How Interest Rates Affect Agricultural Markets

Introduction

Interest rates have significant impacts on the agricultural industry by affecting the cost of borrowing money, investment decisions and values of farmland. This module explains how interest rates are determined, the different types of interest rates, the agriculture finance system in Canada, and how interest rates impact agricultural markets.

What is the interest rate?

Interest is the amount paid by a borrower to a lender in exchange for the use of the lender's money for a certain period of time. Interest is paid on loans or on debt securities, such as bonds, either at regular intervals or as part of a lump sum payment when the loan matures. In the case of operating loans from the bank, interest is paid in instalments based on an annual rate of interest for the life of the loan. In the case of bonds, the bond buyer (the lender) pays less than face value for the bond at the time of purchase. At maturity the buyer receives a lump sum payment equal to the amount originally paid plus the accumulated interest. The interest earned on the bond equals the full or face value of the bond less the amount originally paid for the bond when it was purchased.

Changes in interest rates directly affect profitability of the agricultural sector by influencing borrowing, spending and investing, since agriculture is a capital-intensive industry. Changing interest rates indirectly impact agriculture through affecting the level of general economic activity, such as output and employment, exchange rates and international trade.

What factors influence the interest rate?

Interest rates are determined by the supply of money and demand for money within an economy. The demand for money is based on people's desire for current spending and investment opportunities. The major source of the supply of money is from savings and the willingness of consumers, firms, and governments to delay spending. The demand for and supply of money can also be influenced through the monetary policy of a country's central bank, in Canada, the Bank of Canada.

The major target of Canadian monetary policy, which the Bank of Canada and the federal government have established, is to keep inflation low and stable. The Bank of Canada uses its powers to influence the credit conditions that exist in the economy. The two main tools the Bank of Canada uses to influence the money supply are the Target for the Overnight Rate (see Definitions) in the drawdown/redeposit mechanism and through Open Market Operations (see Definitions). The Bank of Canada influences very short-term interest rates, which in turn influence the direction of the long-term rates and may lead to movements in the exchange rate of the Canadian dollar.

There are different types of interest rates, such as the bank rate, prime rate, and market rate (see Definitions). These types of interest rates are nominal rates of interest. The nominal interest rate is composed of two parts: one part covers the expected inflation, and the other part represents the real rate of return, which is referred to the real rate of interest.

The real interest rate is the difference between the nominal interest rate and the expected rate of inflation. For instance, if the nominal interest rate is 6 per cent and the expected inflation rate is 2 per cent, the real interest rate would be 4 per cent. Theoretically, what determines the real rate of interest is the productivity of capital. That is, the real rate of interest within a country is based on the return from investments on physical capital goods like a herd of cattle, for example. In practice, interest rates in Canada are broadly determined by three factors: interest rates in the US, the relative inflation rates in both countries, and the relative stances of each country's monetary policies.

The agricultural finance system in Canada

Agricultural credit is a proportion of the total business and household credit demand. Interest rates on farm loans are mainly decided outside of the agricultural sector. However, farm-lending rates vary at the micro-level with respect to financial conditions of the borrower, lender risk-bearing ability, borrower and lender maturity, borrower and lender liquidity and size of the agricultural loan.

The Canadian agricultural sector is a capital-intensive industry. According to statistics Canada, total Canadian farm debt had an average annual growth rate of 7.3 per cent from 2015 to 2016, with the total farm debt outstanding at $96 billion.

In Canada, agricultural loan funds can be obtained from various sources such as chartered banks, federal government agencies, provincial government agencies, credit unions, insurance and trust companies, private individuals, and advance payment programs.

Impacts of interest rates on agricultural markets

Interest rates affect agricultural markets in three major ways, costs of holding inventory, effect on investment decisions such as land, machinery and input purchases and overall farm business risk associated with possible rising interest rates.

Costs - Interest expenses on holding inventory could have a significant impact on farm profitability and associated agribusinesses. The cost of holding inventory is the interest paid if the business has debt or the interest that would have been collected, usually called opportunity costs, if the inventory had been sold. In practice, interest rates can vary in a large range from four to six per cent for operating loans to 18 to 24 per cent for short-term loans from agri-businesses. High interest rates usually result in additional financial burden for agribusinesses.

Interest costs must be included in the calculation of any cost of production analysis. For example, when determining the breakeven for feeder cattle, the interest cost for purchasing the calves must be included in the analysis. Even if the calves come from within the operation, the interest foregone from the sale of the calves should be included in the cost calculation.

Investment - Business investment is negatively affected by increasing interest rates, particularly the real interest rate. Investment refers to spending on land, buildings, machinery, equipment and inventories, which are for use in future production. The decision on whether to invest, how much to invest and when to invest in a project depends on the comparison of the expected rate of return on the investment and the interest rate. If investors think the rate of return on a project is higher than the interest rate, they will carry out the project. Therefore, farmers and agri-businesses will have more incentives to invest when interest rates are low. In contrast, high interest rates will deter investment, since investment becomes more costly with rising real interest rates. Higher interest rates may slow the rate of investment in a particular sector as well.

Interest rates are a key determinant of agricultural land values. In most cases, farmland prices are determined by the relationships between expected earnings and interest rates. Higher interest rates will lower the expected earnings by making borrowing and cost of production more costly. Interest rates are critical in considering the base of wealth in agriculture, since farmland and buildings account for over half of all farm assets in Canada.

Interest rate risk

Unexpected and adverse movement of interest rates is a source of operating risk for farms and agri-businesses. A sudden increase in interest rates may result in higher than planned interest expenses if a business is holding a variable rate loan. Higher interest expenses reduce profitability of farms and agri-businesses, discourage investment and decrease farmland values. A strategy for avoiding losses caused from an expected increase in interest rates may be to lock in a fixed rate loan when the interest rates are lower.

Summary

Interest rates are determined by the supply and demand for money within an economy. The central bank can influence rates by changing monetary policy. Agricultural loans can be obtained from various sources, such as chartered banks, federal & provincial government agencies, credit unions, insurance and other financial institutions, private individuals and advance payment programs. Interest rates affect agricultural markets through the changing costs, influencing investment decisions, and interest rate risk.

Definitions

Target for the Overnight Rate
The Target for the Overnight Rate is the main tool used by the Bank of Canada and is also known as the policy interest rate. It tells major banks what the average interest rate that the Bank wants to see in the market where they lend each other money overnight.
(Source: Bank of Canada)

Open Market Operations
Open Market Operations (OPO) refers to the purchasing and selling of governments securities in the open market with the intention of contracting or expanding the amount of money in the banking system.

The Bank Rate
The Bank Rate is the interest rate that the Bank of Canada (BoC) charges on one-day loans to financial institutions. The Bank Rate is highly related to the overnight rate. The Bank Rate is at the top end of the Operating Band. For example, if the operating band is between 3 to 3.5 per cent, the Bank Rate would be 3.5 per cent. The Bank Rate and the Operating Band are adjusted at the same time. The Bank of Canada announces these rate changes according to a calendar of eight fixed days every year.
(Source: Bank of Canada)

The Prime Rate
The Prime Rate is a benchmark rate of interest established by commercial banks and is the rate charged for large loans made to their most credit worthy business and industrial customers. The prime rate is generally the lowest rate of interest charged by a bank, with other loans calculated as a certain amount “over prime”.

The Market Rate
The Market Rate of interest is the rate charged by the bank to customers other than those that qualify for the prime rate. A market rate can vary from loan to loan according to the perceived risks, the size and the length of the loan, the nature of collateral offered and competition in the loan market.

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