

AGRICULTURAL CREDIT POLICY AND REGULATION IN SASKATCHEWAN

A Report Prepared for the
Saskatchewan Agriculture Development Fund

by

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June, 1999

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EXECUTIVE SUMMARY

Saskatchewan farmers suffered through a decade of debt crisis in the 1980's and the early part of the 1990's. A few years of good prices in the mid 1990's are being followed years of poor commodity prices again. The demise of the Western Grain Transportation Act (WGTA) also provided farmers with short-term relief through a payout, but increased freight costs are beginning to take their toll. In short, many farmers in Saskatchewan are once again facing a debt crisis.

This study reviews the history of credit policy and regulation in Saskatchewan along with the debt situation since 1981. A model is developed to help explain some of the behavior of farmers, creditors and government. Theoretically, credit policy has the effect of a subsidy or tax on interest rates. Some policies are direct subsidies, others are restrictive lending regulations that are equivalent to an interest tax. As with any capital intensive industry with highly specific or non-reproducible assets, subsidies or taxes to agriculture are capitalized or reflected in the value of the specific asset (land in this case).

The model presented shows that even small degrees of capitalization produce relatively large shifts in asset values. In the example given, a four percent interest rate change with a moderate capitalization rate produces an increase in asset values of 21 percent. With the value of land and buildings in Saskatchewan exceeding \$20 billion, a 21 percent increase is over \$4 billion! Generally, credit regulations cost very little to government, even in the case of

direct subsidies. This is because only a small percent of agricultural assets are traded with financing in any year.

It is important to note that the capitalization of subsidies or other credit policy frequently results in benefits accruing to a group quite removed from those the policy claims to help. The model shows that in the case of an interest subsidy to beginning farmers, with no capitalization, there is a direct transfer from government to the starting farmers. However, if there is even a little capitalization of the subsidy, the primary beneficiaries are retiring farmers who experience capital gains. Current farmers experience paper capital gains, while the beginning farmer ends up paying the higher capitalized land values. Government generally sees no disadvantage to this, since everyone is happy in the short term. Creditors even experience more business and better profits.

The small outlay by government can create a large amount of “paper” wealth and the corresponding political goodwill. Unfortunately, the downside to these policies is that they distort asset prices in the short run and cause farmers and creditors to make inappropriate investments for the true long run conditions. Governments should resist the temptation to enact distorting credit regulations. Distortions in capital asset values exacerbate the inherent problems of the high-risk, low-margin, capital-intensive business of farming. In the past, distorted asset values made the boom and bust cycles more violent than they would otherwise have been.

1. Introduction

1.1 Background

The decade of the 1980's was a period of debt crisis for many Saskatchewan farmers. The early 1990' saw improved grain prices and rising optimism with the rising incomes and the WGTA payout, which put a significant amount of cash into farmers' hands. Unfortunately, the current situation and outlook are much darker. Grain prices have dropped and are continuing downwards. The absence of the WGTA is also beginning to be felt in much higher freight costs. Many farmers have not fully recovered from previous debt loads and are now facing a renewed crisis.

In Saskatchewan, various policies and regulations have been applied to agricultural credit to mitigate the problems of high debt loads. These policies have a significant impact on the economy of Saskatchewan. Altering the credit environment has effects on the structure of farms and the value of farm assets. The goals or objectives that governments put forward as justification for certain policies often do not coincide or include their most important effects.

Stigler (1958) lists three goals of policy interventions: maximizing output (production) through full employment of resources at their most efficient use (e.g. free trade, combat monopoly, anti-depression measures), maximizing growth (rate of increase of production) through conservation, public education, public lands, government funding of basic research and the reduction of income inequality through personal income taxation, agriculture policy, subsidized public housing, and unemployment insurance. These goals remain relevant today.

Economic theory has a good grasp on the first goal of maximizing output, but growth theory is still developing and the problem of inequality is even less developed with most economic work choosing to ignore this question or assume gains are distributed such that equality is not further weakened. These goals are clearly intended to maximize public welfare and progress. There are trade-offs between maximum output, maximum growth and minimum inequality. Reducing inequality often comes at the expense of reducing output or growth. It is not necessary to assume that government motives are altruistic. It is likely that government seeks its own interest (re-election via popularity and support), but to achieve this it must seek these types of public goals.

Credit policy must be compared against these goals. Provision of credit (mainly for land) may arguably help to maximize output (increased efficiency through rationalization) and could possibly contribute towards higher growth rates through larger scale and quicker adoption of production-enhancing technology. Facilitating entry may be seen as a reduction of income inequality (opportunity inequality). Leasebacks and moratoria may be generally seen as methods of reducing inequality. These tend to allow a period of adjustment or transition for the individual, but lengthen or delay adjustment on an industry scale. Home quarter protection may serve as an equalizing force, but it also removes this as a collateral asset (home quarters represent a small, but important portion of land in Saskatchewan). Equalizing policies tend to be enacted at the expense of reduced output and more importantly, a reduced rate of productivity growth.

Regulation is intended to protect farm families while also facilitating new entrants. These objectives are somewhat at odds with each other (i.e. protection from foreclosure leads to reduced availability of credit which hampers new entrants). Regulation and intervention generally slow down the adjustment process, which may actually be the goal. These delays most likely reduce growth rates, but they are probably intended to equalize incomes and opportunities within the farm sector.

1.2 Objectives

The objectives of this study are:

- 1) to provide a brief historical overview of credit policies and the credit environment of Saskatchewan for the period since 1981
- 2) to describe the objectives of the players involved in and affected by credit policies (e.g. government, farmers, creditors)
- 3) to model the effects of credit policies based on the interacting objectives of the players

2. Background and List of Credit Policies

2.1 State of Agriculture in Saskatchewan

Saskatchewan agriculture, being primarily focused on grain production, has long functioned as a boom and bust industry. The period since 1981 is best described as a protracted bust that followed the most spectacular boom period in Saskatchewan's history. The boom fizzled out in 1982 as dropping grain prices and skyrocketing interest rates stopped the flourishing industry in its tracks.

There was a shift beginning in about 1981 that took Saskatchewan agriculture from a position of optimistically over-invested to a lengthy struggle to move back into a reasonable equilibrium. In the words of Harl (1988), up until the beginning of the 1980's, the industry "failed to recognize aberrational conditions", but instead took them as indicators of future conditions. Such conditions were simply not sustainable (Shalit and Schmitz, 1982). The bubble of farm asset prices inflated throughout the 1970's then burst as the 1980's started. It is more accurate to describe this bust period as gradual and persistent deflation and dis-investment rather than a quick drop. The adjustment to this extreme change is still not complete and will not be forgotten soon.

The following is a presentation of various statistics relevant to the farm credit policy situation in Saskatchewan. Most data has been plotted by the authors as found in Agricultural Statistics, (Saskatchewan Agriculture and Food - SAF, 1997 and 1998) although the original source is mainly Statistics Canada.

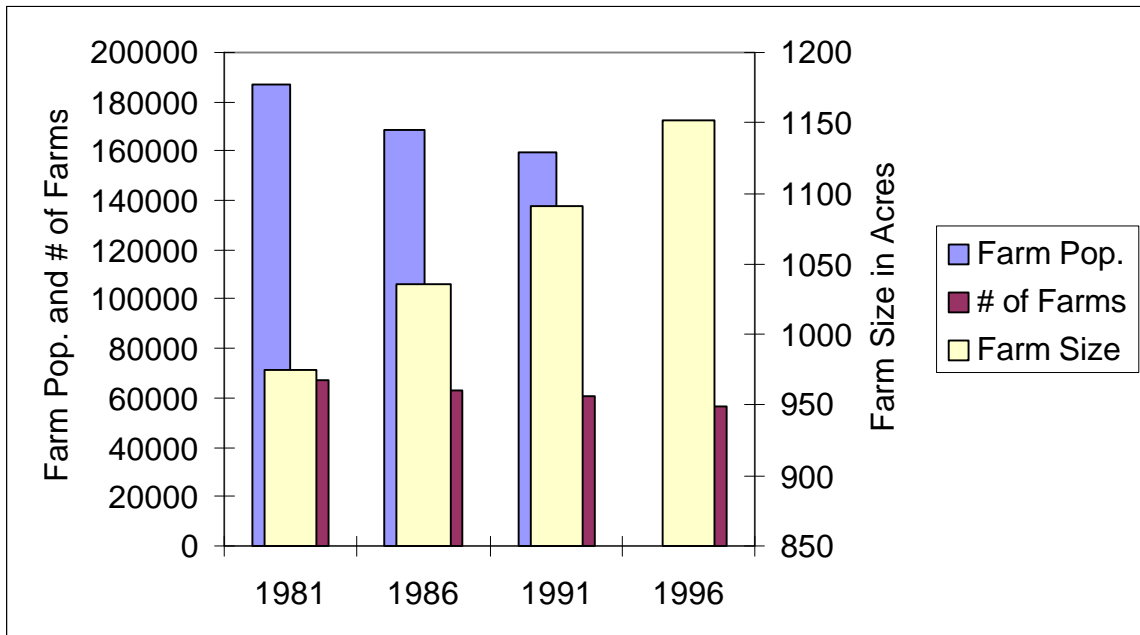


Figure 2.1 Number of Farms, Farm Population and Farm Size in Saskatchewan
 Source: Statistics Canada Census of Agriculture (SAF, 1997)¹.

Figure 2.1 illustrates the continuing decline in the number of farms and farm population while average farm size increases. From a policy perspective, losing population is undesirable. They support the rural (and urban) economy with taxes and labor. Encouraging entrants into farming is one means of maintaining the farm population. It is also noteworthy that the median age of farmers has been between 45 and 50 years since the 1960's (SAF, 1997). It has stabilized, so the need to entice young farmers does not appear so severe. This may be a reasonable median, since farming has high start-up costs. Many young farmers are 30 by the time they have saved sufficient capital. Farming is a long-term commitment (lifetime), so most farmers continue until they cannot

¹ 1996 Farm Population was not available.

manage any longer (60 or as much as 75 years old). Older farmers tend to manage smaller, established and stable operations. Younger farmers manage smaller, growing farms. The majority of farm assets are managed by experienced farmers between 45 and 55 years old.

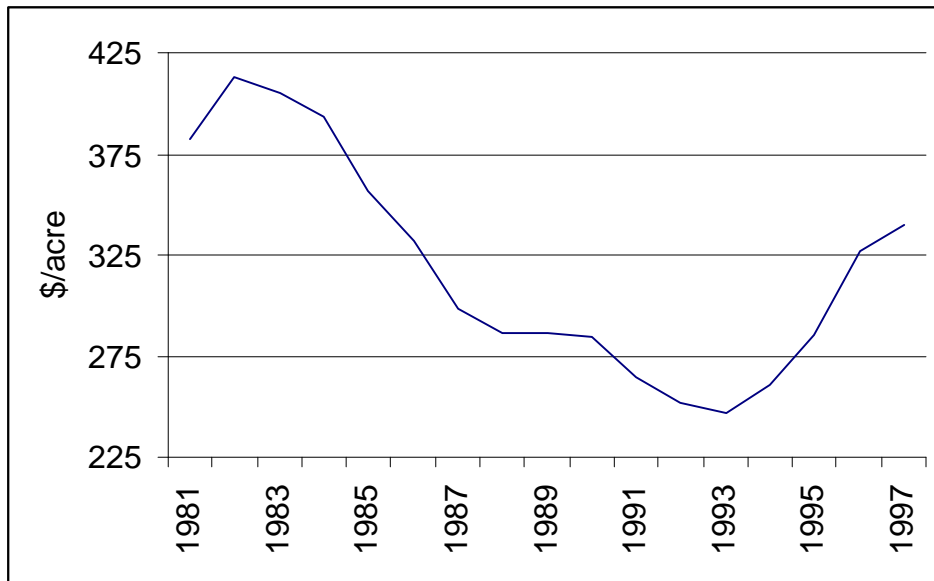


Figure 2.2 Value of Farmland and Buildings in Saskatchewan

Source: Statistics Canada (SAF, 1998).

Figure 2.2 illustrates the decline in the value of farmland and buildings which generally comprise between two-thirds and three-quarters of all farm assets. This figure only shows the past two decades. The period of 1962 to 1982 was one of surging land values, especially during the high inflation of the 1970's. To illustrate the wild shifts, land values doubled between 1962 and 1972, then increased almost seven fold from 1972 to the peak in 1982. By 1992, the value of land and buildings had sunk to 60 percent of the 1982 peak. A gradual recovery has begun since 1993. This graph indicates the decline in wealth experienced by the farm sector. This is also important to the question of

agricultural credit since land and buildings are the most significant use for credit and also the primary source of collateral (Kiyotaki and Moore, 1997).

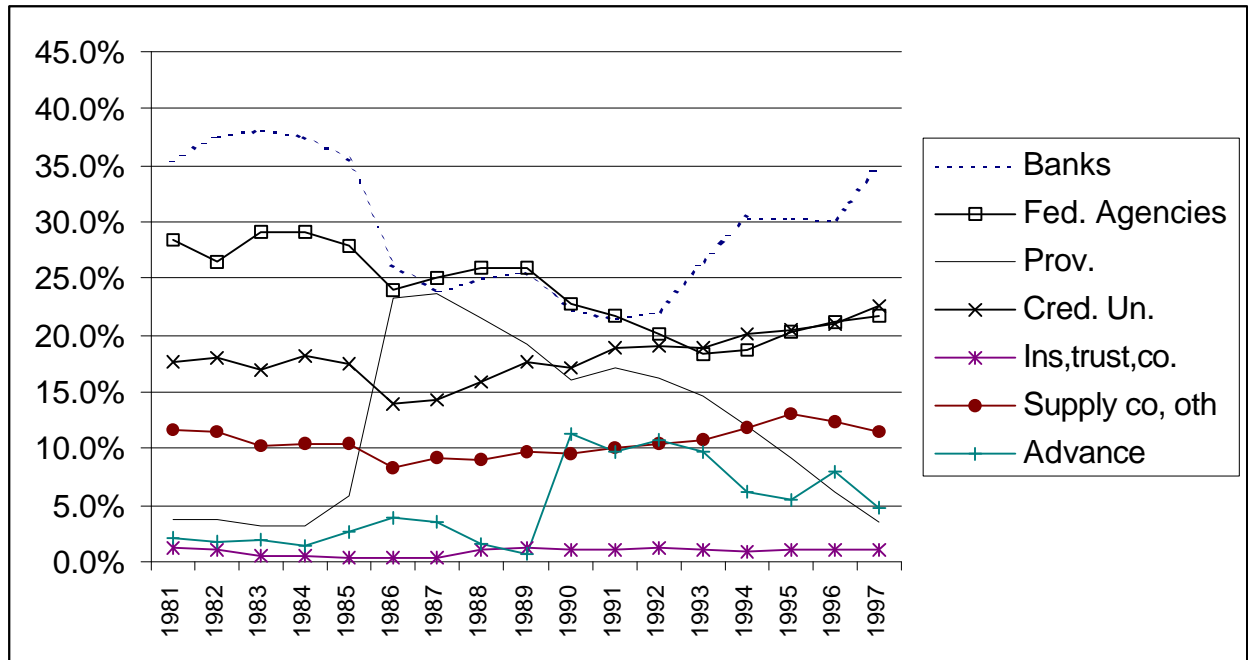


Figure 2.3 Sources of Agricultural Credit

Source: Statistics Canada (SAF, 1997).

Figure 2.3 shows the importance of various creditors. Banks are the primary lenders, followed closely by federal agencies (FCC), then credit unions, provincial agencies (ACS) and supply company credit. Advance payments on crops became more important in the 1990's.

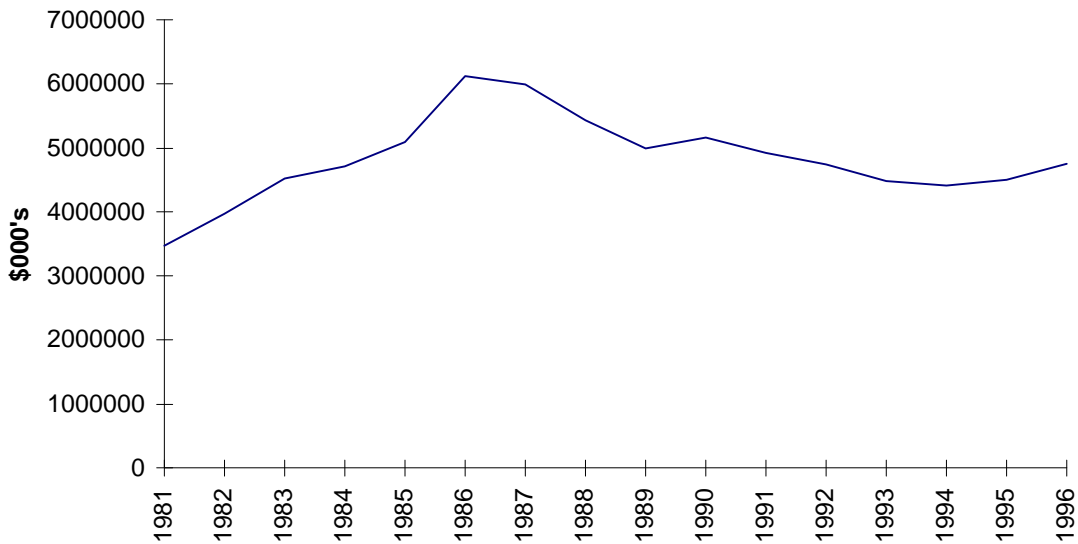


Figure 2.4 Total Outstanding Agricultural Debt in Saskatchewan

Source: Statistics Canada (SAF, 1997).

Figure 2.4 shows the path of the farm debt load. Debt peaked in 1986 after five years of declining product and asset prices, then declined until 1994. Debt has risen since 1994 as farmers have begun to purchase land again. The Farm Debt Advisory Committee (FDAC) report (1992) presented some statistics on debt distribution among farmers. According to a 1990 FCC survey, one-third of farmers were carrying 71 percent of the debt, the next third carried 27 percent and the least indebted third carried two percent of outstanding farm debt.

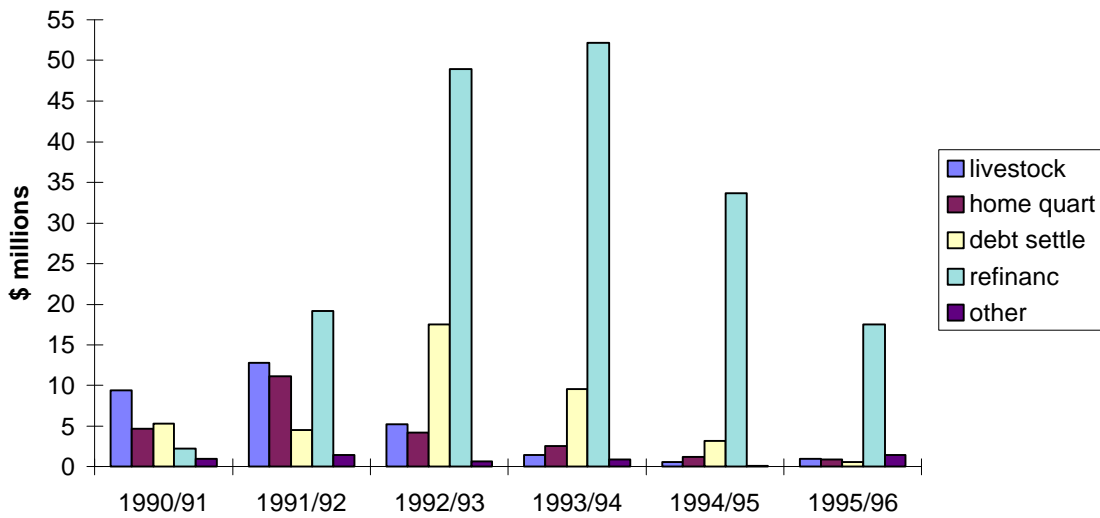


Figure 2.5 ACS Loan Approvals by Purpose

Source: Agricultural Credit Corporation of Saskatchewan (SAF, 1997).

ACS has been shutting down operations and many of its loans are consolidation (refinancing) and settlement. ACS previously lent significant amounts for livestock.

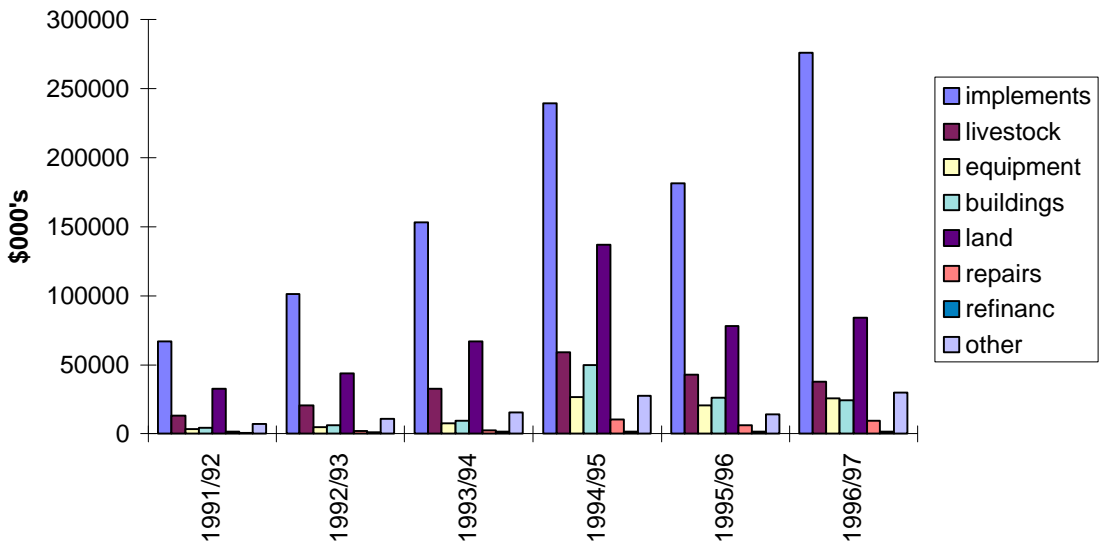


Figure 2.6 FIMCLA Loan Approvals by Purpose

Source: Agriculture and Agri-Food Canada, FIMCLA (SAF, 1997).

FIMCLA (Farm Improvement and Marketing Cooperatives Loan Act) has focused its efforts on implements and equipment, land and livestock. This program is discussed in more detail in section 2.9.

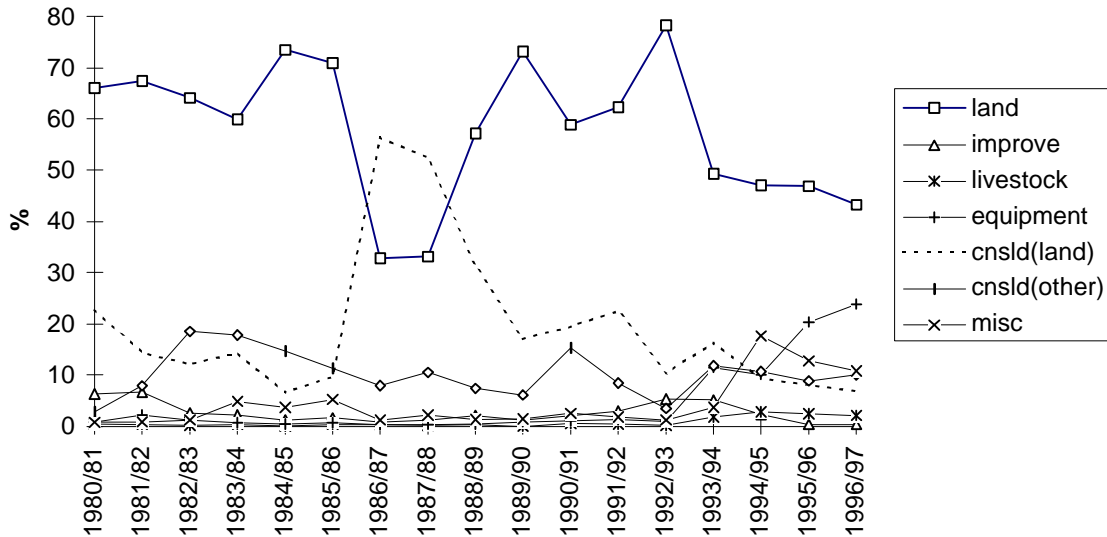


Figure 2.7 FCC Loan Approvals by Purpose

Source: Farm Credit Corporation (SAF, 1997).

FCC (Farm Credit Corporation) has been the primary lender for the purchase of farmland. In recent years, FCC has expanded its focus in the direction of loans for equipment and other agriculture-related projects. Section 2.7 discusses additional details and history of FCC.

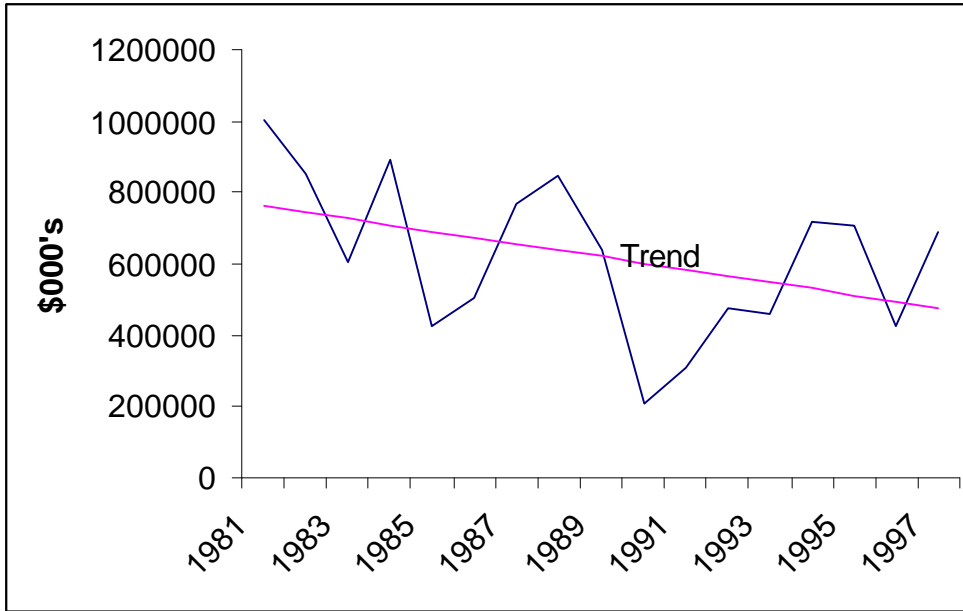


Figure 2.8 Net Farm Income for Saskatchewan

Source: Statistics Canada (SAF, 1997).

Net farm income in Saskatchewan has been very volatile and declining over the long run. This clearly exacerbates loan problems.

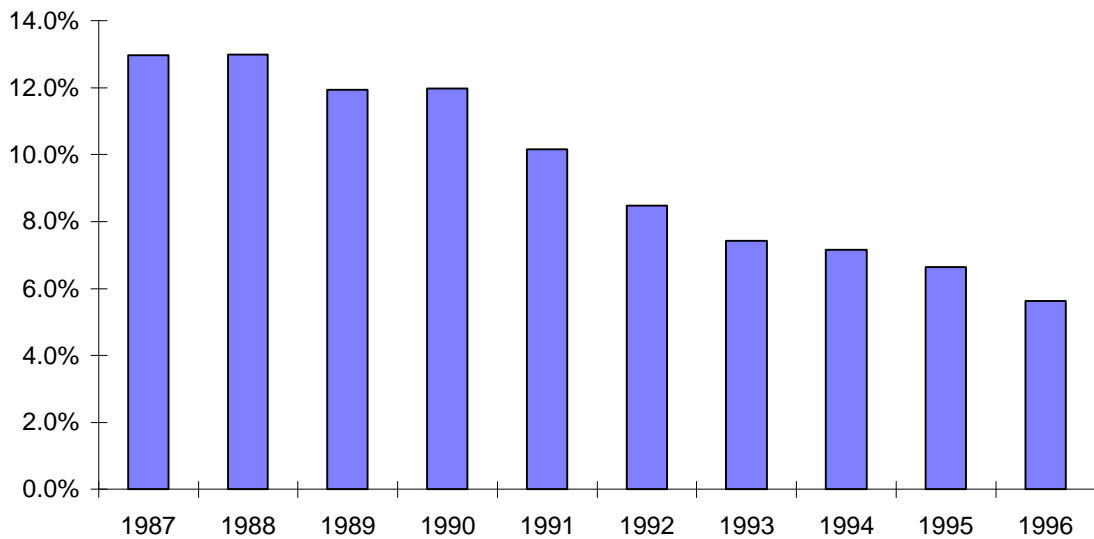


Figure 2.9 Interest Cost as Percent of Gross Operating Expenses

Source: Statistics Canada (SAF, 1997).

Figure 2.9 depicts the gradual reduction in interest costs relative to gross operating expenses (this includes depreciation). It reflects some reduction in debt, but also large decreases in interest rates since the early 1980's (sharply downward in 1987 and 1992).

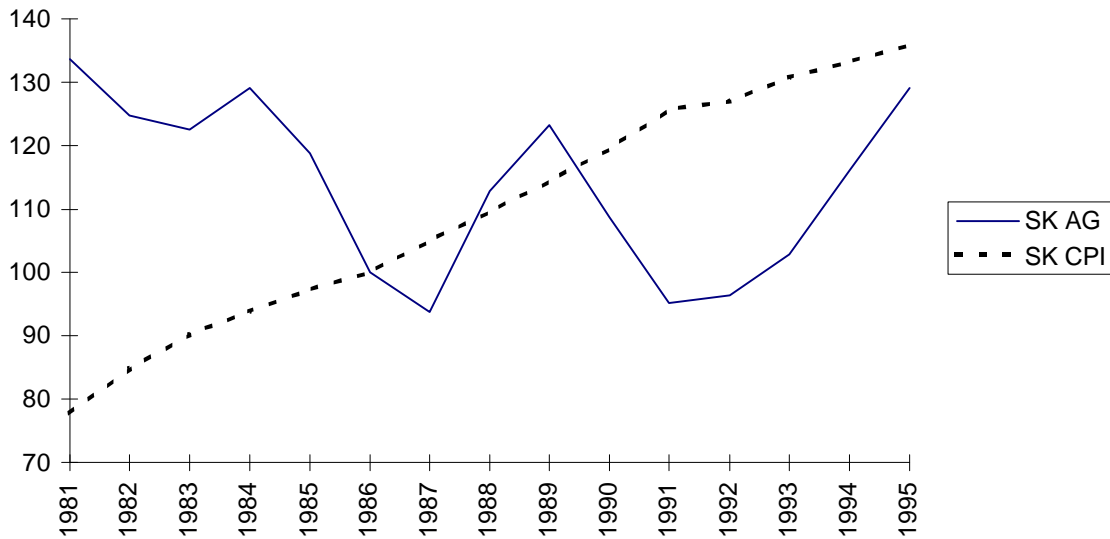


Figure 2.10 Price Indices for Saskatchewan (Agricultural Products Price (SK AG) index and Consumer Price Index (SK CPI) for Saskatchewan) Source: Statistics Canada (SAF, 1997).

Figure 2.10 illustrates how inflation has been gradual throughout the period, but commodity prices have been more volatile with no discernable upward trend. There were sharp downward drops in 1987 and 1991.

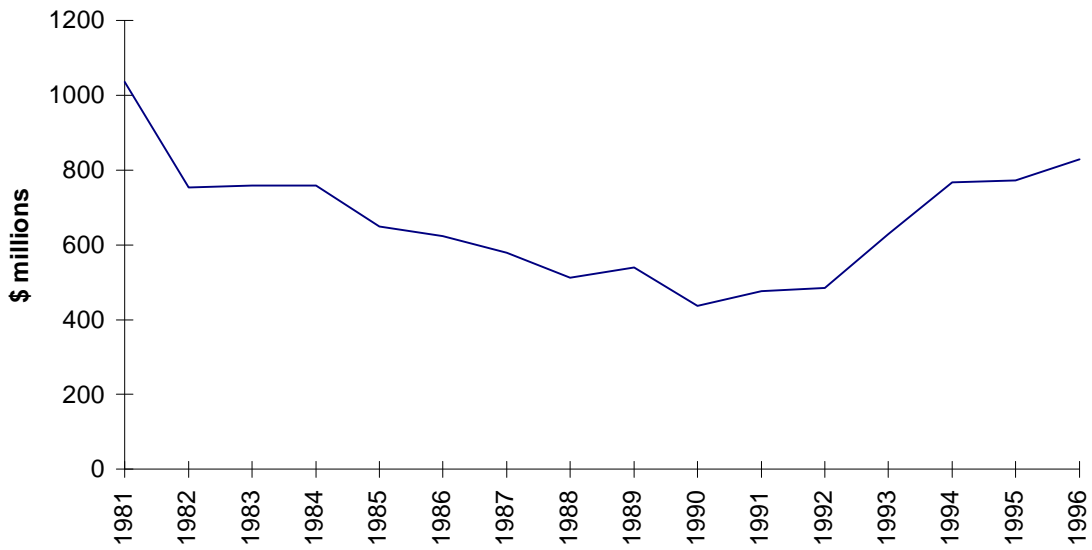


Figure 2.11 Gross Fixed Agricultural Capital Formation in Saskatchewan

Source: Saskatchewan Bureau of Statistics (SAF, 1997).

Figure 2.11 illustrates well how investment in agriculture declined from 1981 to 1990 with a gradual recovery since 1990.

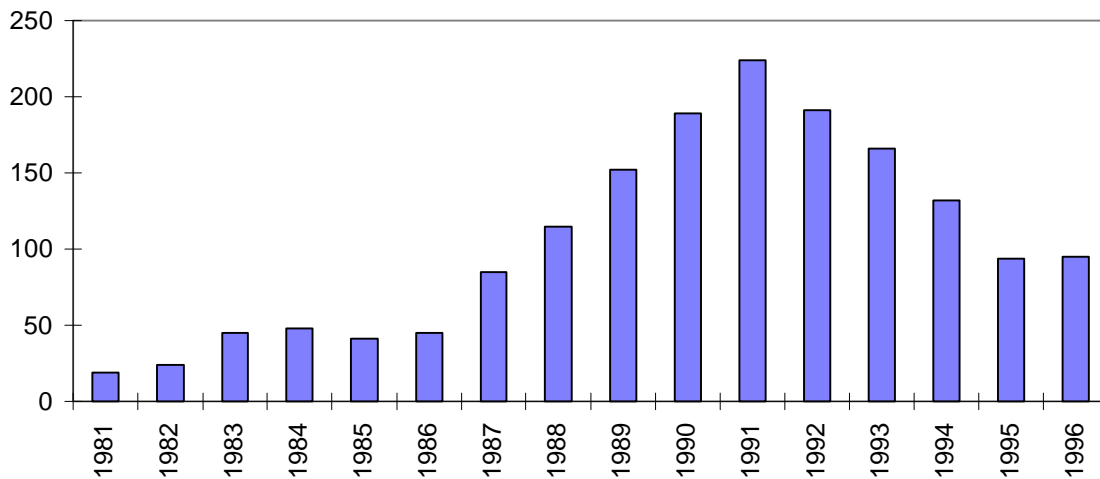


Figure 2.12 Farm Bankruptcies in Saskatchewan

Source: (SAF, internet).

Bankruptcies peaked in 1991 and have since declined, but not as low as the first half of the 1980's. This graph does show that only a limited number of producers are making use of some of the protection offered through exemption legislation related to bankruptcy (see Appendix).

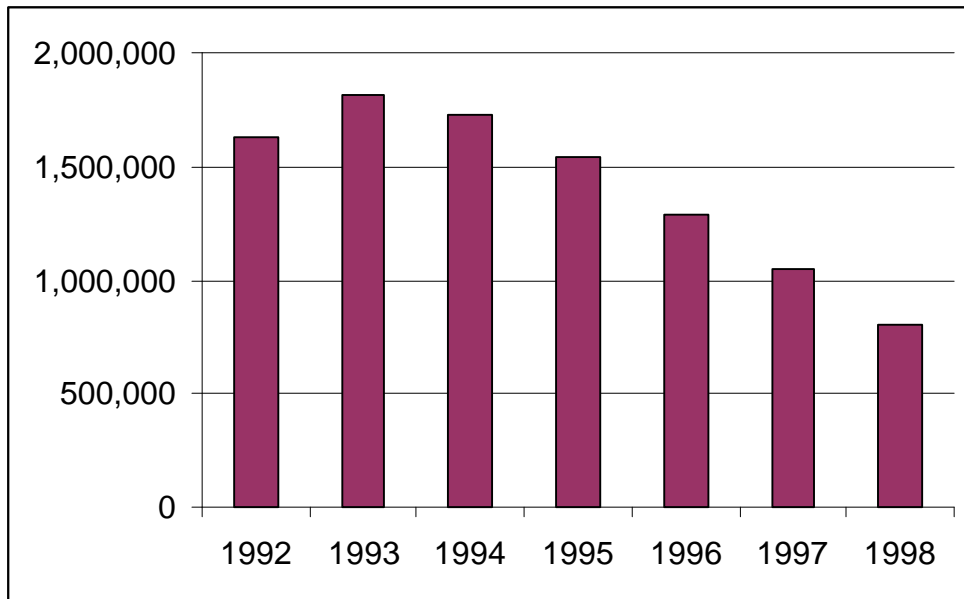


Figure 2.13 Acres of Saskatchewan Farmland Held by Financial Institutions (as of Dec. 31). Source: (Farm Land Security Board).

The Level of Farm Land being held by financial institutions peaked in 1993 and has been leveling off since then, but it is still a significant amount.

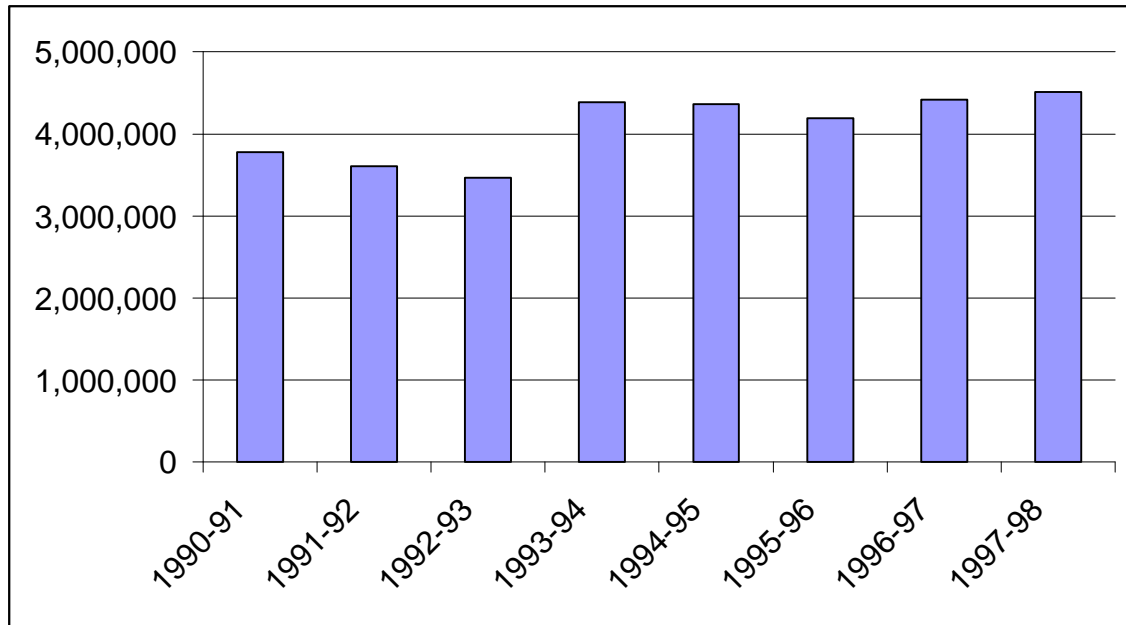


Figure 2.14 Acres of Sask. Farmland Transferred (by Fiscal Year).

Source: (Farm Land Security Board).

Despite the level of regulation effecting land values, the number of acres transferred each year has not varied much in the last five years.

2.2 Credit Policies in Saskatchewan

2.2.1 Agricultural Credit Corporation

The Agricultural Credit Corporation of Saskatchewan Act is the authorizing legislation for this provincial lending agency. It is a provincial Crown corporation. Its governing Act states its mandate is, “to provide financial assistance and expansion and promote the development and expansion of the agricultural industry.” (SAF, internet) ACS is currently winding up its operations. The programs administered by ACS included a capital loan program to assist individual farms and an investment loan program that provides long term

financing to large scale beef and hog feedlots. There was also home quarter financing to buy or improve a home quarter.

2.2.2 Advance Payment Programs

These are federally governed programs under the Agricultural Marketing Programs Act. Included here are the advances administered by the Canadian Wheat Board for CWB grains and equivalent programs administered by provincial governments for non-Board crops.

2.2.3 The Bank Act

The Bank Act governs the operations of chartered banks in Canada. Two important notes with respect to this Act are the amendment in 1977 to allow the chartered banks to make long-term mortgages to farmers (House of Commons, 1988, p.31). This made credit easier for farmers to obtain. Second, section 178² of the Act is also important in allowing the use of various agricultural security for short-term credit (Brassard, 1987).

2.2.4 Breeder Associations Loan Guarantee Program

This is a provincial program that provides financing for cow/calf cooperatives or corporations. A minimum of 20 members may borrow \$25,000 each for breeding stock or cow/calf pairs. Ten percent of the borrowings must be deposited into the association's assurance fund. The province then provides a guarantee of 25 percent of the outstanding loan to the lender. In case of default, the assurance fund is used first. Thus, the creditor only has 65 percent

² Sec. 467 under the revised Bank act.

of the loan amount at risk and the breeder corporation or cooperative requires only ten percent initial equity (SAF, internet).

2.2.5 Feeder Associations Loan Guarantee Program

This provincial program corresponds to the breeder program except that the emphasis is on feedlot units. (SAF, internet) The feeder program also requires a minimum of 20 members who may borrow \$25,000 each for feeder cattle. The loan amount increases to \$50,000 in the second year and up to \$100,000 each in the fourth year. This program requires only five percent of the borrowings to be deposited into the association's assurance fund. Again, the province provides a guarantee of 25 percent of the outstanding loan to the lender. The assurance fund is used first in case of default. For the feeder program, the creditor only has 70 percent of the loan at risk and the feeder cooperative or corporation requires only five percent initial equity.

2.2.6 Farm Credit Corporation

The Farm Credit Corporation is governed by federal legislation. The Farm Credit Corporation Act became law in April 1993 repealing the Farm Credit Act and Farm Syndicates Credit Act. In the past, FCC focused its lending on the purchase of farmland. It now has a very diverse and broad spectrum of lending authority. In 1981, the Farm Credit Act was amended to allow FCC to use capital market borrowings in addition to federal funds. The Farm Credit Act was also amended in 1975 to allow FCC to lend based on market value and also up to 100 percent of that value (House of Commons, 1988). These changes to FCC legislation as well as the amendment to the Bank Act increased the supply of

credit and were pro-cyclical (introduced expansionary changes when expansion was already at a high rate) (Fulton et al, 1989). FCC was created by Parliament in 1959 as successor to the Canadian Farm Loan Board.

Of the approximately 51 million acres of cropland in Saskatchewan, FCC holds 550,000, the ACS owns 65,000 and about 187,000 additional acres are owned between the banks and credit unions (Farm Land Security Board). This is about 1.6 percent of all cropland. FCC is mandated to return as much held land to the original owner as possible.

2.2.7 Farm Debt Review Board

The Farm Debt Review Act governs Farm Debt Review Boards. (House of Commons, 1988) The Farm Debt Review Act was proclaimed on August 5, 1986 authorizing the Farm Debt Review Boards (FDRB) to begin operation that fall. This Act provides farmers in financial difficulty with two options. First, the farmer may request a review of his or her situation by a member of the FDRB. The member would then help the farmer negotiate more favorable repayment options with the creditor. The second option is a request for a stay of proceedings. This simply gives the farmer more time before any seizure or foreclosure of property can occur (SAF, internet).

2.2.8 Farm Improvement and Marketing Cooperatives Loans Act

This federal program is administered through lending institutions. (SAF, internet). This is a loan guarantee program up to \$250,000 for individual farmers and \$3 million for associations. Farm improvement loans are available for up to 75 percent of value (Brassard, 1987).

2.2.9 Farm Land Leaseback Program and Right of First Refusal

This program was recommended by the Farm Debt Advisory Committee (FDAC) in their March, 1992 report. It is a provincial program. The Farm Tenure Arbitration Board handled grievances and disagreements regarding the provisions of the leaseback program, which has expired. The program still deals with the right of first refusal when seized or foreclosed farmland is eventually sold. The purpose of the Farm Land Leaseback Program was, “to provide security of tenure through a long-term lease for farmers who find it necessary to transfer title of their land to lending institutions” (SAF, Internet).

2.2.10 The Saskatchewan Land Bank Commission

The Saskatchewan Land Bank Commission was a provincial policy established in 1972. The Lands Appeal Board was responsible for receiving appeals and arbitrating disagreements regarding who received land. The Land Bank owned land and leased to farmers based on rent tied to grain prices and productivity (Western Producer, internet). The program would allow a farmer to lease until age 65, then pass on the land to direct descendants once they qualified. There was a point system for determining eligible applicants. The land Bank would buy land that was offered to it and lease it out. Its objectives included:

- 1) to enable those individuals with the desire and practical ability to begin farming independent of substantial family assistance
- 2) to facilitate the establishment of viable farming units

- 3) to encourage perpetuation of viable units through transfer of possession to direct descendants
- 4) to develop a system of allocating land based on fair and unbiased selection between contenders
- 5) to provide counseling services to those lessees who indicate a desire for assistance in either farm management or financial management
- 6) to provide a continuous sales opportunity to people who own farmland in Saskatchewan

(Saskatchewan Land Bank Commission)

There was also an option to sell, then leaseback for the purpose of freeing capital. The province still owns almost one million acres from the defunct Land Bank. A Western Producer (internet) article implied that the Land Bank failed from “too much demand.” If this was too much demand for leases, one would imagine that there were allegations of favoritism etc. If there was too much demand to sell, the government probably ran out of money.

2.2.11 Saskatchewan Farm Purchase Program

The Saskatchewan Farm Purchase Program was an interest rebate program for beginning farmers introduced in 1982. It offered a rebate down to 8 percent for the first five years and 12 percent for the following five years to farmers for the purchase of land. At the time it was introduced, interest rates were hovering around 20 percent. (Brassard, 1987)

2.2.12 Saskatchewan Farm Security Act

This act offers special rights to producers when their home quarter is subject to financial claims (House of Commons, 1988). The Farm Land Security Board administers this legislation.

The Farm Land Security Board has three specific responsibilities:

1. To accept notices from lenders wishing to start foreclosure action and prepare farm families for mediation services afforded them.
2. To administer the Home Quarter Protection legislation. This includes ruling on applications to eliminate the statutory protection against foreclosure on the home quarter.
3. To administer the legislation and regulations limiting non-resident and corporate ownership of farm land.

(SAF, internet)

A report by the Farm Debt Advisory Committee in 1992 states that there is some duplication between the FDRB and the Farm Land Security Board.

The Farm Ownership Provision in the Farm Security Act limits Canadian non-residents of Saskatchewan to 320 acres and non-residents of Canada are limited to ten acres (SAF, internet). The Farm Security Act also provides that certain property necessary to the carrying out the business of farming may not be seized.

2.2.13 Special Farm Financial Assistance

The Special Farm Financial Assistance Program (SFFAP) subsidized refinancing of agricultural loans in 1980. The federal government assumed \$370 million of high risk private sector loans(House of Commons, 1988).

3. Theoretical Framework

The literature generally does not approach credit policy by questioning the objectives of the various stakeholders. There is some comparison among various policies, for example, Lowenberg-Deboer and Boehlje (1983) analyze various states with respect to their farm credit and land tenure policies to assist beginning farmers. The analysis focuses on the costs of these programs and concludes that subsidized credit programs are most cost efficient (lowest cost) compared with guaranteed loan programs (which can incur large losses and exhibit high variability) and things like the Saskatchewan Land Bank which require large capital outlays and ownership risk. The question of asset values and their determinants is addressed in Feldstein (1980). This article discusses a model of asset values (land prices) under inflation, uncertainty, and interest rates as well as return expectations. Feldstein finds a positive correlation between land and inflation and a negative correlation between real interest rates and land values. Risk aversion greatly moderates fluctuations in land prices, along with the moderating effect of using long-term expectations rather than year by year returns or real interest rates. Differential tax treatment is also directly related since real returns after tax are what matter. Feldstein also notes that capital cost allowance (depreciation for income tax purposes) is less of a benefit under high inflation since initial cost is much less than replacement cost after a few years. This study looks at the objectives of the various stakeholders and connects these objectives to the behavior of asset values and how this behavior can be manipulated.

There are generally two forms of credit policy: interest subsidy (low-interest loans) and collateral regulations (loan guarantees, leasebacks, moratoria, home quarter protection). Collateral related regulations can have be equivalent to a interest subsidy or tax. For example, loan guarantees and interest subsidies have very similar effects from both the farmers' and creditors' perspective (they result in a lowered interest rate). Likewise, home quarter protection, bankruptcy protection and forced leasebacks limit creditor's access to additional collateral and thus could lead to higher interest rates (for unsecured debt). These programs may also affect the quantity of credit demanded and this is important as creditor profits are linked to volume. The important difference to government is in the budgetary costs involved with subsidized interest rates versus the risk of loan guarantees³.

Credit policies can also be grouped by their objective. There are three general objectives: easing entry/exit (capital liquidity), prevention of foreclosure (security of tenure) and targeted interest subsidies or loan guarantees for industry-specific growth. These objectives coincide respectively with governments' presentations of new credit policies as "helping beginning farmers" or "supporting the family farm" or "encouraging new investment in value-adding."

Land is the most important farm asset. As with any other traded asset, its current price reflects the value of its production at the margin and prevailing interest rates. Due to economies of scale in machinery and management, the

³ Lowenberg-DeBoer and Boehlje (1983) found subsidizing loan rates was more cost effective income support than guaranteeing loans.

return of additional land has been increasing for large operations with a full complement of equipment. This is the primary force behind increasing farm sizes. Higher marginal returns put upward pressure on land prices.

Generally, returns to land must be quite low before there is selling pressure. First, these returns are highly variable which means a long-term outlook is a prerequisite to land ownership and thus a few sub-par years do not necessarily constitute a sell signal. Secondly, land is difficult to sell due to the thinness of the market and high search and selling costs. Thirdly, tax advantages of farmland ownership can mean seemingly low returns are actually competitive on an after-inflation, after-tax basis, especially for a highly taxed individual. Lastly, historical government intervention may be included in determining the market value of land and other farm assets.

Any income increase or advantage that makes farming more attractive or profitable is generally capitalized into asset values (land) to a significant degree. General economic theory insists that government intervention that moves a market away from its equilibrium (other than correcting market failures) leads to losses (deadweight loss). This means that the actions required to carry out the policy objectives of government may actually be causing harm and increasing the magnitude of such problems over the longer term. Governments generally operate in the short to medium term so this is not always considered. The potential conflict results partly from the lack of differentiation between credit to bring new capital into the industry versus credit used to purchase existing capital.

The objective of protecting farm families may conflict with easing entry and exit. Protection from foreclosure tends to lead to reduced availability of credit, which hampers new entrants. On the other hand, subsidized credit for beginning farmers encourages excessive entry, which may result in inflated asset values (by bidding up the price of existing assets). This type of policy can result in a self-defeating cycle of rising asset prices that raises the cost of entry. Farm asset prices are based on expected returns from production **plus** expected government subsidies, support and taxes.

Credit policies tend to have their largest impacts on fixed asset values. That is to say that subsidized interest rates can be capitalized into asset prices and any restrictions on collateral tend to limit credit and reduce the value of farm assets.

4. Theoretical Model

In order to understand why credit regulation is created, the objectives of the parties involved must be revealed. To determine the impact of credit regulation on the cost, availability and accumulation of capital goods, it must be determined to what extent the credit is used to purchase existing assets (land) versus adding new assets to the industry. From the government perspective the question would be: Is the credit targeted to new enterprises or simply for entry/exit (liquidity in transfer of existing assets)? Only credit that facilitates the accumulation of new capital can result in significant growth or increased efficiency. Credit that eases entry/exit or makes land tenure more secure may also have benefits but they are not easily measurable.

4.1 Farmers' Objectives

Farmers' seek to maximize their own well-being and this is achieved through higher incomes and/or increases in the value of investments in land and equipment. They may also expand or consolidate to increase labor and management productivity. Marginal returns including increased productivity may also be attractive even if average returns are low. Farmers may resort to rent-seeking to increase general farm income and net worth through government subsidies.

It may be useful to note that farmers' objectives are not likely homogeneous. Farmers could be divided into three groups by their stage in the life cycle. Beginning farmers are primarily concerned with achieving sufficient current income to meet debt payments. They also place value on protection

from creditors. Retiring farmers are mainly concerned with the value of their assets since this dictates their future income. Established farmers are concerned with both current income and asset values.

Farmers are limited by credit constraints and their limited abilities to organize effective lobby groups. They face a collateral constraint such that total debt may not exceed perhaps 40 percent of land and building assets. They normally have a stock of debt and flows of new debt or net repayments. The collateral constraint is a function of the value of farm assets. The value of farm assets is a function of farm income (asset return) and the credit available (a simultaneity problem) (Kiyotaki and Moore, 1997).

The flexibility of various farm business ownership arrangements mitigates the credit constraint to some degree. In the past, farmers were primarily owner-operators where capital, labour and management were all provided within a single family or person. To the degree that arrangements such as renting land, leasing equipment and custom work become more common, the credit constraint is mitigated. In effect, a person can work in the farming industry without large capital requirements as hired labor or a custom operator. Or one can invest in farmland without also providing labor and management. For example, if a young person without much capital wanted to enter farming today with no significant help from family or government, they might take the following path:

- 1) hired labor (no risk, no capital required)
- 2) custom operator with leased equipment (little risk, little capital)
- 3) custom operator owning some machinery and a home quarter

- 4) additional ownership of equipment and renting land
- 5) full ownership of land and equipment (high risk, high capital)

As is illustrated, a young farmer could theoretically start with only their own labor and gradually add ownership of equipment and land. As one moves through the stages, the level of risk and capital required increase substantially. Also note that a retiring farmer can follow a similar process in reverse by utilizing more hired labor and custom work and then by renting out land. So a farmer can also retire gradually.

4.2 Creditor Objectives

Creditors generally include banks, credit unions and the FCC. Creditors are profit maximizers subject to certain legislation regarding credit. They maximize return on their loan portfolios by balancing the returns from interest against the possibility of a loss caused by default. Government credit subsidies or loan guarantees allow banks to do more business or the same amount of business with less risk of losses and thus increase net returns.

4.3 Government Objectives

Government motives may be described as seeking the public good or as maximizing political gain. Their objective may be termed maximizing “political goodwill” through credit regulation. Political goodwill may be created by:

- 1) increasing income and/or net worth of current farmers
- 2) increasing creditor business volume (and thus profits)
- 3) maximizing current production by alleviating the credit constraint
- 4) enhancing industry viability by easing entry and exit (liquidity)

- 5) encouraging growth through capital accumulation
- 6) preventing/inhibiting foreclosures

Political goodwill may be delineated as the well-being of the people (proxied here with net worth since income and growth is generally capitalized into asset prices, but goodwill may include income redistribution etc.). The government faces a budget constraint on interest subsidies but not on legislated changes to the collateral constraint.

It is difficult to enumerate effects of credit policy on growth and efficiency. Likewise, the benefits of liquid entry/exit and security of tenure are difficult to value. However, credit policy has theoretically very large impacts on asset values. It is easy to show how large these effects can be in the short term and imagine that they likely swamp the other effects. It is argued here that subsidized loans to beginning (or other) farmers do not necessarily help such people so much as they generally prop up farm asset values for current owners (albeit at a minimum cost). By subsidizing credit on new purchases, the government influences the equilibrium market price upward and all landholders experience a capital gain. This is not so much a transfer as the creation of wealth, since increasing the transaction price also raises the value of the land that is not traded. Interest subsidies could be described as targeted monetary policy.

The benefits of elevated asset values go primarily to existing landowners as “paper” capital gains. Even when subsidized credit is terminated, it generally takes awhile for prices to adjust downward due to price stickiness. Current

owners hold land waiting for a return to previous high prices. Thus, lowering the supply of land for sale.

The two policy approaches are not both easily included in an empirical model since an interest subsidy involves a specific budgetary outlay whereas collateral legislation may have no budgetary cost. The model captures the cost and benefits of the subsidy and the collateral constraint is modeled as a subsidy equivalent⁴. The model does not capture any reduction of inequality. The stability or level of risk in the system is not measured in the model. Encouraging more credit (leverage) is generally adding risk and reducing stability.

It has been mentioned that credit policy often is targeted at the poor liquidity of farm assets. One could theorize that farm assets should respond dramatically to changes in real interest rates and (expected) returns. However, the lack of liquidity from localized markets with few participants that prevent frequent adjustments in published prices along with high transactions costs and uncertainty of expected returns tends to reduce the fluctuations in asset values.

⁴ Although this is a significant simplification it does not impact our conclusions to any great extent because so few farmers actually make use of their protection under bankruptcy law.

5. Results

The model primarily addresses government motives in credit policy. Farmer and bank objectives are relatively simple and straightforward, but government policy has a variety of effects, some intentional, some not. The model seeks to illustrate the variety of outcomes. As was previously discussed, any subsidy or tax is generally capitalized into the value of the limiting asset over time. This process is illustrated with sensitivity analysis to show the magnitude of distortions that can result.

To model the effects of credit policy as an interest subsidy or tax equivalent⁵, the key variables are government subsidies and collateral constraints, the size of the land market relative to the total land base and the life of the policy. The land market represents only the flow of capital assets changing hands, but it sets the price at the margin for the entire stock of land. The ratio of land traded to total land is very important. If the equilibrium price can be caused to rise by a subsidy on transactions that represent only five percent of the land base, there is a 20:1 leverage ratio for political goodwill.

Suppose as an example that farmland is valued at \$100/acre, annual returns are \$10/acre and the prevailing interest rate is 10 percent. Now suppose the government subsidizes rates down to 6 percent. The effects on land value, farmer wealth, government cost and political goodwill depend primarily on three

⁵ Credit constraints need to be carefully analyzed to estimate the tax equivalent. If a given policy caused \$1 million in increased losses on a \$100 million debt portfolio, the effect is ex ante equivalent to a 1% tax. FCC suffered losses of more than 2% of their loan portfolio in the late 1980's and early 1990's (Brewin, 1994).

variables: the degree of capitalization of the subsidy into land prices, the ratio of land traded each year to the total stock of land and the size and duration of the subsidy program. The following table presents outcomes under various combinations of these variables. The degree of capitalization is varied by the expectation of the life of the program from no capitalization effect to indefinite by calculating the value of farmland (as a perpetuity) and adjusting for varying lengths of program support. The percent traded variable magnifies the effects on paper capital gains to non-trading landowners. The duration of the program impacts both the degree of capitalization and the government costs. Costs increase for longer programs since more farmers take advantage of the subsidy. The degree of capitalization increases for longer term programs; however, this is primarily a signaling effect. That is to say, if government indications lead farmers to believe subsidies will be ongoing, the degree and rate of capitalization will be high. If farmers believe the program to be very temporary, capitalization levels will be close to zero.

Land values for the table are calculated by counting the subsidy as an additional \$4 per acre in revenue discounted with a 10 percent interest rate for the indicated number of years and then returning to a \$100 value (\$10 return in perpetuity at 10% or $\$10/.1$ or \$100). For example the 10 year calculation was: Land Value = $14/1.1 + 14/(1.1)^2 + \dots 14/(1.1)^5 + 100/(1.1)^6$ or \$109.52. The interest saved in the first year by the new entrants is \$10 (\$100@10%) less 6% of the new land value as calculated above.

Table 5.1 Effects of an Interest Subsidy Per Acre

Capitalization based on	No Capitalization	5 years	10 years	20 years	Permanent Change
Gov't cost /ac/yr	\$4	\$4	\$4	\$4	\$4
Bank profit	Increased	increased	increased	increased	increased
Land value	\$100.00	\$109.52	\$121.07	\$132.70	\$140.00
Entrant farmer interest saved	\$4.00	\$3.43	\$2.74	\$2.04	\$1.60
Entrant extra cost	\$0.00	\$9.52	\$21.07	\$32.70	\$40.00
Exiting farmer gain	\$0.00	\$9.52	\$21.07	\$32.70	\$40.00

Source: Authors' calculations.

For short-term policies, the level of capitalization is low. In the case of no capitalization, an interest subsidy is a direct transfer to the entrant farmer. With even small amounts of capitalization, the transfer to the entrant farmer is not as efficient. Interest costs increase because the value of the land has increased.

With any degree of capitalization the sellers of farmland experience capital gains equal to the value of the expected flow of revenues from the land.

Creditors will generally experience an increase in volume (and profits) due to promotion of borrowing by the program. If there is some degree of capitalization, landowners not involved in any transactions will also experience paper gains that will only be realized if the land is sold before the program has terminated and been fully de-capitalized. These paper gains can be very large in proportion to government spending, since only a small portion of land is traded in any one year.

To illustrate this idea, a quick example follows. The value of agricultural land and buildings in Saskatchewan is currently a little over \$20 billion (SAF, 1997). Suppose the government offered a subsidy similar to the above example with interest rates subsidized down to 6 percent from ten and this be expected to be capitalized over 10 years and five percent of land traded each year. Total cost to the government in the first year of the program would be 4 percent (the subsidy) of 5 percent (portion of land traded⁶) of \$20 billion which is \$40 million. The farmers who purchased land under the program (entrants) would save \$27.4 million in interest costs, but pay \$211 million more for what they bought. Those farmers who sold land receive that same \$211 million more than they would have in absence of the program. In total, landholders experience paper gains to the tune of \$4.2 billion (\$21.07 for every \$100 of land value).

Again, in the long term, with decapitalization, the gains in land values become paper losses to entrants. The real gains go to those exiting at the beginning of the program. Exiters receive the bulk of the benefits and they take this wealth with them out of the industry. With full capitalization, entrants receive the transfer from government and pass it on to those leaving through capital gains. In the long term, government costs will increase until the entire landbase is under subsidized financing. Thus, all borrowers will be receiving a transfer that is likely capitalized to a large extent and passed on to those selling their land. Both the paper and the real capital gains may be considered as

⁶ Assuming it was all financed with subsidized credit.

political goodwill for the government. If the program continues over many years, government costs approach the benefits of full capitalization.

Modeling considerations include determining the actual proportion of land traded each year and the degree that credit subsidies are capitalized. This likely lies between 2 (turnover every 50 years) and 10 (turnover every 10 years) percent, but most likely 4 or 5 percent. FCC loan approvals represent the neighborhood of 1 or 2 percent of farmland. Of course, FCC is not the only lender, and some of this is also for refinancing, but it does indicate the majority of traded land is financed with credit. Land that is traded without credit financing does not get counted here since no credit subsidy is applied. At either end of the range, the leverage effect is substantial. The more difficult question is the degree such programs are capitalized. One would imagine that a program with an expected lifetime into perpetuity would be fully capitalized, but a one-year program would hardly be capitalized at all. The uncertainty of these policies suggests capitalization at the low end of the scale.

Using some of these indicators it is possible to estimate a reasonable cost/benefit for government with respect to interest subsidies. The most important variables are the ratio of traded land using debt, to the total land base and the degree that interest subsidy or tax equivalents are capitalized into asset values. Using our example above the paper gain in the first year to land holders was \$4.2 billion for a \$40 million transfer in the first year of a 10 year program. As well, new entrants saved some \$27.4 million in interest costs the first year. On the downside the new entrants paid \$211 million extra for land, and at the

end of ten years the land values fell by the \$4.2 billion and the farmers who exited had taken \$211 million out of the farm economy.

6. Summary and Conclusions

The major implication of this study is that if one assumes even a small degree of capitalization, there is incentive for governments to subsidize credit to increase farm net worth (and likely political goodwill) at a low cost using the leverage of capital stocks to flows. By giving loan guarantees or interest subsidies, they also offer creditors more revenues by increasing the quantity of loans that meet the risk/return criteria. Policies could also restrict collateral and thus reduce available credit. These appear to have the objective of minimizing the loss of political goodwill due to bankruptcies and loss of family farm units, but they can cost a great deal in the form of lost net worth if perceived as an interest tax.

Saskatchewan has implemented credit subsidy policies in the past including: the Saskatchewan Farm Purchase Program (1982) which gave an interest rebate down to 8 percent for the first five years, then 12 percent for the next five (from rates 15-20 percent at that time) for beginning farmers and also special assistance loans in the late eighties that allowed low interest loans to farmers of \$25 per acre. Some policies had the opposite effect, by reducing eligible collateral, and thus increasing costs to cover increased risks in lending. These programs include the Farm Land Leaseback Program which allows the right of first refusal to the previous owner when a creditor sells land gained through foreclosure and the Saskatchewan Farm Security Act which removed the home quarter as mortgage security and limits market participation to

residents of Saskatchewan⁷. Reductions in available security are equivalent to an interest tax because increased risks to the creditors are passed on to borrowers in higher rates.

So, there are programs that decrease interest costs to increase credit and liquidity and those that restrict credit and liquidity. They likely offset each other to some degree, but it is hard to imagine that they do not distort the asset market from where it would be without interference.

Future studies could be directed at estimating the degree of capitalization of government policies into asset values. This need not be restricted to credit policy. It is important in determining the effects of various policies, but it is difficult to estimate due to the large number of variables that interact to determine asset values.

Credit subsidies are no doubt capitalized to some degree. Unfortunately these gains are realized primarily by those leaving the industry, with entrants receiving small gains in interest savings but paying higher prices for land. This pattern is similar to that described for supply-managed industries where quota rents are capitalized (Schmitz, 1983). Those who owned assets before capitalization benefit most and the next generation of asset owners pays. It is likely not the initial intention of credit policy to produce this outcome. Providing gains to those leaving an industry clearly gives an incentive to leave. Targeted credit subsidies to specific industries are likely more effective for growth, but

⁷ These provisions could have had a short-term positive effect on land values as less land was foreclosed on and then returned by the banks to the open market.

only if new assets are brought in rather than buying existing assets from exiting owners and having them leave with the subsidy.

Restrictions on credit would tend to slow adjustment and generally make the entire industry less responsive. This inevitably slows the rate of growth. As with most government intervention, credit policy alters the market equilibrium towards a sub-optimal outcome. This results in losses to society in terms of lower production and slower growth.

7. Appendix: Comment on Bankruptcy Law

by Dan Dierker, LL.B, M.Sc.

Bankruptcy, in the Canadian federation is a federal legislative responsibility (Constitution s. 91). The federal government has thus passed The Bankruptcy and Insolvency Act R.S.C. 1985 c. B-3. By section 67 (1) (b) of this Act the federal government has incorporated by reference provincial exemptions law. This essentially means that property that is exempt from seizure under provincial law cannot be transferred to the trustee upon bankruptcy. Thus, in Saskatchewan the general populations exemptions from the trustee in bankruptcy are established in the Exemptions Act R.S.S. 1978 c. E-14, while farmers as defined in Part V of the Saskatchewan Farm Security Act R.S.S. 1978 c. S-17.1 have their exemptions set out in Part V.

Part V contains sections 65 to 75 of the Saskatchewan Farm Security Act. Of particular interest are sections 65, 66, 68 and 70. Section 65 defines farmer. By the section, and the definition of producer in section 2, a farmer is anyone, involved in the production of primary agricultural products or animals, who is in debt.

Section 66 sets out the exemptions from seizure under writ of execution, while section 68 extends the exemptions to seizure under a security agreement. In general the exemptions include assets necessary to continue operating, including:

- Necessary and ordinary clothing of the farmer and his family;
- Furniture and appliance to the extent of \$10,000;
- Produce of the farm sufficient, when converted to cash, to provide food and fuel for heating, and to cover legitimate operating costs until next harvest;
- All livestock, one complete line of machinery necessary for the proper and efficient operation of the farm with a limit of one automobile or truck;
- Books related to any profession practised by the farmer;
- Tools necessary implements and office furniture to the extent of \$4,500;
- House to the extent of \$32,000;
- Seed grain of the farmer's choice sufficient to seed all his land at two bushels per acre;

At first blush the exemptions would appear to favor grain farmers, over other agricultural producers because of the sheer size of their operations. This is particularly the case when you consider that section 68 provides the protection against secured

creditors. This would suggest that lenders face a huge disincentive to deal with farmers in general and grain farmers in particular. This disincentive is considerably lessened by Section 70 that excepts purchase money security interests from the exemptions. A purchase money security interest is a security interest that is granted in a chattel when the money lent was for the purchase of that chattel. The disincentive is, of course, completely removed by the fact that the farmer can, upon obtaining independent legal advice, waive the protections afforded by Part V.

The apparent disincentive to lend contained in Part V of the Saskatchewan Farm Security Act, is like the procedural requirements set out in the Limitations of Civil Rights Act R.S.S. c. L-16, and the Agricultural Implements Act R.S.S c. A-10 merely a technical obstacle to be overcome. While they may pose a trap for the unwary, for institutional lenders they merely represent T's that must be crossed and I's that must be dotted. Given the market power that institutional lenders possess over their farmer debtors, the practice has arisen in Saskatchewan for the additional costs associated with allowing the lender to avoid Part V, such as the legal fees associated with drawing the security agreements and waivers and the fees for the registration of the agreements, are normally born by the farmer. The same market power convinces farmers looking to limit liability with incorporation to sign Personal Covenants in order to obtain most institutional credit.

LIST OF REFERENCES

- Brassard, Jean-E., Financial Assistance for Farmers: A Lawyer's Guide to Federal Programs, Carswell, Toronto, 1987.
- Brewin, Derek, "Limited Dependent Loan Loss Estimation for the Farm Credit Corporation", an Unpublished Thesis, University of Saskatchewan, 1994.
- Farm Debt Advisory Committee (FDAC), "Report of the Farm Debt Advisory Committee," Saskatchewan, March, 1992.
- Feldstein, Martin, "Inflation, Portfolio Choice, and the Prices of Land and Corporate Stock," *American Journal of Agricultural Economics*, December 1980, vol. 62 (5) p. 910-916.
- Fulton, Murray, Rosaasen, Ken, and Andrew Schmitz, "Canadian Agricultural Policy and Prairie Agriculture," A study prepared for the Economic Council of Canada, 1989.
- Harl, Neil. E., "Lessons Learned From the Farm Debt Crisis of the 1980's," W.I. Myers Memorial Lecture, Dept. of Ag. Economics, Cornell University Ithaca, New York, October 1988.
- House of Commons, The \$22 Billion Problem: Options for the Financial Restructuring of Farm Debt, Report of the Standing Committee on Agriculture, July 1988.
- Kiyotaki, Nobuhino and John Moore, "Credit Cycles", *Journal of Political Economy*, 1997, vol. 105, no.2, University of Chicago, p. 211-48.
- Lowenberg-DeBoer, James and Michael Boehlje, "Evaluation of State Legislative Programs to Assist Beginning Farmers," *Agricultural Finance Review*, 1983, vol. 43, p. 9-20.
- Saskatchewan Agriculture and Food (SAF), Statistics Branch, Agricultural Statistics, 1997.
- Saskatchewan Agriculture and Food (SAF), Internet: www.agr.gov.sk.ca/saf/ "Stat Facts: (Farm Bankruptcies)", "ACS", "Farm Ownership Provision", "Law for Saskatchewan Farm Families", "Farm Land Security Board", "Farm Credit Corporation", "Farm Improvement and Cooperative Marketing Associations Loans (FIMCLA)."
- Saskatchewan Land Bank Commission (pamphlets): "How to Avoid the high cost of ownership", "How to Qualify for a Land Bank Lease", "What we can do

for you, and for Saskatchewan”, “How to get a new lease on life”, “How to put your land in the bank”, “The Saskatchewan Land Bank Commission”

Schmitz, Andrew, “Supply Management in Canadian Agriculture: An Assessment of the Economic Effects,” *Canadian Journal of Agricultural Economics*, July 1983, p. 135-51.

Shalit, Haim and Andrew Schmitz, “Farmland accumulation and Prices”, *American Journal of Agricultural Economics*, November 1982. P. 710-19.

Stigler, George, J., “The Goals of Economic Policy,” *The Henry Simons Lecture*. University of Chicago Law School. 1958.

Western Producer, Internet: www.producer.com/docs/news/SpecRep/ “Is FCC living up to its mandate?”, “Goodale says land gained ‘absolutely involuntarily’”, “Land bank still a good idea, says former official”, “Land on the auction block by FCC: Are farmers being sold out too?”