done. You can, however, get a good idea of market value by doing some analysis yourself.

You determine market value using comparable sales of similar property in the same area. It is extremely important to compare properties that are very similar in every way, and to examine the conditions and terms under which these properties were sold. It is important to obtain as many comparable sales as possible, as the more information you have, the more accurate the average becomes. It is a simple process of calculating the average selling price, usually per cultivated acre or per forage acre or per grazing acre.

Here are some factors to consider when looking at comparable sales:

Proximity is important. How close are the comparable properties to the one that is being sold? If the properties are too far away, it may not reflect the local market for land.

Comparable properties should, as much as possible, have the same soil types, similar topography, and similar stones and sloughs; they change how much someone views a property to be worth.

Determine the purchaser's motives. A purchaser buying land adjacent to his/her farm may be prepared to pay more.

Improvements to property, such as buildings, make comparison of land more difficult. It is often better to use bare land sales only.

Consider only arms-length sales (a sale between independent buyer and seller with no form of affiliation). Sales between relatives, close friends or business partners should not be used for comparative purposes because they may not reflect market conditions.

Make adjustments if there are differences in the number of cultivated acres per quarter-section. As stated above, the comparisons are usually done on a per cultivated acre or per forage acre or per grazing acre basis.

If the property has not been farmed properly, reduce the estimated value by the cost of bringing the property back to normal condition.

The multiples of assessment method is a quick method for making a more general comparison. By using these same comparable sales, make a ratio of selling price divided by municipal assessment. This is the multiple of assessment. Take the assessment of the land in interest and multiply it by the ratio to get an estimate of market value.

## **Sources of Land Assessment and Sales Information**

Establishing market value requires good comparable sales data. Local real estate agents might be one possible source of land sales information. Banks, credit unions and Farm Credit Canada (FCC) may also be able to supply data on sales that have occurred in a particular area. Rural municipal offices might also be able to share some information.

Other sources of information may include the following organizations or agencies. Not that some organizations will charge a fee for their information.

[Information Services Corporation](#)

[The Farm Land Security Board's agricultural land sales database](#)

[SAMA](#)