

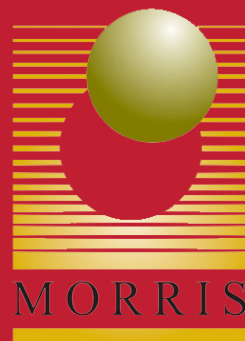
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SERIES I: UNDERSTANDING THE STRUCTURE OF CANADIAN FARM INCOMES



GEORGE MORRIS CENTRE

About this publication

Understanding the Structure of Canadian Farm Incomes was prepared in the summer of 2010 by the George Morris Centre for the Canadian Agri-Food Policy Institute. The opinions stated are those of the authors, and not necessarily those of the Canadian Agri-Food Policy Institute.

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The Institute is focused on stimulating a national dialogue on agricultural issues, by addressing the policies that will enable Canada to thrive in the global agri-food marketplace.

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Table of Contents

Introduction	5
1. Total Farm Family Income: The Big Picture by Kate Stiefelmeyer	7
2. Canadian Farm Income Data: What Do They Tell Us? by Larry Martin	11
3. Farm Incomes and Farm Wealth by Larry Martin	15
4. Income and Wealth in Canada: Farm and Non-farm Households by Kate Stiefelmeyer	18
5. Low-Income Farms: Are Stabilization Policies Geared to Their Needs? by Al Mussell	22
6. Understanding Farm Debt in Canada by Kate Stiefelmeyer	25
7. The Purpose of Farm Policy by Al Mussell	32
8. Return on Assets on Farms in Canada by Larry Martin	36
9. Supply Management: Advantage vs. Challenge by Al Mussell	39
10. Canadian Agricultural Policy in International Context by Al Mussell and Tesfalidet Asfah	44

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Introduction

Understanding the Issues Framing Canadian Farm Incomes

In 2009-10, CAPI commissioned the George Morris Centre to complete a series of short papers highlighting key issues relating to farm viability in Canada. These papers drew from the knowledge base of existing research, in order to gather observations on relevant issues and help frame the context for CAPI's future farm viability research.

Findings

The project generated 10 short papers, dealing with the following topics and key draft findings:

1. Off-farm income

- ☐ Off-farm income plays a crucial role in supporting farm enterprises.
- ☐ For farms with sales less than \$100,000, off-farm income represents 76% or higher of total family farm income.

2. Net farm income

- ☐ Net farm operating income does not fully reflect the financial status of farm enterprises.
- ☐ Looking at just this measure significantly underestimates farm family incomes.
- ☐ Data are based on aggregates and do not represent many commercial farms.
- ☐ The wealth and asset appreciation of farms is not captured in farm income data.

3. Farm wealth

- ☐ It is commonly thought that farm incomes are generally low. Yet farm wealth has risen (based on commercial farm data from grain/oilseed and dairy).
- ☐ Wealth and income gives a more complete picture of economic well-being, suggesting that profitability of farming requires both an income statement and a balance sheet view.

4. Income & wealth for farms vs. non-farms

- ☐ Farm families' net worth is about triple that of the net worth of the average Canadian family, even though farm families have slightly lower total family income.
- ☐ Since most farmers own their business, part of their economic well-being is achieved through asset appreciation.
- ☐ Farm family income exceeds that of other rural non-farm families.

5. Low income farms

- ☐ Low income farms can be small or large in size.
- ☐ Farm income programming is not focused on low income farms.
- ☐ It is not clear if farm income programming should focus on low income farms as their needs relate to income support, not stabilization.

6. Farm debt

- ☐ Canadian farms carry almost double the amount of debt of their US counterparts and is growing at a faster rate.
- ☐ The ability of Canadian farms to service debt is declining (debt/earnings ratios).
- ☐ However, understanding the risk is unclear as the value of farm assets continues to increase.

7. Purpose of farm policy

- ☐ Farm income programming responds to certain pressures faced by agriculture, such as the perils of biology and adverse market changes.
- ☐ However, policy objectives (or policy goals) are not always clearly articulated.
- ☐ There are many vague objectives that are seldom measurable (e.g. do not encourage excessive risk-taking) and include many broad principles (e.g. do not distort regional or commodity-based comparative advantages). Statements relating to objectives appear to be policy guidelines (guidelines for developing policies or programs) rather than policy objectives per se.
- ☐ It is unclear how business risk management (BRM) programs integrate with non-BRM objectives (e.g. innovation).
- ☐ BRM programs account for more than 50% of the total government expenditure in agriculture.

8. Earnings from assets

- ☐ Operating returns taken against assets at market values have been low in Canada; this is evident across all farm types and regions.
- ☐ Returns generally increase with farm size, consistent with economies of scale.

9. Supply management

- ☐ Supply management has resulted in higher, more stable prices in dairy, eggs, and poultry, consistent with its purpose.
- ☐ Supply management has been challenged in facilitating domestic market growth and enabling value chain innovation.
- ☐ Supply management struggles to evolve to preserve stability and accommodate growth.

10. Canadian agricultural policy vs. key competitors

- ☐ Canada has an agricultural policy that has basic elements in common with its key competitors.
- ☐ It is unclear whether Canada's portfolio of agricultural policies is targeted and consistent with its status as a major net-exporter of farm and food products.

Observations

The findings of the Farm Income Structure Series led to the following observations:

1. Articulation and clarity of goals and objectives of farm policy should be improved:

- ☐ Define policy's purpose: stabilize income vs. income support.
- ☐ Evaluate effectiveness of farm policy/programs.
- ☐ Farm income programming is not well integrated with broader agricultural policy.

2. Adequacy of farm performance measures:

- ☐ Measure effectiveness of farm performance statistics (shortcomings of relying on aggregate net farm income).
- ☐ Under-use of off-farm income, measures of profitability, wealth, and choice of appropriate measures.
- ☐ Link data to policy objectives (e.g. relevance of off-farm income to access to support programs).

3. Recognition of significant differences in farm type and policy design:

- ☐ Need to segment farms: commercial vs. lifestyle.
- ☐ Differences in farm type may merit distinct policies for commercial agriculture vs. those for non-commercial farms and for broader social policy support.

These observations are being used to focus foundational and analytical research work by CAPI in 2011.

1. Total Farm Family Income: The Big Picture

by Kate Stiefelmeyer

PREVAILING THOUGHT: OFF-FARM INCOME IS INSIGNIFICANT AND NOT RELEVANT TO THE PURPOSE OF FARM INCOME PROGRAMMING.

Findings

- ❑ Off-farm income plays a crucial role in sustaining smaller farm households, helping farmers finance debt servicing, capital replacement and family living expenses.
- ❑ An inverse relationship exists between off-farm income as a percentage of total farm family income and farm size.
- ❑ The contribution of off-farm income to total family farm income, while always significant, varies across farm enterprises, farm sizes, and regions.
- ❑ Off-farm income appears to be most significant in the beef industry, and less so in the potato and dairy enterprises.
- ❑ Ontario, Alberta and British Columbia have the largest off-farm income contributions, likely because these provinces have the biggest population centres, and therefore work opportunities are close at hand.

PUBLIC POLICY QUESTION: WHAT ARE THE IMPLICATIONS OF OFF-FARM INCOME FOR THE DEVELOPMENT AND DESIGN OF FARM INCOME PROGRAMS?

Introduction

The income status of farm families cannot be fully explained by examining net farm income in isolation. Farm households commonly have more than one income stream, just like many non-farm households. This paper analyzes Canadian farm income data, which will help explain the contribution of farm income to total farm family income.

Measuring off-farm income is critical to accurately depicting the income status of farm households (Beaulieu and Di Pietro, 2003; Mussell et al. 2005; Sparling and Laughland, 2006; Freshwater, 2007;

USDA, 2009; AAFC, 2009). As a percentage of total farm family income, it varies across commodity types, farm sizes, and regions (Mussell et al. 2005; Sparling and Laughland, 2006; AAFC, 2009).

Methods and Data

This paper analyzes total farm family income, using data from the Statistics Canada Taxation Data Program (TDP). The information was extracted from income tax returns filed by individual farm operators and incorporated farms, and relates to sales and expenses, typically reported on a cash basis.

The following calculations are used in the analysis:

- ❑ Net Farm Operating Income =
(Total Operating Revenues + Inventory
Adjustments (rev.)) – (Total Operating Expenses
+ Inventory Adjustments (exp.)
- ❑ Total Farm Family Income
= Net Farm Operating Income + Off-farm Income

Analysis

Off-farm Income and Farm Size

Figure 1-1 illustrates an inverse relationship between farm size and the contribution of off-farm income to total farm family income. For farms with sales greater than \$100,000 per year, off-farm income accounts for less than 50% of total farm family income. On farms with less than \$100,000 in sales, the off-farm income contribution jumps to 76% or higher.

Farm households with sales of less than \$10,000 had total off-farm income of just over \$44,000 in 2007, compared with just under \$69,000 for farms with sales greater than \$1 million.

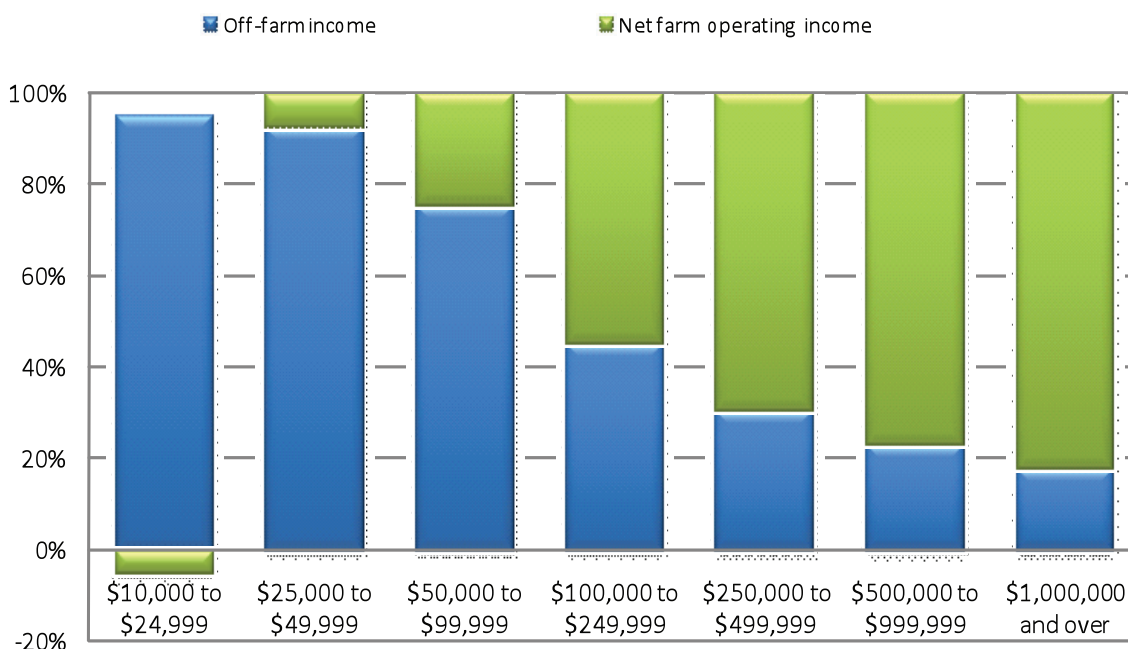
The data show that off-farm income plays a crucial role in sustaining small farm households. On farms with less than \$50,000 in sales, there is little or no net operating farm income to finance debt servicing, capital replacement or family living expenses. It should be noted that these farms could include hobby farms, where it is understood by the household that off-farm income would cover these expenses. However, if these farms are not simply hobby or “lifestyle” farms, then their sustainability may be in doubt. Mussell et al. (2005) correctly questioned the appeal to future generations of commercial farm businesses that depend on the income of other family members to survive, and concluded that it is unlikely these farms can be sustainable.

Off-farm Income and Farm Enterprise

Figure 1-2 shows that the contribution of off-farm income to total farm family income differs by enterprise.

First, the supply-managed enterprises have relatively low off-farm income contributions. This could be for two reasons: 1) these enterprises are fairly labour intensive, and do not allow for much off-farm work; and 2) supply-managed farms can draw on a more secure income, reducing the need to diversify and find supplementary sources of income.

Figure 1-1. Farm Family Income Source by Farm Size. Source: Statistics Canada Taxfiler Database, 2009 and GMC calculations.



Other enterprises with relatively low off-farm contributions include potato, hogs and greenhouse, nurseries and floriculture, which are also labour-intensive. Conversely, beef, other crops, fruit, and grains and oilseeds have relatively high contributions from off-farm income.

Off-farm Income and Location

Figure 1-3 provides a picture of the contribution to total farm family income by province. The three provinces with the highest contributions from off-farm income (British Columbia, Alberta and Ontario) are those with some of the largest population centres, which provide more opportunity for off-farm income generation. The exception is Quebec, which has the lowest percentage of off-farm contribution. This might be explained by the provincial income stabilization program, ASRA, which provides support to most non-supply managed enterprises.

Off-farm Income and Farm Operator Age

According to the 2006 Census of Agriculture, 41% of farmers in Canada were over the age of 55 at the time of reporting. In 2007, 76,840 farms (23% of all farms) reported an average of \$17,485 in pension income, including Old Age Security Pension, CPP and QPP benefits, other pensions, elected split-pension amounts and net federal supplements (Statistics Canada Taxfiler Database, 2009). In total, farm operators collected \$1.3 billion in pension income in 2007.

Conclusions

The analysis shows that examining net farm operating income (income before interest and depreciation) alone would not accurately reflect the financial status of Canadian farm enterprises. When examined by farm enterprise, region, and farm size, the contribution of off-farm income to total farm family income is significant. Indeed, if the costs related to depreciation were included in the farm operating income measure, the contribution

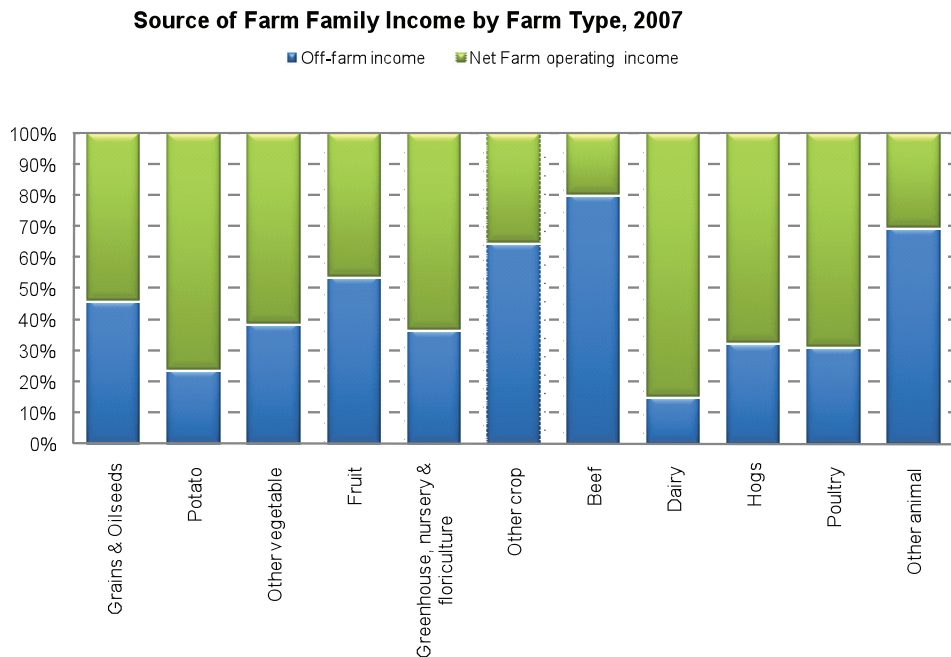


Figure 1-2. Farm Family Income Source by Farm Type. Source: Statistics Canada Taxfiler Database, 2009 and GMC calculations.

Source of Family Farm Income by Region, 2007

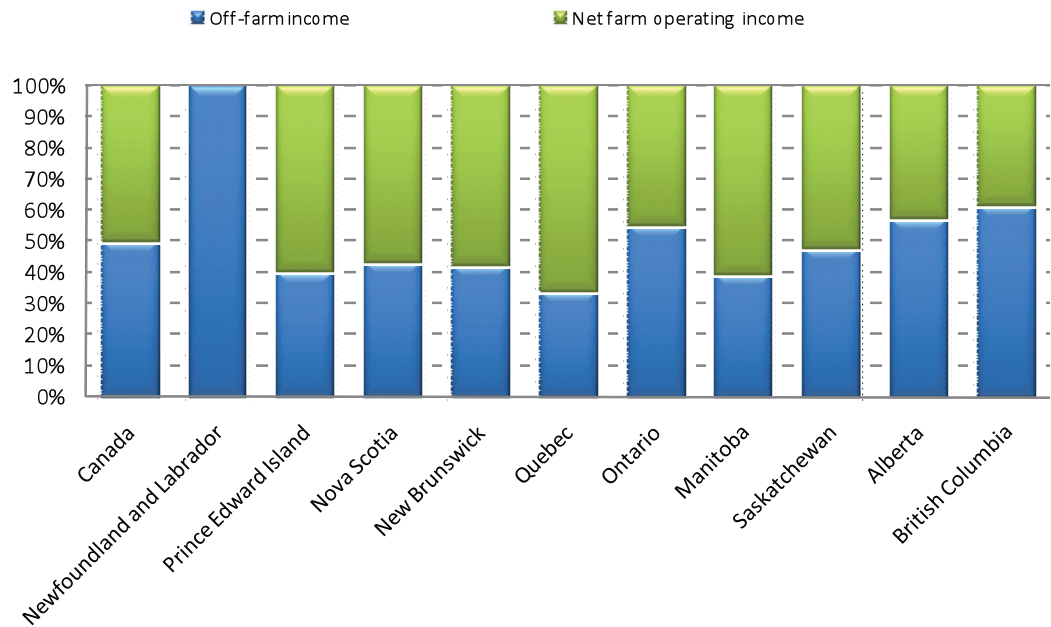


Figure 1-3: Farm Family Income Source by Region.
Note: Net farm income for Newfoundland is unavailable. **Source:** Statistics Canada Taxfiler Database, 2009 and GMC calculations.

of off-farm income would be even higher. For farms with less than \$100,000 in sales, off-farm income provides a large proportion of farm family income. This proportion decreases with farm size, but even on the largest farms, off-farm income still accounts for close to 20% of farm household income. Clearly, farm households rely heavily on off-farm income to contribute to household income and to cover non-cash farm expenses.

References

Agriculture and Agri-Food Canada. 2009. *Financial Situation and Performance of Canadian Farms*. Farm Data Analysis Unit. May 2009.

Beaulieu, S. and L. Di Pietro. 2003. *VISTA on the Agri-food Industry and the Farm Community: Canadian Farm Families More Dependent on Off-farm Income*. Catalogue no. 21-004-XIE. <http://dsp-psd.pwgsc.gc.ca/Collection/Statcan/21-004-X/21-004-XIE2003102.pdf>

Freshwater, D. 2007. *Measuring Farm Net Income to Better Achieve Policy Objectives*. Agricultural Economics Staff paper #466. University of Kentucky. February 2007.

Mussell, A., T. Moore, K. McEwan and R. Duffy. 2005. *Testing the Structure of Canadian Farm Incomes*. Paper prepared for the Canadian Agri-food Policy Institute http://www.capi-icpa.ca/archives/pdfs/PapID1_AMussell.pdf

Sparling, D. and P. Laughland. 2006. *The Two Faces of Farming*. Institute of Agri-Food Policy Innovation. <http://blogs.ivey.ca/agri-food/files/2009/09/TwoFacesOfFarming.pdf>

USDA, ERS. 2009. Briefing Rooms: *Farm Household Economics and Well-Being: Farm Household Income*. Retrieved on December 13, 2009 from <http://www.ers.usda.gov/Briefing/WellBeing/farmhouseincome.htm#farmtypes>

2. Canadian Farm Income Data: What Do They Tell Us?

by Larry Martin

PREVAILING THOUGHT: THE CANADIAN FARM ECONOMIC SITUATION IS THOUGHT TO BE DIRE DUE TO DECLINING NET FARM INCOME.

Findings

- ❑ It is difficult to use one measure of net farm income to represent the economic situation.
 - There are inherent problems in valuing unsold inventory.
 - Commonly used data are estimated based on averages that do not represent many commercial farms.
 - All farms are aggregated in the data, when in truth their results offset one another.
- ❑ Net farm income data need to be interpreted with care.
 - The benefits of changes in markets are capitalized into asset values, especially land and quota values. Farm income data are affected by asset appreciation and do not capture the wealth effect of asset appreciation.
 - The depreciation expenses included in the net farm income measure is a reflection of past profitability and investment decisions; but these expenses may have little connection to market costs and returns in any given year. As a result, depreciation exacerbates income destabilization. Net operating income can provide a different picture of the economic situation than net farm income because of the lags in depreciation costs.
 - Farm family incomes, like urban incomes, often come from more than one source. Net farm incomes do not necessarily represent farm family incomes.
 - Business and family expenses are easily intertwined so that, like all small business incomes, net farm incomes may be understated.
- ❑ Conclusions about farm economic conditions need to be based on several criteria, of which net farm income is only one.

PUBLIC POLICY QUESTION: DO WE HAVE THE RIGHT INFORMATION SET TO MEASURE FARM ECONOMIC CONDITIONS WHEN DEVELOPING AGRICULTURE POLICIES?

Introduction

Every six months a spate of articles appears in farm media about the most recent data on net farm income from Statistics Canada. When income is in decline, these articles are usually about the poor circumstances of farmers relative to urbanites and the volatility of net farm income. These stories tend to make sweeping, unequivocal statements about the economic situation facing farmers, and the policy initiatives that should be undertaken to address the problem. An ongoing debate rages over whether farm policy is about supporting or “stabilizing” net farm income.

The fundamental question is: what do these data really tell us about the relative economic well-being of farmers? Are these data sufficiently representative to use as the basis for making policy decisions? This paper discusses what these data mean and don’t mean. The information is not nearly as straightforward as one might expect.

The Difficulty of Defining Net Farm Income

Net farm income is, conceptually, farm revenue less operating expenses (seed, fertilizer, fuel, feed), less depreciation for capital investment. Figure 2-1 contains the most recent Statistics Canada data. The fact that there are three lines illustrates one of the problems in understanding farm income. Farmers always hold inventory, and the dates on which they make sales are not the same every year. A farmer may have grain in a bin or livestock in the

barn on the day the accounting “picture” is taken. It may be a greater or lesser quantity as the same day the previous year. Its value depends on the amount of inventory and current market prices. How does one account for this value in income when the inventory exists but hasn’t been sold? In response, Statistics Canada supplies “realized net income” and “net income, total”. The former is based on what’s been sold, the latter on what’s been sold and what’s in the bin. They don’t track each other because of changes in inventory value. Which measure really represents net farm income? The answer is unclear.

A second problem with this data series is that it provides estimates of realized and total net farm incomes. The data are not from actual farms; they are estimates based on models derived from census reports and other sources. As a result, they cannot reflect how actual farms adjust to changes in market conditions. Rather, they always lag what farms are doing because, by definition, they are based on past relationships, and the assumptions in the models are based on average relationships across all farms.

A “farm” is defined as an entity with gross revenue from agricultural products of \$10,000 or more. Logic suggests that this includes many operations that are not intended to be the major source of family income. On average, no more than 25% of farm sales are left after paying just for operating expenses. From this remaining amount, farmers must pay expenses related to the farm home and for capital investments, such as depreciation. So, if a farm has \$20,000 in total sales, its net operating income (before depreciation) would be around \$5,000. Net income

Figure 2-1.
Statistics
Canada Net
Farm Income
Information.



would be considerably less than that after deducting the value of the home and depreciation. These may be start-up operations or “hobby” operations, and they are not sustainable from a family income perspective. Yet they do represent the largest number of operations and carry large weights in the estimates.

Finally, different types of farms are aggregated and therefore tend to cancel each other out. This form of calculation makes it impossible to generalize about the economic situation of Canadian farms. For example, high grain prices are good for grain farmers and bad for livestock farmers who buy grain. Yet analysts lump them all into one set of numbers.

Interpreting the Data

In addition to the definitional problems, using these data to relate farm income to non-farm income is fraught with problems. Some of these problems are detailed below:

- ❑ Farmers operate in highly competitive markets that capitalize benefits into costs. For example, if profitability (or the expectation thereof) of growing grain rises, some of those profits get bid into land prices; if profitability of producing milk rises, some

of those profits are bid into quota prices. Figure 2-2 shows average land rental payments for grain and oilseed farms with more than \$500,000 in sales. Figure 2-3 shows estimates of milk quota prices in Quebec and Ontario. Both are trending upward. By contrast, the associated net farm income in Figure 2-1 varied widely. This is the basis for the adage that “farmers live poor and die rich”: many of their benefits are capitalized into asset values, and competition for residual inputs can contradict apparent market conditions. Looking only at net farm income doesn’t give the whole picture of farmers’ economic situation because their wealth changes as the market for their assets changes.

- ❑ Markets are inherently cyclical, which has long term consequences for interpreting the data. When operating profits rise, some of the profits are invested in new capital. But depreciation of that capital is spread over several years, years when operating profits may fall cyclically. But as they fall, the depreciation from previous investments is still accounted for. As a result, deducting depreciation means that net farm income is more volatile than farm operating income. For example, actual tax filer data from 1995-2007 for grain and oilseed farms with annual sales greater than \$500,000 show that the variability of net farm income is more than three times

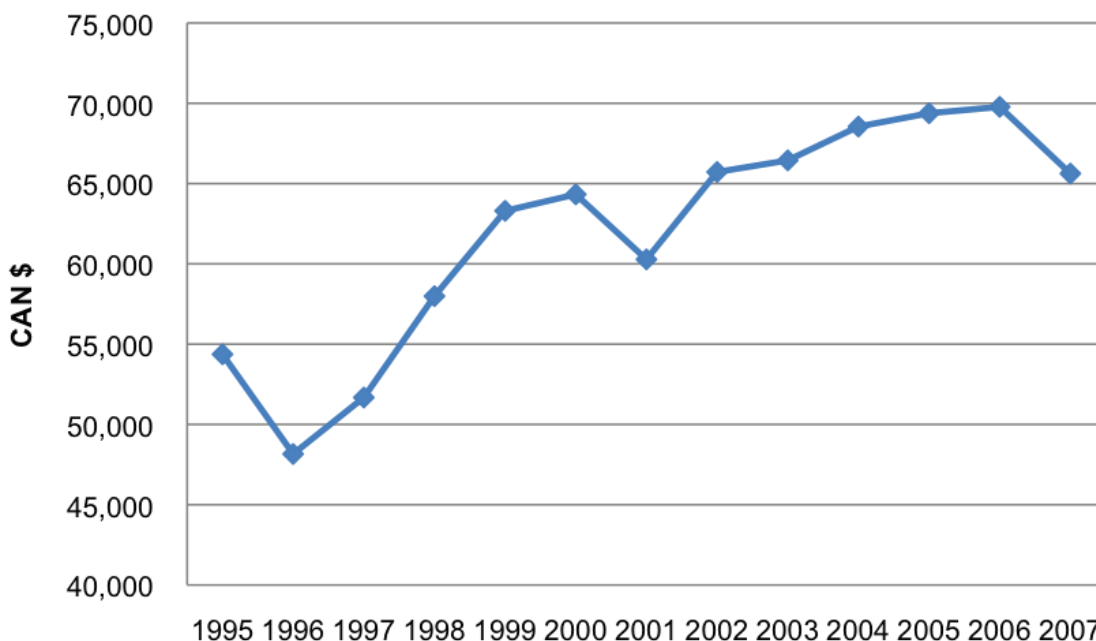


Figure 2-2. Land Rent Expenses.

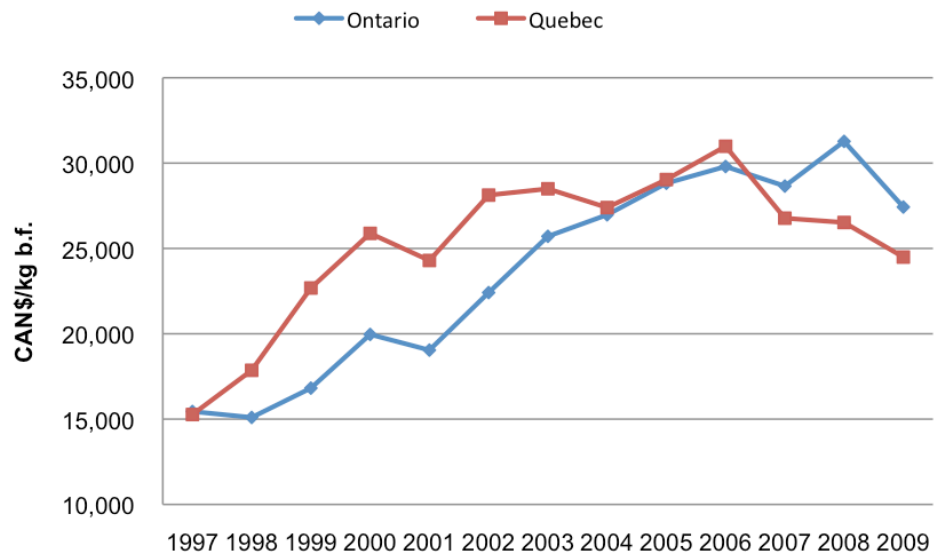


Figure 2-3. Milk Quota Price
Estimates for Ontario and Quebec.

that of net operating income. This is measured by the coefficient of variation. When viewed graphically, it is clear that the pattern in depreciation is the opposite than for net operating income. So, net farm income at any point in time is partly about the current and partly the past economic environment.

- ❑ Farm families, like urban families, often have more than one source of income. As shown in the first paper in this series, off-farm income can be significant. Looking only at the farm income data can understate farm family income.
- ❑ Business and personal expenses can be intertwined. Most urbanites' family incomes are their salaries, which are available to pay for consumption. Many farmers live on their farms and while their cars and trucks and other vehicles are mainly for farm use, they are also partly for personal use. While there are adjustments for these different uses in depreciation, they are often financed as part of the farm mortgage or as part of a line of credit. Similarly, while the expense of the farm house is implicitly included as an expense, the value of the house clearly increases the value of farmland assets. The interest on these consumption items is deducted from revenue. So, like other small businesses, there is an element of consumption in expenses, and net farm income is likely underestimated.

Conclusions

The net farm income data that are produced twice annually by Statistics Canada provide one measure of the economic well-being of farmers. But because of the definitional and interpretational issues revealed in this paper, these data need to be supplemented by other data. The other data should at the very least include: net operating income, income by farm type, and some measure of wealth. Further fragmentation of the data is required to reveal the primary product being produced and to show at what size a farm is a realistic business entity.

3. Farm Incomes and Farm Wealth

by Larry Martin

PREVAILING THOUGHT: FARMERS “LIVE POOR AND DIE RICH.”

Findings

- ❑ Net farm operating income has been steady over the past decade.
- ❑ Average wealth rose in the farm types examined.
- ❑ Looking at both wealth and farm income gives a more complete picture of farmers' economic well-being.

PUBLIC POLICY QUESTION: HOW SHOULD THE WEALTH OF FARMERS BE ACCURATELY MEASURED WHEN DEVELOPING AGRICULTURE POLICIES?

Introduction

In order to provide a complete picture of farmers' economic well-being, both farm income and farm wealth must be examined (Morehart et al. 2001; Painter, 2005; AAFC, 2006). As well, it has been shown that examining the distribution of net farm income and wealth using one aggregate measure does not communicate the full story (Morehart et al. 2001).

To address the public policy question about farm wealth, this paper examines data on operating income, net worth, and land and building values for grain/oilseed and dairy farms. Farm sales categories used were between \$500,000 and \$1 million.

These categories were selected because they represent modest-sized commercial operations. At current prices, these categories represent operations with about 700 acres of corn, or 70 dairy cows. These categories are thus broadly representative of a range of commercial farms.

Methods

Data on operating income, net worth, and land and building values were examined for grain/oilseed farms and dairy farms. In each case, farms with sales of \$500,000 to \$1 million were considered representative of common commercial scale.

Analysis

Figure 3-1 shows that net operating income trends for grain/oilseed farms and dairy farms have been neither increasing nor decreasing over the past several years. Net operating income is income after variable costs, but before depreciation and amortization. For both categories, median net operating income ranges between roughly \$150,000 and \$160,000 per year, with some variation.

The other two sets of data show a different trend. The first is average net worth, i.e., total farm wealth, for each category of farm, as shown in Figure 3-2. These data

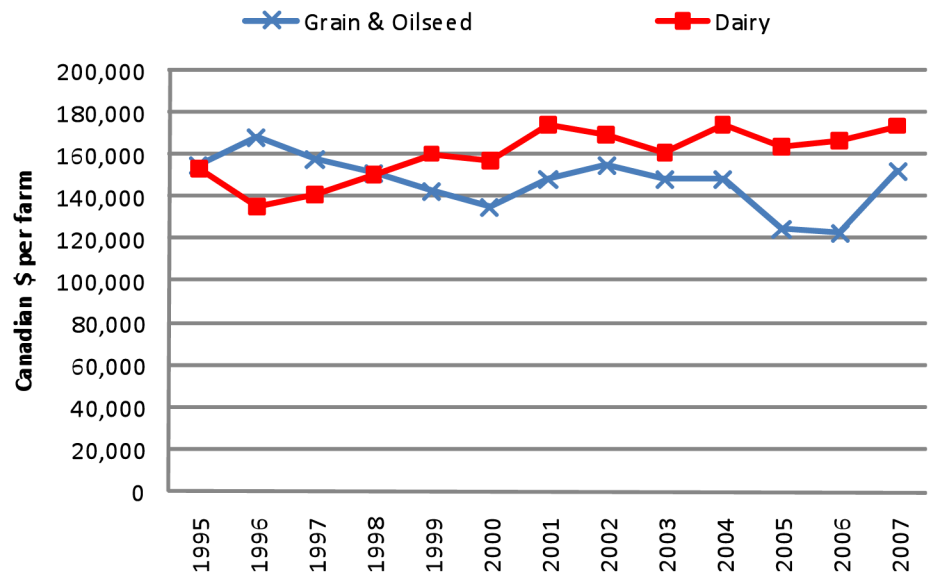


Figure 3-1. Net Farm Operating Income.
Source: Statistics Canada ESAS

show that wealth is growing for both categories, in a manner not made evident by operating income trends. In 1996, average net worth for both categories was between about \$2 million and \$2.5 million. From 1996 to 2007, net worth of grain and oilseed farms rose about 20%, while net worth for dairy operations rose by 35%.

Net worth is affected by many factors, including asset values, debt structure, debt servicing and changes in the sample of farms in each of the categories over time. Therefore, one way to analyze what is affecting net worth for each category is to look at the value of land and buildings owned by each category of farm, as shown in Figure 3-3.

These data help explain the trend in net worth, since land is part of the investment portfolio for each category. In both cases, the total value of land and buildings rose, up by 31% for grain/oilseeds and 46% for dairy. This reflects the fact that part of the effect of increased profitability in agriculture is capitalized into land values (and quota values in the case of dairy). In addition, according to Statistics Canada, the value of farm land and buildings per acre doubled from 1996 to 2007, which shows that increased value of land and buildings is consistent with the underlying trend in farm land values.

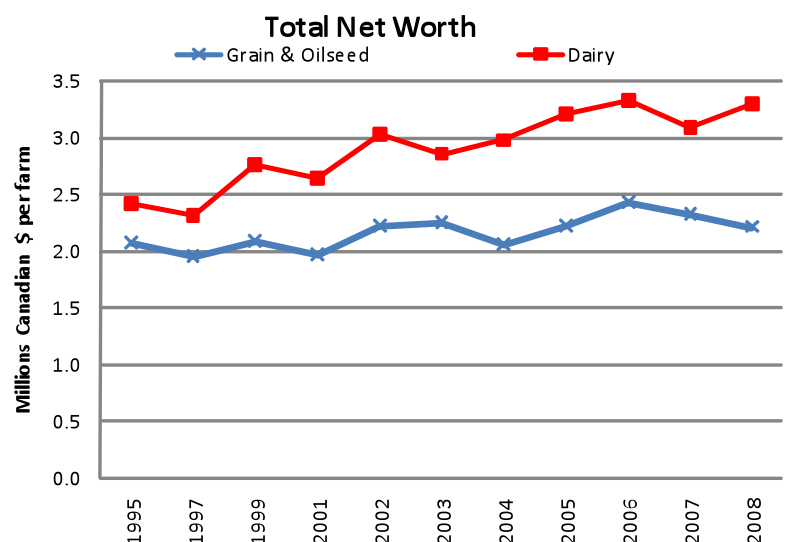


Figure 3-2. Total Net Worth. Source: Statistics Canada ESAS.

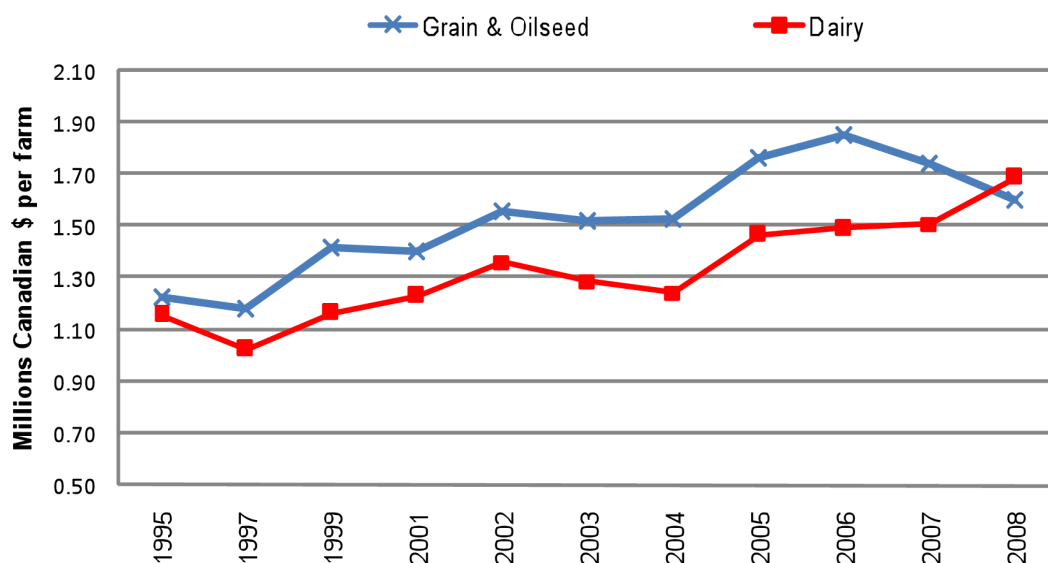


Figure 3-3. Farm land and buildings owned. Source: Statistics Canada ESAS

An interesting picture emerges from this examination. Measured the usual way, net farm operating income cannot account for the fact that since most farmers own their businesses, part of their economic well-being comes through asset appreciation in land and quota.

Most farmers are small-business owners. They are investors as well as operators. They are in business to earn a profit and to increase asset values that they can sell or pass on to their heirs.

Conclusions

It is widely perceived that farm incomes are low, and not growing. Examining actual data from modest-sized commercial grain/oilseed and dairy farms shows that net farm operating income has indeed been steady over the past decade. On average, it has ranged around \$150,000 to \$160,000, before accounting for capital depreciation. At the same time, average wealth rose across these farm types by 20–35%, in part reflecting land prices that doubled over this period.

It is often said that farmers “live poor and die rich.” This adage has some truth, although most commercial operators are unlikely to be classified as poor. The data presented here show that, for this period of time, farmers’ wealth increased markedly even while operating income remained steady.

Measuring only net income gives just part of the picture about the economic well-being of farmers, as well as other small businesses. They are earners and investors, and, like non-farmers, have investment portfolios in addition to their farm businesses. Looking at both farm income and wealth gives a more complete picture of farmers’ economic well-being.

References

- AAFC. 2006. Next Generation of Agriculture and Agri-Food Policy. Economic Backgrounder: *Economic Well-Being of Farm Households*. November 2006.
- Morehart, M. et al. 2001. Using Farm-Sector Income as a Policy Benchmark in Agricultural Outlook. June-July 2001/AGO -282. A USDA, Economic Research Service publication.
- Painter, M.J. 2005. A Comparison of Farm Incomes and Wealth in Canada. *Journal of International Farm Management*. 3(1). July 2005.

4. Income and Wealth in Canada:

Farm and Non-farm Households

by Kate Stiefelmeyer

PREVAILING THOUGHT: FARM FAMILY INCOMES LAG NON-FARM FAMILY INCOMES. LOW RETURNS FROM FARMING MAKE IT DIFFICULT FOR FARM HOUSEHOLDS TO ACQUIRE AND MAINTAIN WEALTH.

Findings

- ❑ On average, total farm family income lags urban family income.
- ❑ On average, total farm family income exceeds that of rural non-farm counterparts.
- ❑ The net worth of all Canadian families has grown over the last two decades, but the growth rate of net worth for farm households is much higher than for the average Canadian household.
- ❑ In 2001, farm net worth was double the average Canadian household net worth, and by 2007 it was just less than triple.
- ❑ Comparing wealth between farm households and non-farm households does not appear to justify farm income programs designed as entitlements. Farm income programs designed to stabilize incomes based on actual losses are consistent with the risk faced by farmers carrying increasing asset and debt values.

PUBLIC POLICY QUESTION: HOW SHOULD AGRICULTURAL POLICIES RECONCILE THE DICHOTOMIES BETWEEN THE INCOME LEVELS AND ACTUAL WEALTH IN FARM HOUSEHOLDS?

Introduction

Farm family income may be perceived to be lower than average family income in Canada. However, examining net incomes in isolation does not paint a complete picture of total household wealth. Indeed, some households tolerate low incomes precisely because of prospective capital gains. In other cases, income from capital is an important aspect of household income.

Farm and non-farm income and household wealth have been compared thoroughly in Canada. Studies show that measuring net worth in order to depict

the economic well-being of farm households tells a completely different picture than simply measuring household income (Waithe et al. 2000; USDA, ERS; Painter 2005; Katchova 2008; AAFC 2009).

Approach

To consider the differences between income and wealth of farm and non-farm households, this paper compares data on average incomes and net worth of farm households, rural non-farm households and urban households from available sources.

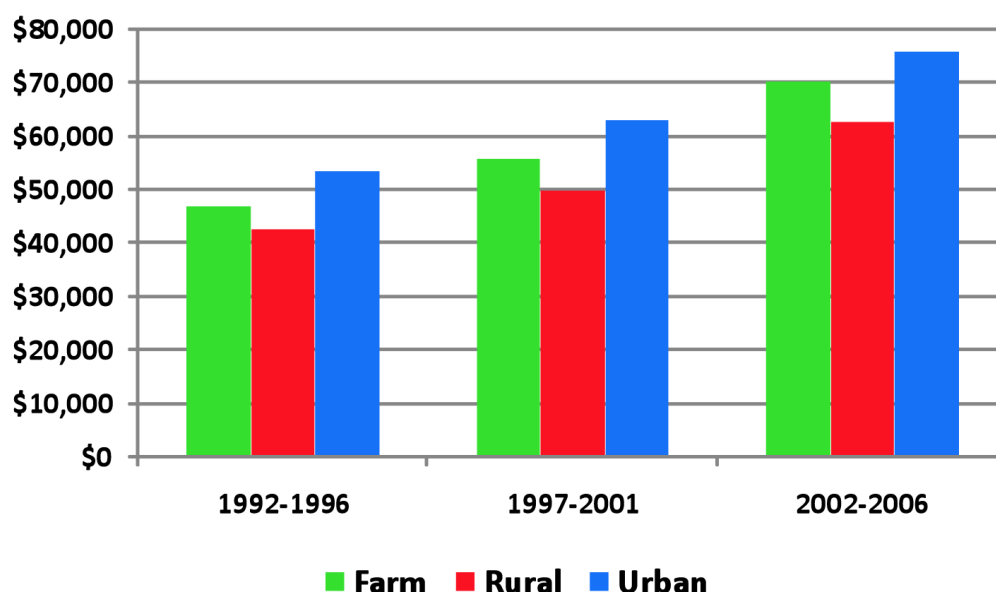


Figure 4-1: Average Income of Families, by Type. Source: Special tabulation for AAFC, Longitudinal Administrative Data Bank, Statistics Canada.

Data and Analysis

Farm, Rural and Urban Family Incomes

Figure 4-1 shows average household income for three time periods between 1992 and 2006. It compares farm income to rural non-farm household income and urban household income. Since farm income can fluctuate drastically from year to year, depending on input and commodity prices and yields, 5-year averages are used to discount these fluctuations.

Overall, family income in all types of households has increased over the time period. Average farm family income is consistently lower than urban family income but consistently higher than rural non-farm family income. The income gap between farm and urban families has narrowed over time. This could be a result of increased farm income or increased off-farm income; the data used do not distinguish one from the other. However, Painter (2005) showed that off-farm income as a proportion of total farm family income in Canada has increased over time to help narrow the farm-urban household gap.

Net Worth of Families in Canada

Farms are businesses that require an investment in equipment and land and, in the case of supply-managed commodities, quotas. Over the past decade,

the value of agricultural land and quota values have increased substantially. Since most farmers own their businesses, part of their economic well-being has come through asset appreciation.

How do the assets and debts and, therefore, net worth of farms compare with the non-farm population?

Figure 4-2a shows that the net worth of all Canadian families increased between 2000 and 2007; information on 2007 household assets and debt were not available. Figure 2b shows that in 2001, farm net worth was more than double the Canadian family average, and that by 2007 it was just less than triple.

Levels of debt, assets, and net worth on Canadian farms each have grown by around 65%, inflation adjusted, over the decade. Appreciation in land, and quota values are the likely sources of this growth. The 2009 Financial Situation and Performance of Canadian Farms report by Agriculture and Agri-Food Canada (AAFC) shows that, in 2005, the median debt loads of farm families and self-employed families were similar, but asset values were much higher for farm families, making net worth much higher.

Table 4-1 reports net worth by farm type. Some farm enterprises have an average net worth well in excess of \$1 million, but there is a range across enterprises. The only farm enterprises for which net worth has not grown since 2005 are hogs and other vegetables.

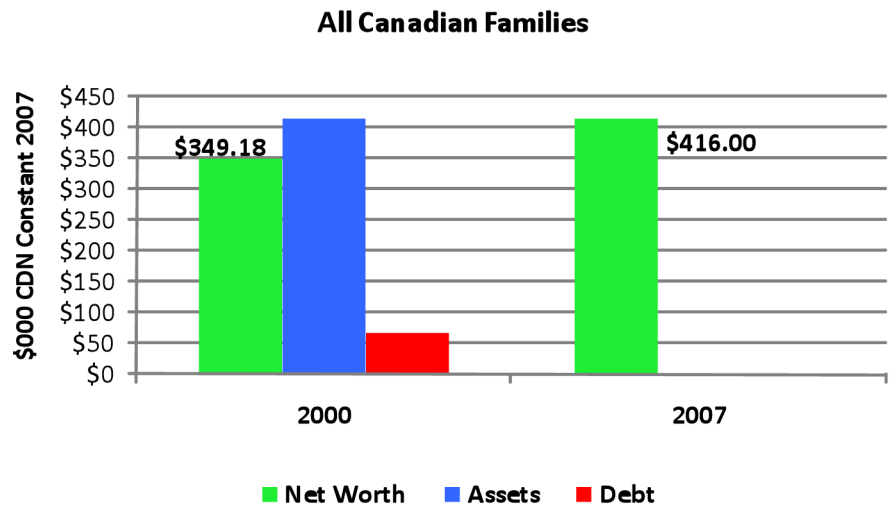


Figure 4-2a: Average Net Worth, All Canadian Families. Source: Sauvé, 2010.

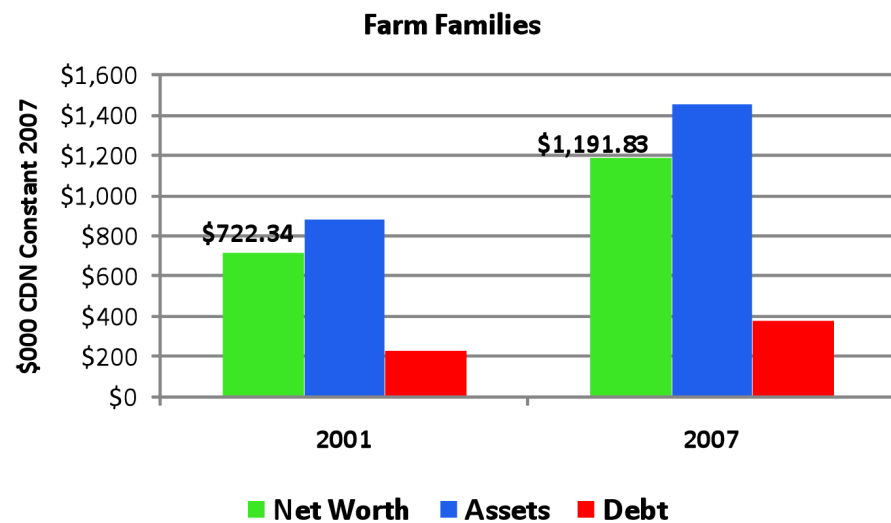


Figure 4-2b: Average Net Worth of Farm Families. Source: Statistics Canada, ESAS database Notes: Sauvé 2010 does not present asset and debt values for 2007. Statistics Canada ESAS data do not exist for 2000. Therefore, 2001 data are shown for farm families.

Table 4-1. Average Farm Net Worth, \$'000
Source: Statistics Canada, ESAS.

	2005	2006	2007	2008
Greenhouse & Nursery	896	981	1,003	1,090
Dairy	2,060	2,203	2,328	2,477
Beef	758	832	855	899
Hogs	1,509	1,485	1,323	1,143
Oilseed and Grain	967	1,033	1,210	1,371
Poultry	2,558	2,904	2,830	2,934
Potato farming	2,120	2,367	2,727	2,632
Other vegetable (except potato) and melon farming	1,040	1,139	872	1,009
Fruit and tree nut farming	982	1,127	1,134	1,297
Other Animal production	754	748	902	846
Other crop farming	712	720	811	863
All farms	1,036	1,103	1,192	1,282

The table also shows that supply-managed enterprises have the highest net worth, along with potato enterprises. However, the table is imprecise, since tremendous diversity can occur within a given enterprise type.

What the Data Don't Tell Us

The data above allow for a comparative discussion on the average net worth of Canadian farm families, relative to all Canadian families. However, these comparisons are complex and diverse. The data are summarized as averages, which means it is not possible to determine whether a small proportion of farms have high net worth while a large proportion have a net worth similar to non-farm households, or vice versa. There are likely Canadian non-farm households that have a net worth similar to the average farm household, and vice versa. There is also likely diversity within farm types and farm size categories.

Conclusions

On average, farm families have accumulated more than three times the net worth of the average Canadian family, despite having slightly lower household income. Since farm families have a higher net worth, a wealth basis does not exist upon which to argue that the sector requires farm income support programs. Similarly, although average farm household incomes are lower than average urban household incomes, farm-household incomes still exceed rural non-farm household incomes.

The design of farm income programs should take these conclusions into account. Programs designed as entitlements paid on a non-contingent basis appear inconsistent with a relatively wealthy segment of the economy. Stabilization programs, which are triggered when a farm suffers a loss, recognize the implied financial risks associated with high levels of farm assets and debt, given farm household income streams.

References

- Agriculture and Agri-Food Canada (AAFC). 2009. *Financial Situation and Performance of Canadian Farms*, 2009. Farm Data Analysis Unit, Research and Analysis Directorate, Strategic Research, AAFC. May 2009.
- Katchova, A. 2008. A Comparison of the Economic Well-Being of Farm and Nonfarm Households. *American Journal of Agricultural Economics*. 90(3). August 2008: 733-747.
- Painter, M.J. 2005. A Comparison of Farm Incomes and Wealth in Canada. *Journal of International Farm Management*. 3(1). July 2005.
- Sauvé, R. 2010. *The Current State of Canadian Family Finances: 2009 Report*. Prepared for the Vanier Institute of the Family by People Patterns Consulting. February, 2010. <http://www.vifamily.ca/library/cft/famfin09.pdf>
- Waithe, D., D. Niekamp and M. Zafiriou. 2000. Income Inequality in Canada: Farm versus Non-Farm Families. Agriculture and Agri-food Canada. December, 2000.

5. Low-Income Farms: Are Stabilization Policies Geared to Their Needs?

by Al Mussell

PREVAILING THOUGHT: LOW-INCOME FARMS DON'T GET ENOUGH FUNDING FROM FARM INCOME PROGRAMMING.

Findings

- ❑ National farm income stabilization programs do not target low-income farms; they are generic and uniform in their design.
- ❑ Low-income farms exist within the full range of farm sizes and enterprise types. This means that there are some large farms with low incomes and some small farms with relatively high incomes, making it difficult to clearly identify low-income farms.
- ❑ Since the programs exclude off-farm income in their design, it is difficult to determine when farm income programming is actually contributing to alleviating poverty on low-income farms.

In national farm income stabilization/support programs, access is proportional to farm size (revenue) or proportional to operating earnings. Where access is based on sales, little can be said about reference to income. Where it is based on historical income, farms with larger incomes have greater eligibility for program payments. However, access to program payments is contingent upon income loss.

PUBLIC POLICY QUESTION: WHAT IS THE ROLE OF FARM INCOME PROGRAMMING FOR CHRONICALLY UNDERPERFORMING FARMS?

Introduction

Tremendous diversity exists within Canadian agriculture, across enterprise types, regions, farm sizes and net incomes. At the same time, the policy framework that provides stabilization and income support to farms is simple by design, with a small number of programs addressing farm income issues. In this context, it makes sense to explore whether farm income programming is working for low-income farms.

Methods and Data

To help inform the discussion, the following questions were posed:

- ❑ Which farms are low-income?
- ❑ What are the relevant design features of stabilization programs?
- ❑ How do program design features interface with the nature of low-income farms?

Analysis

In order to identify low-income farms, some sense of criteria is necessary. To some, “low income” may be considered synonymous with “small farms.” However, if income is interpreted as revenue less expenses, a more precise description is “small earnings farms.” It is less clear which farms are low earners. Moreover, if rural poverty is the issue, farm household incomes – which include farm and off-farm incomes – should be the reference. Households with low farm income are not necessarily low-income households, due to the prospect of off farm income.

Which farms are low-income farms?

Two recent studies confirm that low-income farms aren’t necessarily small farms, and that small farms aren’t necessarily low-income. Mussell et al. (2007) examined the structure of farm earnings in Canada by measuring Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) for a broad cross-section of Canadian agricultural operations over the period 1997-2004. Farms within farm sales categories were sorted into subsets (quartiles) based on EBITDA/Sales and EBITDA/Assets. The results showed a great deal of variation in earnings/sales

or earnings/assets, both within a given farm sales category and across categories. Farms in the bottom quartile were similar in earnings/sales and earnings/assets across farm size categories and enterprise types. Comparable results were observed by Sparling *et al.*, using 2005 data on Canadian net farm incomes; when net farm incomes for a given sales category were fragmented into quartiles, the lowest quartile of each size category experienced a negative net income. The implication is that some large farms have extremely low incomes.

These studies may have shortcomings. For example, the participants who formed the sample could vary over time, or possibly only a single year was used in the analysis. Recently, longitudinal databases drawn from the same set of farms have been developed in which farm earnings/income distributions can be tracked over time. An example is shown in Figure 5-1. Farms were grouped according to farm gross income and fragmented into quintiles based on total farm family income (farm and off-farm sources). The implication is that total farm family income in the bottom two quintiles was well under \$50,000 regardless of farm size. This finding appears consistent with other studies and suggests that low-income farms can be small or large, and do not tend to be linked to specific enterprise types over time.

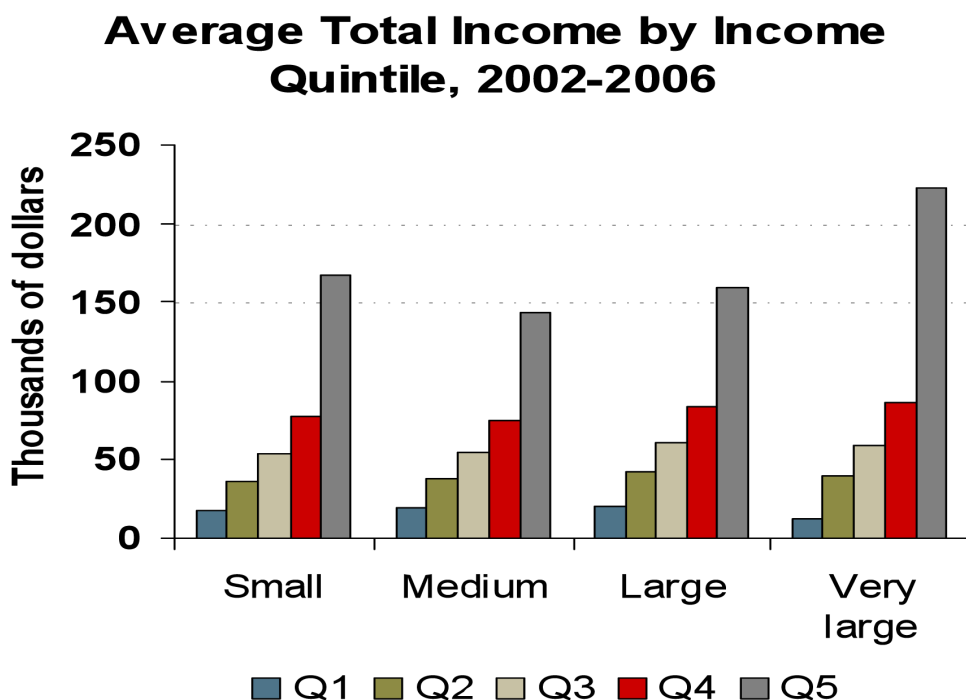


Figure 5-1. Average Total Income by Income Quintile. Source: Statistics Canada.

How do farm-income stabilization and support programs work?

Canada currently has two income stabilization/support programs: AgriInvest and AgriStability. Under AgriInvest, contributions farmers make to a savings account are matched by government and can be used to compensate minor decreases in income.

For larger losses, AgriStability provides stabilization funding with a deductible that is pro-rated according to the extent of loss, which is measured as a farm's current year income compared with its income history.

How do farm-program designs compare with the nature of low-income farms?

Farm income stabilization/support programs are uniform in their design and do not target low-income farms or any other type of farm. Even still, the design of programs can result in benefits for certain types of farms. For example, since AgriInvest provides payments proportional to allowable net sales, farms with larger allowable net sales can access greater funding under it.

Eligibility for AgriStability is based on reference production margin. Farms with a larger production margin have greater access to program payments – up to \$3 million per farm. Operating earnings vary widely within a given economic size category and it is not clear that AgriStability has the same bias toward larger farms as AgriInvest. Rather, AgriStability favours farms with historically higher operating earnings that form the reference level for program payments. Thus, farms with higher operating earnings over time do have greater access to AgriStability funds. The correlation with farm size is imprecise at best. Notably, the \$3-million cap is a feature that is clearly biased against farms with large historic production margins and/or forms of business organization that create large reference margins.

Conclusions

Farm income programming in Canada is not focused on low-income farms. Low-income farms occur in every farm size category and across enterprise types. Farm income stabilization programs do not explicitly target

low-income farms; Canada's programs are generic and uniform, and do not reflect off-farm income in the farm household. As a result, the data say little about the contribution of farm income programming to the alleviation of poverty among farm families.

Within the two national farm income stabilization programs, access to one clearly relates to farm size, with payments made to fund small losses, but without any contingency on income to receive funding. The other has access explicitly related to a farm's operating income history, and payments are made contingent on an income loss.

It is not apparent that programming with a stabilization objective should focus on low-income farms. Rather, a stabilization objective would suggest that programming should offset sudden income declines and restore income to historic levels. By definition, programming targeted to low-income farms must be related to income support. But this conclusion is complicated by the fact that the objectives of Canada's farm income programs have never suitably distinguished the purposes of stabilization versus support.

References

- Agriculture and Agri-Food Canada (AAFC), 2008. *AgriStability Handbook*. http://www4.agr.gc.ca/resources/prod/doc/pol/grow-croiss/brm-gre/agrista/pdf/2008/as_2008hb_2_eng.pdf. Accessed Feb. 17, 2010.
- Agriculture and Agri-Food Canada (AAFC), 2009. *AgriInvest Guidelines*. <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1239220249277&lang=eng#p3.4>. Accessed Feb. 17, 2010.
- Mussell, Al, Terri-lyn Moore, Ken McEwan, and Randy Duffy. 2007. "Understanding the Structure of Canadian Farm Incomes in the Design of Safety Net Programs", *Canadian Journal of Agricultural Economics* 55(4) 565-586.
- Sparling, David, Pamela Laughland, and Verna Mitura. 2008. "Are Canada's Large Farms really Different?", *VISTA on the Agri-food Industry and Rural Community July 2008*. Catalogue Number 21-004-X. Statistics Canada.

6. Understanding Farm Debt in Canada

by Kate Stiefelmeyer

PREVAILING THOUGHT: FARMERS ARE STRUGGLING FINANCIALLY UNDER THE WEIGHT OF GROWING FARM DEBT. CANADIAN AND US FARM DEBTS ARE SIGNIFICANTLY DIFFERENT.

Findings

- ❑ Canadian farms carry almost double the debt of their US counterparts.
- ❑ Canadian farm debt is growing faster than in the US.
- ❑ Canadian farms, no matter what size, have consistently higher Debt/Earnings ratios than their counterparts in the US. This suggests that the debt payback period is longer in Canada and that Canadian operations are riskier.
- ❑ As Debt/Earnings ratios increase in Canada, the ability of Canadian farms to service debt is declining.
- ❑ Larger scale operations, in Canada and the US, are better able to service debt than smaller operations, since their Debt/Earnings ratios are smaller.
- ❑ By enterprise type, Canadian farms have consistently higher Debt/Earnings ratios than US farms.
- ❑ Overall, Canadian farms are less efficient at generating earnings required to pay back debt.
- ❑ Earnings are low compared with debt levels, but the market value of assets is increasing.

PUBLIC POLICY QUESTION: ARE FARM DEBT LEVELS IN CANADA CONSISTENT WITH A COMPETITIVE AND SUSTAINABLE AGRICULTURAL SECTOR?

Introduction

Total farm debt in Canada and the US has increased over the long term (Brinkman 2008; Harris *et al.* 2009). However, debt can be used to invest and grow an operation. “There is nothing wrong with high levels of farm debt, as long as farm operations have the ability to service it” (Preville).

Examining farm debt in isolation and/or in aggregate does not provide a complete picture. This paper examines Canadian farm debt, and farmers’ ability to repay it compared with the US situation.

Methods and Data

In order to put farm debt in context, Canadian farm debt was compared with a measure of operating profit, and with farm debt for comparable-sized farms in the US.

EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization) is a calculation of operating profitability that measures the margin a business obtains from its operations to fund debt, taxes, capital replacement, and owner/family unpaid labour and management. In this paper, EBITDA will be referred to as earnings.

This paper uses a Debt/Earnings calculation to compare debt with operating profit (and thus the ability to repay debt). This ratio measures the value of debt relative to the earnings accruing from it. It also effectively measures the payback period; the longer the payback period, the higher the risk.

Analyses were conducted with two data sets, fragmented by farm size. First, Canadian data collected under the Taxation Data Program (TDP) for incorporated and unincorporated farms was used. The information from this source was collected from income taxes filed by individual farm operators and from incorporated farms, and relates to sales and expenses, typically reported on a cash basis. Second, data collected under the Farm Financial Survey (FFS) was used. The FFS was originally collected by Farm Credit Canada. The information from this source was obtained through a mail survey on revenue, expenses, assets and liabilities.

The US data were extracted from the Agricultural Resource Management Survey (ARMS) database, which comes from the US Department of Agriculture’s Economic Research Service and National Agriculture Statistics Service. ARMS is a national survey of farm practices and farm finances completed each year by a representative sample of farmers. Using the TDP and ARMS data, EBITDA (earnings) was defined as Net Operating Income plus Net Interest Expenses and Net Property Tax.

Analysis

Comparative Farm Debt Data

Table 6-1 shows the average farm debt level in Canada and the US by farm size. The table shows a clear relationship between farm size and farm debt levels: larger farms carry larger debt loads in both Canada and the US.

Canadian farms carry almost double the debt of their US counterparts. Not only is debt higher in Canada, but it is growing faster. The average annual growth rate (AAGR) in debt over the last decade is substantially higher in Canada than in the US. In fact, average farm debt on farms with sales of \$250,000–\$499,999 and \$500,000–\$1 million in the US has a negative AAGR, meaning farm debt is declining.

Table 6-1: Farm Debt Level by Farm Size, Canada and US. (AAGR = Average Annual Growth Rate).
Source: Statistics Canada Taxfiler Database, 2009; USDA, ARMS Database, 2009.

Farm Sales	Farm Debt Level Canada (\$CDN)		Farm Debt Level United States (\$US)	
	Avg. 2001 - 2007	AAGR (%)	Avg. 2001 - 2007	AAGR (%)
\$250,000-499,999	\$378,285	1.9	\$218,265	-1.3
\$500,000-\$1 million	\$730,045	2.6	\$353,653	-1.4
>\$1 million	\$1,730,717	4.0	\$962,968	1.5

Potential Reasons for Differences in Farm Debt

Several potential explanations exist for higher farm debt levels in Canada than in the US:

- ❑ Over the last decade, Canada experienced significant growth in investment in livestock production. This exceeded growth in the US.
- ❑ New environmental regulations in Canada created an investment burden for farmers, especially livestock farmers.
- ❑ Cost of supply management quotas: Quota values have increased markedly over time and farmers wanting to enter the industry or expand their businesses have likely taken out loans to purchase quota. These quotas do not exist in the US. Quota adds to the investment requirement, but industries with quota provide more certainty of income.
- ❑ Along with the high cost of land, a higher percentage of Canadian farm land is owned by the operator than in the US, where leasing and sharecropping with non-resident land owners is more common.*
- ❑ Growing and planting seasons are shorter in Canada, leaving farmers a narrower window to complete spring and fall operations. This requires a higher investment per hectare in equipment to reduce production risk.

Table 6-2 shows total farm debt by farm type in Canada. It illustrates that debt is growing fastest in the supply-managed commodities, along with greenhouse and nursery operations; this is consistent with the interpretations above.

Ability to Pay Back Debt

Farm debt levels are not especially meaningful in isolation. Without understanding the ability to pay back debt, it is difficult to know whether farm debt levels are appropriate or sustainable. Canadian farm debt is higher than in the US, but Canadian farms might be able to generate earnings that can justify the debt.

Figures 6-1 to 6-3 compare the ability of Canadian farms to pay back debt with that of their US counterparts, by farm size. The ratio Debt/Earnings measures the payback period. The higher the ratio, the longer is the payback period and the higher the risk.

Canadian farms of all sizes have consistently higher Debt/Earnings ratios than their US counterparts. This suggests that the debt payback period is longer in Canada, and that Canadian operations are riskier. For the most part, Debt/Earnings ratios are under 3.0 in the US and are much higher in Canada, for all farm sizes. In all cases, the ratios in Canada trend slightly upward, meaning that Canadian farms are increasingly less able to service debt. Conversely, the ability to service debt in the US is improving, as shown by a decline in the ratio over time.

Even though the larger-scale operations have significantly more debt (as shown above in Table 6-1), Figure 6-3 shows that they have a better ability to service debt than smaller operations – in both Canada and the US. The Debt/Earnings ratios for farms with sales over \$1 million are much lower than the ratios for smaller operations, meaning the payback period is shorter and these operations are, therefore, less of a financial risk.

Table 6-2: Total Canadian Farm Debt, by Farm Type (\$ Billions). Source: Statistics Canada, ESAS data.

	1997	2007	Absolute Change	% Change
Poultry	1.00	2.85	1.85	184.2
Greenhouse & Nursery	0.70	1.67	0.96	137.2
Dairy	4.85	11.35	6.50	134.2
Fruit, Vegetable & Potato	1.32	2.55	1.23	93.0
Hogs	1.81	2.99	1.15	63.6
Beef	4.37	7.01	2.69	61.6
Grains & Oilseeds	7.95	12.09	4.14	52.1
Other	1.92	2.49	0.57	29.8

* Based on information in Statistics Canada's Farm Financial Survey, AAFC/RAD internal estimates and the Economic Research Service, United States Department of Agriculture, State Fact Sheets: United States – Land Tenure.

Figure 6-1. Debt/Earnings for Farm Sales of \$250,000 - \$499,000. Source: Statistics Canada Taxfiler Database, 2009; USDA, ARMS Database, 2009.

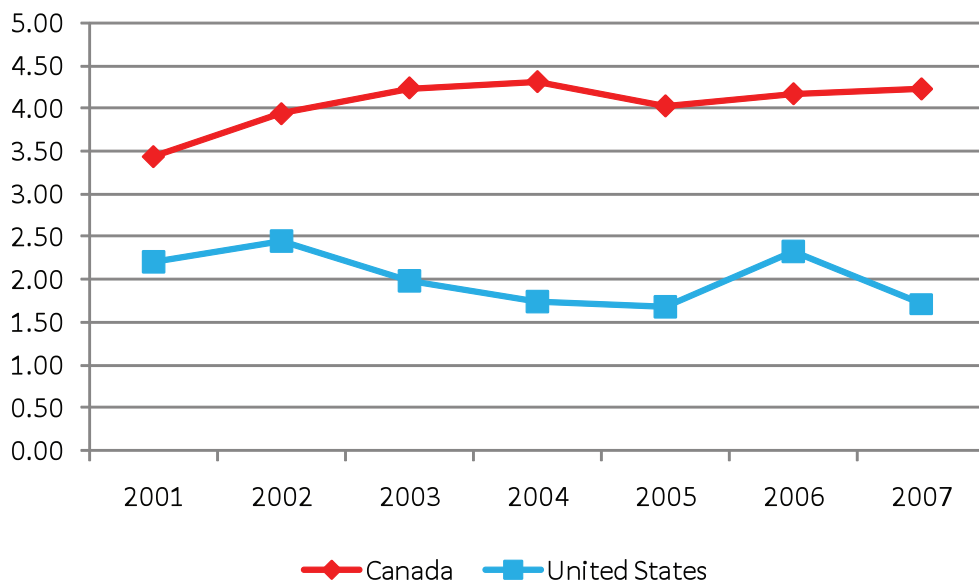


Figure 6-2. Debt/Earnings for Farm Sales of \$500,000 to \$1 Million. Source: Statistics Canada Taxfiler Database, 2009; USDA, ARMS Database, 2009

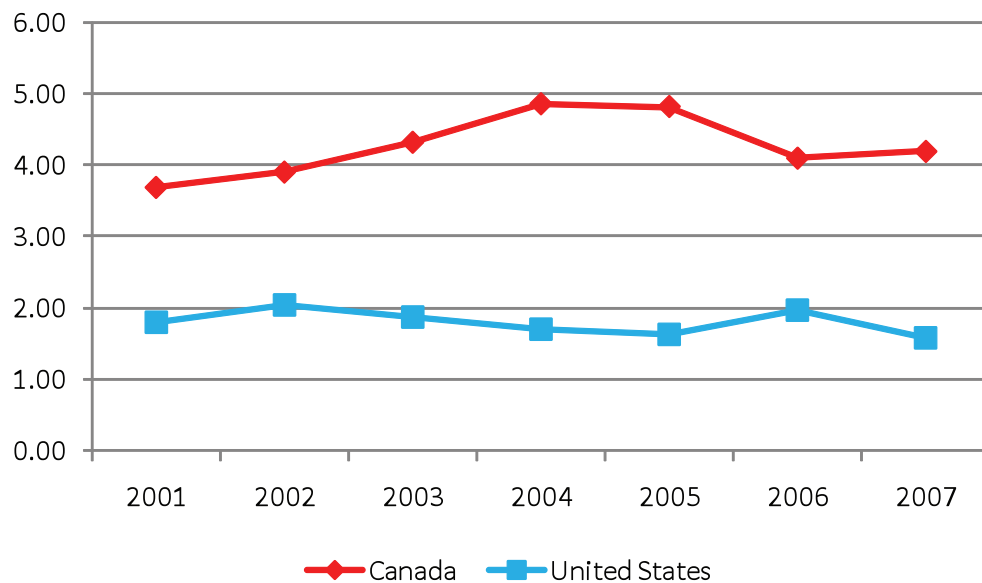
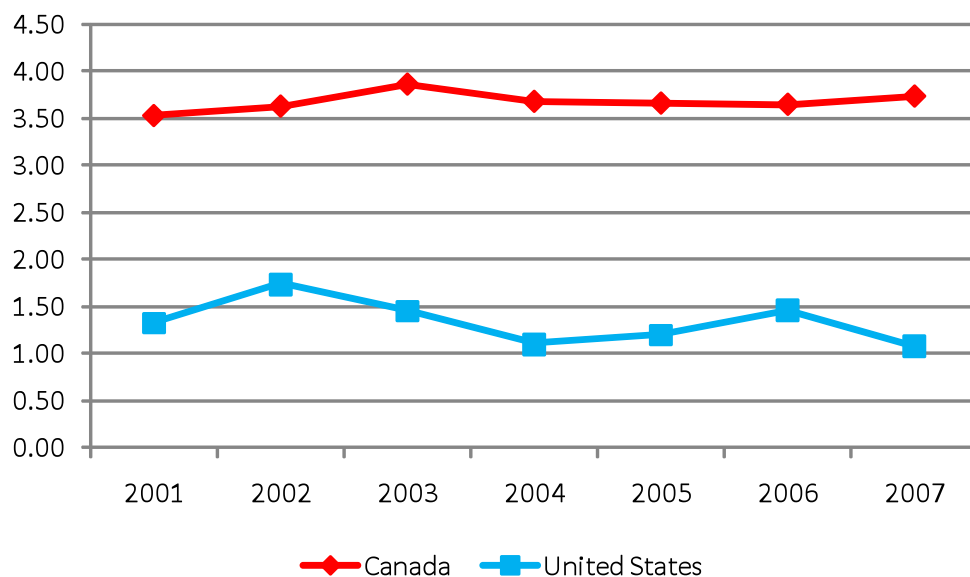


Figure 6-3. Debt/Earnings for Farm Sales Greater than \$1 Million. Source: Statistics Canada Taxfiler Database, 2009; USDA, ARMS Database, 2009.



Figures 6-4, 5 and 6 compare Canadian farm Debt/Earnings ratios by farm type with sales of \$500,000–\$1 million. (In most cases, the trends were the same regardless of farm size.) They show that Canadian grains and oilseeds, hog, and dairy farms have consistently higher Debt/Earnings ratios than their counterparts in the US.

- ❑ Grains and Oilseeds: The ratios were consistently increasing in Canada but improved in 2006 and 2007 – likely due to strong world grain prices, whereas the ratio in the US is relatively stable.
- ❑ Hogs: Canadian Debt/Earnings has trended strongly upward whereas the US ratio is relatively stable. Debt/Earnings ratios in Canadian hog farms are higher than other enterprises.

- ❑ Dairy: Canadian dairy farms have consistently higher Debt/Earnings ratios than their counterparts in the US. This suggests that the debt payback period is longer in Canada, and that Canadian operations are riskier. However, income in supply-managed operations is likely more stable, so Canadian dairy farms have more capacity to assume debt than their US counterparts without increasing risk. At the same time, debt on Canadian dairy farms typically pays for quota, whereas in the US it would have been invested directly in productive assets. Thus, Canadian farms may be able to carry more debt, but are liable to lag in productive efficiency compared with the US.

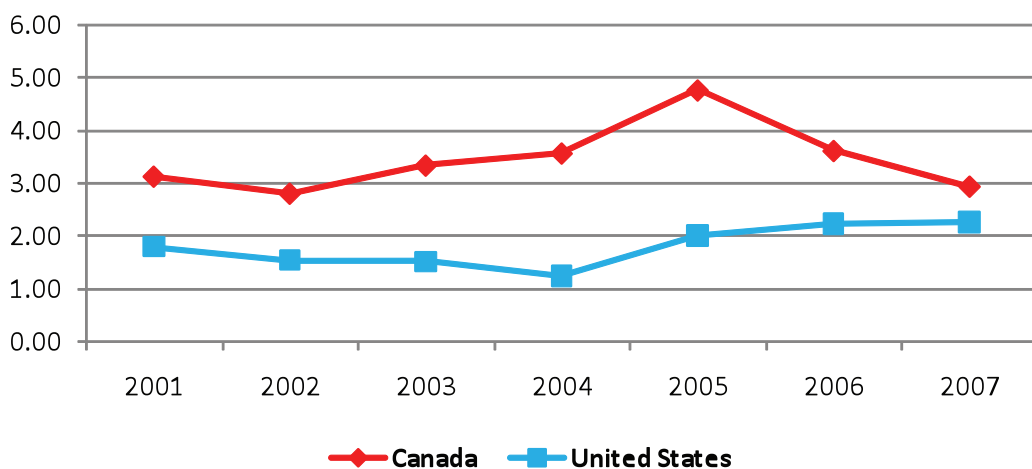


Figure 6-4. Debt/Earnings – Grain and Oilseed Farms. Source: Statistics Canada Taxfiler Database, 2009; USDA, ARMS Database, 2009.

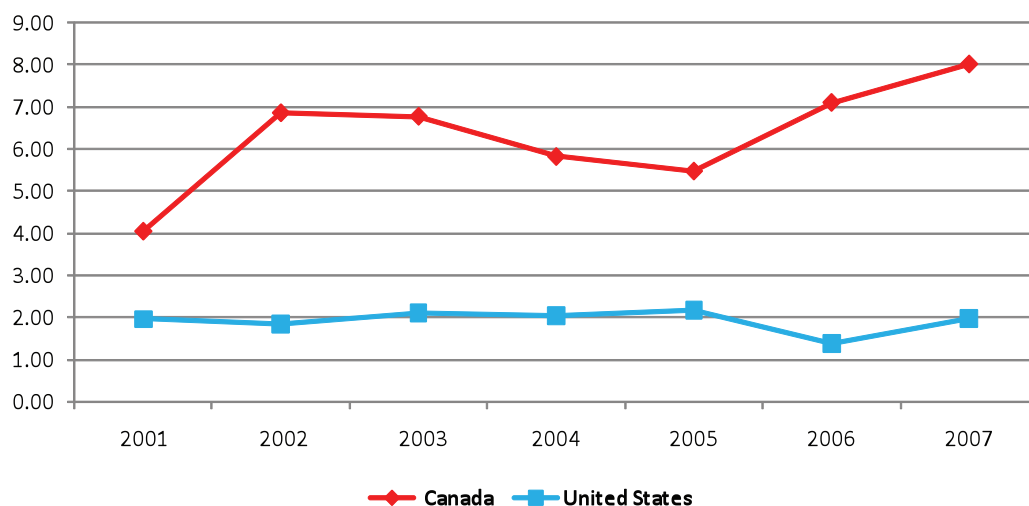


Figure 6-5. Debt/Earnings – Hog Farms. Source: Statistics Canada Taxfiler Database, 2009; USDA, ARMS Database, 2009.

Figure 6-6. Debt/Earnings – Dairy Farms. Source: Statistics Canada Taxfiler Database, 2009; USDA, ARMS Database, 2009.

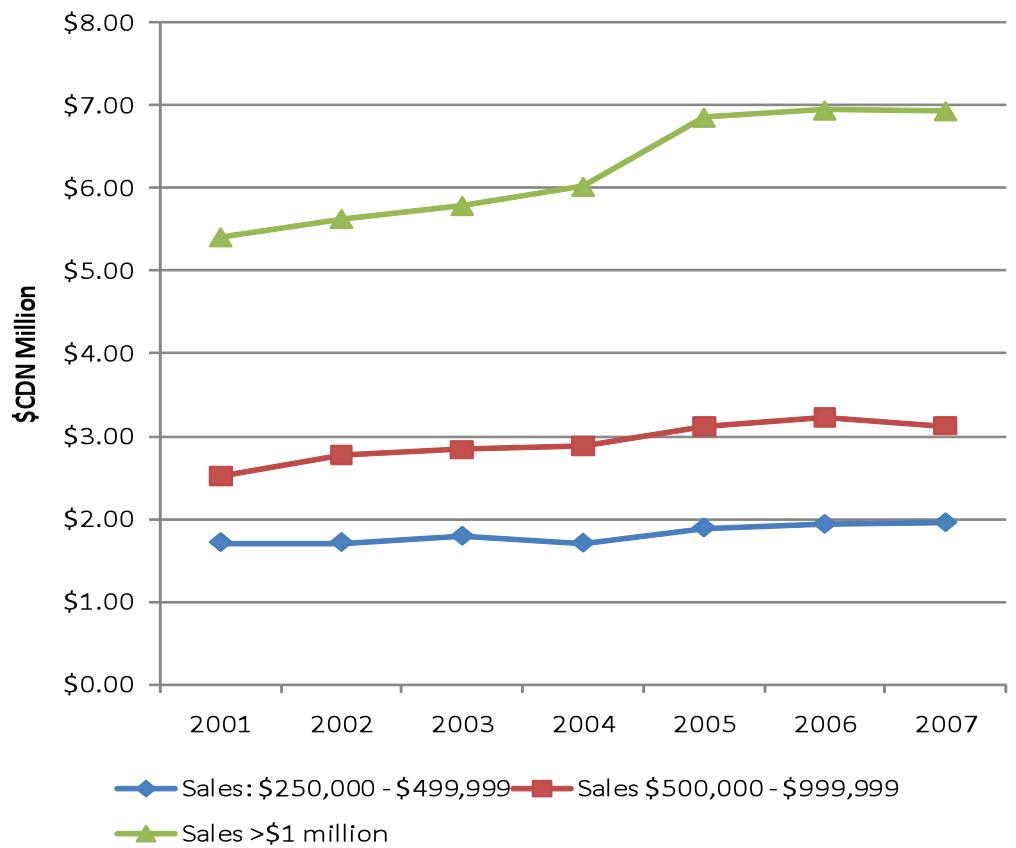
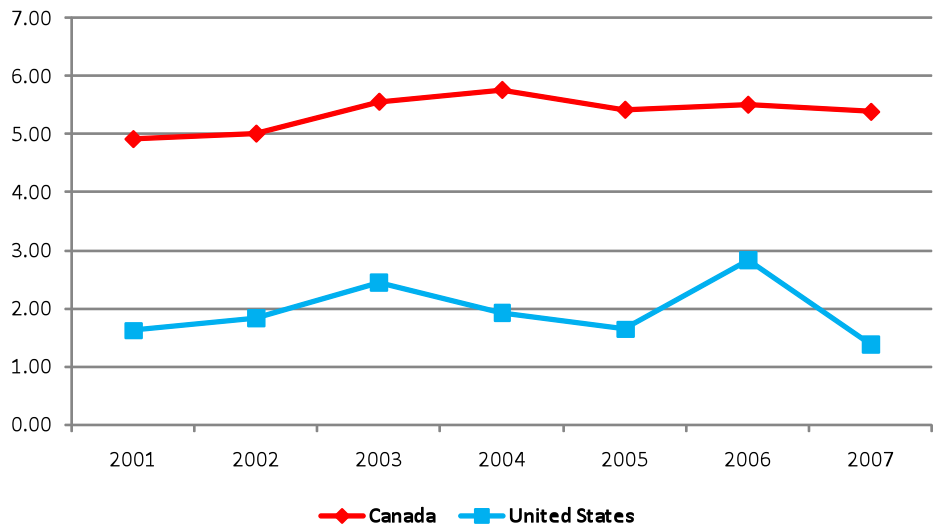


Figure 6-7. Average Market Value of Assets per Farm.

Market Value of Assets

If earnings are low compared with debt levels, what can be driving farmers toward additional investment? The market value of farm assets in Canada has been increasing over the last decade, as shown in Figure 7. The average annual growth rates (AAGR) of farm assets between 2001 and 2007 were 2.4%, 3.7% and 4.3% respectively, by farm size. The implication is that, despite the trends in earnings derived from farm assets, farm assets could be viewed as a sound financial investment.

What the Data Don't Tell Us

The data in this paper provide a comparative analysis of farm debt levels in Canada and the US, in both farm sizes and farm types. However, average debt levels do not describe individual firms within farm size or farm type categories, given the diversity in farm financial situations. There are many Canadian farms with zero debt; therefore, it's important to know who holds the debt to draw conclusions regarding financial risk. The data cannot tell us:

- ❑ How the debt and farm incomes are distributed.
- ❑ Whether the farms with low farm incomes have the highest debt? Or high incomes?
- ❑ Whether the farms with low farm household incomes have the highest debt? Or high farm household incomes?
- ❑ Whether farms that are investing in their operations have the highest debt? Or is it farms that are using operating debt to carry their operations?
- ❑ Whether off-farm income used to support investment in farm assets explains the increase in asset values as Debt/Earnings increases?

Conclusions

The data show that Canadian farms have a higher level of debt than their US counterparts. When examined by farm size, debt increases with farm size in both Canada and the US. However, Canada's Debt/Earnings ratios were consistently higher, both by aggregate farm size and farm type. This implies that Canadian operations are financially riskier, as their debt payback periods are longer and they

are less efficient at generating the earnings needed to pay back the debt. Earnings are low compared with debt levels, but Canadian farmers hold significant wealth in assets.

Farm income data do not say anything about farmers' income levels, off-farm income and wealth; farmers may have other ways to service the debt not picked up in the data. As well, farm asset values have increased over time. However, it is clear that Canadian portfolios are risky: with Debt/Earnings ratios well above 3.0, Canadian farms are financially vulnerable to calamities. The recent near collapse of the Canadian hog industry exemplifies this risk. As recently as 2007, the hog industry had a high Debt/Earnings ratio. When hit with a prolonged period of low margins, including a market response to "swine flu," the industry hit a wall; it would have had far fewer problems had it entered 2008 with a Debt/Earnings ratio more like that of its US counterpart.

Canada has high debt relative to earnings and this is a source of financial risk. The relationship is complex, however, because the market value of farm assets continues to increase, and which farms are holding debt is an unknown, moving target.

References

- Brinkman, G. 2008. Viability of Canadian Agriculture – Updates for 2009. A webinar hosted by the Canadian Farm Business Management Council on December 15, 2008.
- Harris, J.M., J. Johnson, J. Dillard, R. Williams and R. Dubman. 2009. *The Debt Finance Landscape for U.S. Farming and Farm Businesses*. A Report of the Economic Research Service, USDA. AIS-87, November 2009.
- Preville, E. 2003. *The Financial Structure of Agriculture in the Canadian and American Prairies, 1971-2001*. Library of Parliament. January, 2003. <http://dsp-psd.pwgsc.gc.ca/Collection-R/LoPBdP/PRB-e/PRB0260-e.pdf>

7. The Purpose of Farm Policy

by Al Mussell

PREVAILING THOUGHT: FAMILY FARMS ARE ECONOMICALLY DISADVANTAGED AND FARMERS REQUIRE INCOME SUPPORT TO SURVIVE.

Findings

- ❑ Farm income programs have a range of effects. They stabilize farm incomes, support incomes, accommodate farm interests, and can influence sector development.
- ❑ Specific objectives of farm income programming are elusive, seldom measurable, and poorly enunciated. Canada's farm programs describe a range of design principles and programming objectives that have remained relatively unchanged since 2003. Although it would seem that stabilization should be the ultimate measurement, it is actually expenditure. No mention is made of who benefits from income stabilization or by how much. This tends to slant the implicit objective toward income support, as does the federal-provincial negotiating process in Canada.
- ❑ Farm income programming is not well integrated into the other elements of agricultural policy.
- ❑ In Canada, funding of farm income-related programs is significant in size, and is typically more than half of the total resource commitment of government in agri-products.
- ❑ Farm interest groups have not articulated objectives for farm income programming, and have generally been more critical than supportive of what they receive from farm income programs.

PUBLIC POLICY QUESTIONS: FARM INCOME PROGRAMS REPRESENT SIGNIFICANT LEVELS OF PUBLIC EXPENDITURE IN AGRICULTURE. WHAT IS THE APPROPRIATE OBJECTIVE FOR THESE PROGRAMS? WHAT IS THE PROBLEM THAT POLICY SHOULD ADDRESS? WHAT IS BEING MEASURED TO ASSESS THE EFFECTIVENESS OF PROGRAMMING?

Introduction

Agriculture is somewhat unique in its susceptibility to the perils of biology and adverse market changes, both of which can be beyond the control of individual farmers. In this environment, farm income

programming can cushion losses, and prevent sudden and harsh adjustments in the sector. To the extent that farmers are perceived as victims of economic inequity compared with urbanites, farm income programs can also serve as an instrument of redistribution. At the same time, the recipients

of program funding vote and hold influence in a political-economic environment that generates the programming. Finally, farm programming can facilitate strategies for sector development.

Thus, farm income programs influence a range of facets of the agricultural economy. This can confuse the specific underlying purpose and objectives of income programming, and can create difficulties in measuring its accountability.

Purpose and Approach

Public expenditures on farm income programs (referred to as “business risk management,” or BRM in Canada) consume material public resources and a significant proportion of public support for the agri-products sector. However, as public budgets tighten and the beneficiaries of BRM programs continue to demonstrate a lukewarm reaction, a clear understanding is needed of the objectives and apparent performance of programming.

To provide some perspective on this issue, this paper considers the following factors:

- ❑ Objectives articulated by governments for BRM programming.
- ❑ Relative expenditure on BRM programming in Canada.
- ❑ Apparent satisfaction of primary clients with BRM programming.

Data and Analysis

It is difficult to identify the objectives pursued in BRM programming in any precise or measurable way. Van Tongeren (2008) suggests that, based on cross-country observations, the general objectives of farm income programs are to achieve acceptable levels of income, reduce income variability, and/or improve the competitiveness of the sector. But these objectives tend not to be stated clearly or measurably. Tweeten and Zulauf (2008) observe that US farm programs have shifted in style and emphasis over time, but ultimately have maintained producer income support

as the primary objective. In surveying objectives in Canadian agricultural policies, AAFC (2007) observed that the BRM should:

- ❑ Conform with trade rules and minimize countervail risk.
- ❑ Provide for equitable access to program benefits.
- ❑ Be neutral with regard to influencing production decisions.
- ❑ Mitigate negative impact of uncontrollable and unforeseen events.
- ❑ Not encourage excessive risk taking.

Growing Forward, Canada’s federal-provincial agricultural policy framework, defines principles that require agricultural policies to be consistent with the following (AAFC, 2009):

- ❑ Respect Canada’s international trading obligations and minimize countervail risk.
- ❑ Minimize moral hazard and don’t influence farmers’ production and marketing decisions.
- ❑ Be developed in conjunction with the agricultural sector, including consultation with other relevant partners and stakeholders.
- ❑ Have a clear purpose, and be comprehensive, comprehensible, predictable, and simple to administer.
- ❑ Do not provide a disincentive to the use and development of private sector risk management tools.
- ❑ Contribute to market-oriented adjustments and adoption of technological innovations.
- ❑ Apply to the stability of the entire farm entity.
- ❑ Do not distort regional or commodity-based comparative advantage within or among jurisdictions.

Canadian BRM policies reflect a mix of design principles that programming should satisfy, as well as programming objectives. These have not changed markedly since the 2003 Agricultural Policy Framework (Mussell, 2007).

Moreover, BRM-farm income programming does not appear well integrated with broader agricultural policies. For example, within Growing Forward there

are five elements: food safety and food quality, environment, science and innovation, renewal, and business risk management. While it is clear that most of the elements are synergistic in nature (for example, activities under the science and innovation and renewal elements can support the food safety and food quality and the environment elements), it is unclear how BRM programming contributes to the other elements.

The relative lack of clear or coordinated objectives in BRM programming is exacerbated by the diversity and variability of farm incomes. According to Mussell *et al.* (2007), Canadian farm income data show, within an overall trend of economies of scale, that there are large farms with low incomes and smaller farms with relatively high incomes. They conclude that, without a clear programming objective, the development of an “optimal” BRM programming design tailored to the demographics of its primary clients is impossible.

At the same time, funding of BRM farm income programs is a large component of government resource commitments to the agri-products sector. Figure 7-1 shows that total funding for BRM and ad

hoc farm programs in Canada has typically been in excess of 50% of total government expenditure in agriculture. The implication is that more than half of government support of agriculture is used to underwrite recovery from past losses and/or support farm incomes, and an equivalent or smaller proportion is used for sector development and investment in future initiatives under other policy elements.

Finally, it is uncertain whether the primary clients for farm income programs can agree with the government on programming objectives, or are satisfied with what they get. For example, the National Farmers Union (2007) argues that BRM fails because farm incomes are perennially depressed, and so income stabilization is not useful. They see the problem in the context of a market that favours farm product purchasers.

In 2006, in response to changes proposed by agriculture ministers to make BRM programs easier to use, the Canadian Federation of Agriculture expressed disbelief that more funding was not forthcoming. In 2009, the Federation argued that components of existing funding should be doubled from \$500 million to \$1 billion and made accessible to

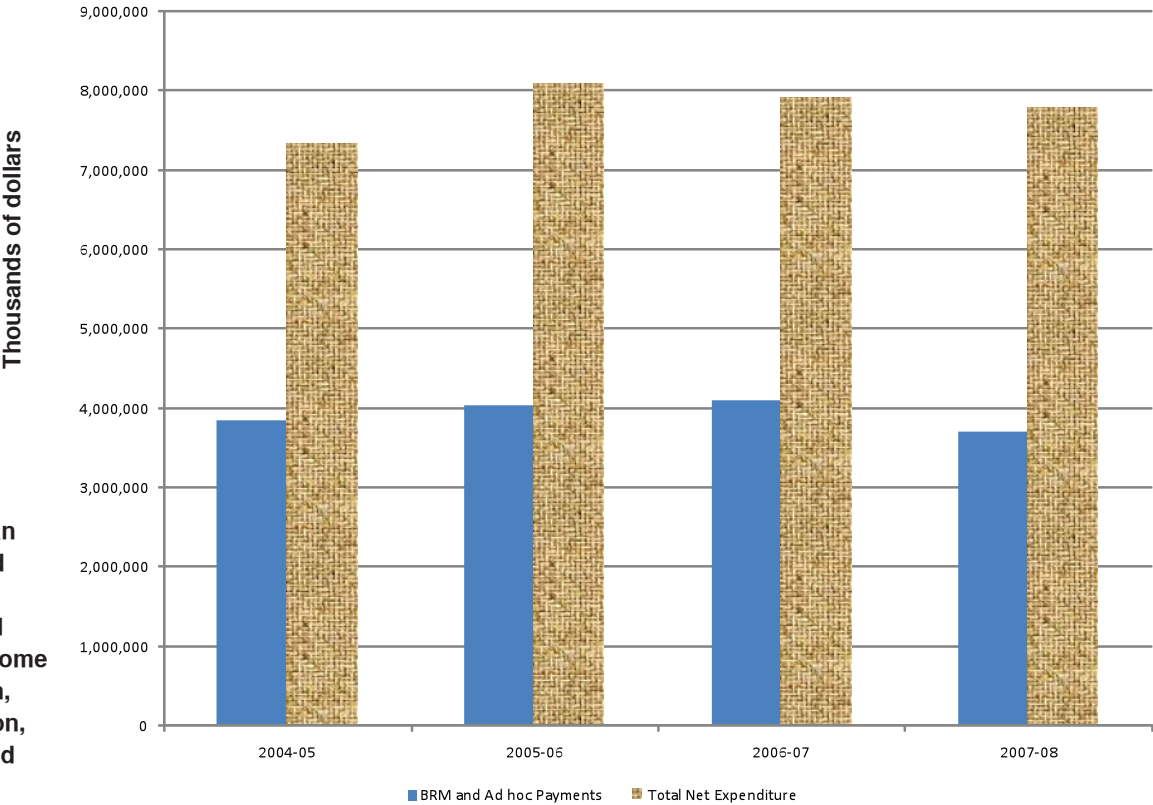


Figure 7-1. Government Expenditures in Canadian Agriculture. BRM and Ad Hoc payments include combined provincial and federal payments for income support and stabilization, ad hoc and cost reduction, production insurance and financing assistance.

farmers under BRM programming, and that farmers' eligibility for BRM program payments should also be increased. Without a clear objective, farm groups can argue that payments under farm income programs are never enough. This observation helps explain a significant part of government transfer activity in agriculture (Pasour, 1990, p. 31).

Conclusions

Policy instruments that target farm incomes have a range of effects, from providing income stability to direct income support. However, being able to identify the specific intended objectives and measuring outcomes for farm income programs is elusive. While much of the language around Canadian BRM programming speaks to income stabilization, clear objectives are not delineated and the income stability being restored is ill-defined. For example, information is provided on the level of program payments, but not on the stabilization in farm incomes that results.

In practice, as a negotiated federal-provincial initiative, Canadian farm income programming is likely to involve significant elements of income support and redistribution across regions. This suggests that income support and income transfers to farmers are implicit, if not unspoken, objectives. Finally, it is clear that farm income programming not only consumes significant government resources, but is proportionally large compared with overall public resources deployed to the sector. This is significant because farm income program expenditures tend to be triggered by past events and act to restore the status quo; other government expenditures, such as research and market development, are forward-looking and can facilitate growth. Moreover, expenditures on forward-looking initiatives are a substitute for farm income programs over time, as sector growth reduces the need for stabilization.

Farm income programming is a large public expenditure that is neither well targeted nor integrated into broader agricultural policies. It is expensive, both in absolute and relative terms. In an environment where government policies lack clear objectives, the primary beneficiaries of farm income programming find it easy to simply argue for more support.

References

Agriculture and Agri-food Canada. 2009. Growing Forward Framework Agreement. Viewed at <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1217941012105&lang=eng> January 10th, 2009.

Agriculture and Agri-food Canada. 2007. *Next Generation of Agriculture and Agri-Food Policy-Business Risk Management: A Discussion Paper*.

Canadian Federation of Agriculture. 2009. 2009 Resolutions. http://www.cfa-fca.ca/upload/PASSED%20RESOLUTIONS_2009%20ENGLISH.pdf. Viewed Jan. 11, 2009. Canadian Federation of Agriculture. 2006. "Do agriculture ministers realize there is a farm income crisis?" Media release, March 21, 2006. Viewed at http://www.cfa-fca.ca/pages/index.php?main_id=283.

Mussell, Al. 2007. *The Next Generation Safety Net Program in Canada: An Economic Analysis*. Guelph, Ontario: George Morris Centre.

Mussell, Al, Terri-lyn Moore, Ken McEwan, and Randy Duffy. 2007. "Understanding the Structure of Canadian Farm Incomes in the Design of Safety Net Programs", *Canadian Journal of Agricultural Economics* 55(4) 565-586.

National Farmers Union. 2007. Submission by the National Farmers Union on The Farm Income Crisis, Business Risk Management, and The "Next Generation" Agricultural Policy Framework (APF II) Presented to the House of Commons Standing Committee on Agriculture and Agri-Food Stratford, Ontario April 26, 2007.

Pasour, E.C. 1990. *Agriculture and the State: Market Processes and Bureaucracy*. New York: Holmes and Meier.

Tweeten, Luther, and Carl Zulauf. 2008. "Farm Price and Income Policy: Lessons From History", *Agribusiness*, Vol. 24 (2) 145-160.

Van Tongeren, Frank. 2008. *Agricultural Policy Design and Implementation: A Synthesis*, OECD Food, Agriculture, and Fisheries Working Paper No. 7. OECD Publishing.

8. Return on Assets on Farms in Canada

by Larry Martin

PREVAILING THOUGHT: LARGE FARMS ARE MORE PROFITABLE THAN SMALLER FARMS, AND THOSE IN SUPPLY MANAGEMENT ARE MORE PROFITABLE THAN OTHERS.

Findings

- ❑ Operating returns on assets are relatively low for all types and sizes of farms, recognizing that assets are measured in these data at market value. This suggests challenges will exist in attracting and transferring farm assets to future generations.
- ❑ Operating returns on investment rise as farms get larger, reflecting economies of size and the importance of utilizing the capacity of farm investments.
- ❑ Operating returns on investment for the 2001–2007 period were highest for grain and oilseed farms, followed by hog, dairy, poultry and beef farms.
- ❑ Returns on investment in supply management are not higher than in other enterprises.

PUBLIC POLICY QUESTION: HOW SHOULD POLICIES ADDRESS THE ONGOING COMPETITIVENESS AND CONTINUITY OF FARM BUSINESSES AS IMPLIED BY RETURNS AGAINST ASSETS?

Introduction

While larger farms may generate more aggregate net farm income than smaller ones, larger farms are likely to have more capital tied up in the operation. Therefore, “profitable” needs to be defined. Perhaps the most relevant definition is a measure of return on investment, which shows the average profitability of a dollar invested in each size and type of farm.

Methods and Data

In this paper, the measure of returns on investment employed to address the question is EBITDA/Assets. EBITDA is Earnings Before Interest, Taxes, Depreciation and Amortization. In other words, it is returns after deducting operating expenses earned from a farm’s assets, expressed as a percentage of the value of assets. It measures operating income per dollar of assets employed.

The data used in this analysis are Canadian Farm Financial Survey information for the years 2001–2007. Assets are measured at market value in these data.

Therefore, the return on assets is a measure of the returns in this use, relative to what the assets could earn if they were invested alternatively (again underlining that this is return before accounting for depreciation and interest). The ratio of EBITDA/Assets was calculated for each year for 20 sets of farms: grain & oilseed, beef, dairy, poultry, and hogs.

Each type of farm was then sorted into size categories based on annual sales: \$100,000–250,000; \$250,000–500,000; \$500,000–\$1 million; and over \$1 million.

Finally, the ratios for each set were averaged across the seven-year period to obtain a summary of the returns on assets for comparisons.

Analysis

Table 8-1 contains the average return on assets for each type and size group of farms from 2001–2007. The most obvious observation is that returns on none of the sets of farms are particularly high: operating returns are less than 7% of assets for all but one set. As pointed out in the Farm Incomes and Farm Wealth paper in this series, this finding may reflect the possibility that some farmers farm to reap the benefits of asset appreciation on land and quota.

In this analysis, assets are valued at market value. Therefore, while farmers receive a return on assets from operations, the assets are appreciating. If assets were measured at the lower of cost or market value, operating returns on assets would be higher.

A second observation is that average returns per dollar invested tend to rise with farm size. For farms with sales between \$100,000 and \$250,000, average returns are approximately 4%. For the remaining size categories, returns are 4.9%, 5.3% and 6.0%. This suggests that there are economies of size in agriculture and/or that management skills rise with farm size. At any rate, capital invested in larger farms earns a higher return. This observation is consistent with an earlier study by Mussell et al. (2007)

Clearly, returns are different for farms that specialize in different industries. By averaging the ratios across the various farm sizes, one finds EBITDA/Assets of 5.95% for grains & oilseeds, 5.78% for hogs, 5.05% for dairy, 4.33% for poultry, and 4.08% for beef. The rankings are surprising, given recent publicity about problems in the hog industry. However, that set of problems occurred after 2007.

It is also notable that the supply-managed industries rank third and fourth. Total assets include the value of quota. Absent quota, it is likely that returns to productive assets would be relatively high. However, the cost of quota is a capital investment, and it is precisely the high returns in supply management that are capitalized and lead to high quota values.

A distinction should be made about the beef data: the nature of the enterprise likely changes with farm size. The beef industry is made up of at least three types of operations: cow-calf; back-rounding; and finishing. The first two are relatively extensive and generate relatively modest total revenue, even for large operations.

Table 8-1: EBITDA/Assets, Average 2001-2007, Alternative Types and Sizes of Canadian Farms. Source: Statistics Canada ESAS

Farm Type	Farm Size			
	\$100,000-\$249,000	\$250,000-\$499,000	\$500,000-999,999	\$1,000,000 & Above
Grain & Oilseed	0.045	0.057	0.065	0.071
Beef	0.034	0.040	0.042	0.047
Hog	0.047	0.058	0.062	0.064
Dairy	0.043	0.050	0.054	0.055
Poultry	0.030	0.038	0.044	0.061

Finishing cattle in feedlots has relatively high turnover and churns large amounts of cash. Given the structure of the industry, most of the cow-calf and back-rounding operations likely fall into the first three size categories, while almost all feedlots fall in the largest size category. Despite this distinction, it is clear that returns on assets were relatively low during the first decade of this century.

Conclusions

In this paper, using data from actual Canadian farms for 2001–2007, operating returns on total investments in assets were compared for five types of farms and four size classes. Size is measured by annual sales of farm products. By averaging operating returns on assets, across farm size and type, several conclusions are evident:

- ❑ Operating returns on assets are relatively low for all types and sizes of farms. It is important to recognize that assets are measured in these data at market value.
- ❑ Operating returns on investment rise as farms get larger. This reflects economies of size.
- ❑ Operating returns on investment are highest for grain and oilseed farms, followed by hog farms, dairy farms, poultry farms and beef farms.

These results are important, as future investment decisions will be driven by operating returns against the value of these investments. With regard to incentives for future generations to enter agriculture, the low returns against assets observed are not encouraging. They also speak to the challenge of intergenerational transfer of farm assets within farm families, when the market value of assets being transferred is high relative to the latent income stream facing the entering generation. Better utilization of capacity of farm assets may be critical in generating returns, which is a challenge to farm managers, especially on small farms. Finally, the earnings supported by supply management appear to have been fully capitalized in quota values, as returns on investment are not higher for farms in supply management.

References

Mussell, Al, Terri-lyn Moore, Ken McEwan, and Randy Duffy. 2007. "Understanding the Structure of Canadian Farm Incomes in the Design of Safety Net Programs," *Canadian Journal of Agricultural Economics* 55(4) 565-586.

9. Supply Management: Advantage vs. Challenge

by Al Mussell

PREVAILING THOUGHT: WITHIN THE DAIRY, POULTRY AND EGG INDUSTRIES, SUPPLY MANAGEMENT IS SEEN TO HAVE PROVIDED STABLE AND STRONG RETURNS TO FARMERS. FOR OTHERS, SUPPLY MANAGEMENT IS SEEN AS AN ENTITLEMENT TO FARMERS AT THE EXPENSE OF CANADIAN CONSUMERS OF DAIRY, POULTRY, AND EGG PRODUCTS.

Findings

- ☐ The purpose of supply management was to resolve very real problems in fragmented markets in which significant market access and market power issues developed. It has addressed this issue.
- ☐ The resolution of marketing issues through supply management has led to higher prices, and a more stable pricing environment.
- ☐ This has come at the cost of market size and growth.
- ☐ It has also given rise to strong appreciation in specialized asset values, notably quota values.
- ☐ As supply management has evolved, the development of new products and improved value chain coordination has generally been a challenge, limiting market expansion opportunities.
- ☐ The benefits of supply management can be seen in higher and more stable prices to producers, a predictable access for supply to processors, and an economic benefit to some rural areas of Canada.
- ☐ The high values of quota have created wealth for existing farm operations, an unintended consequence of the system. Despite the high cost of entry, new entrants are still attracted to supply managed farm operations.

PUBLIC POLICY QUESTION: HOW CAN SUPPLY MANAGEMENT EVOLVE TO SERVE A CHANGING MARKET PLACE?

Introduction

Marketing under supply management systems has a history dating back more than 40 years in Canada. It was first established nationally in the dairy industry under the Canadian Dairy Commission Act in 1967; for eggs in 1972; for turkey in 1974; for chicken in 1978; and for chicken hatching eggs in 1986. In each case, a range of provincial regulations established provincial marketing boards as the primary administrative unit for supply management; these interface with national agencies.

Under supply management, farm products are marketed collectively by compulsory marketing boards. Boards are granted a range of powers, including supply control via production quotas and price-setting authority. These are supported by high tariffs that effectively allow the system to balance domestic supply and demand at administratively-set prices without attracting imports above pre-established import penetration levels. Exports are sharply limited by trade rules. Quotas on production control domestic supply and facilitate product clearing at the administratively-set price. Thus, supply management allows for relatively high, stable prices for farm products, within the limited volume defined by the quota system.

Key Questions

Supply management is viewed as beneficial by most in the dairy, poultry, and egg industries, but it is also controversial. Discussions on supply management tend to occur without reference to the problems the system was designed to address; this clouds an objective assessment of its advantages and disadvantages.

Approach

To provide some perspective on this issue, this paper considers the following factors:

- ☐ Historical context for supply management.
- ☐ Apparent differences in farm prices attributable to supply management.
- ☐ Extent and growth in marketing of milk, poultry, and eggs.
- ☐ Quota values.
- ☐ Coordination and innovation in value chains

Data & Analysis

Supply management originally developed in the dairy industry in Ontario in the mid-1960s, in a period of protracted economic hardship. This related to industry fragmentation, chronic over-supplies of milk, and difficulties with processor market power. Dairy farmers were organized into many different organizations: some supplying fluid milk to large cities, others supplying creameries and cooperative cheese plants in rural areas. In this fragmented environment, producers generally lacked a sense of the size of the market they were serving. This fragmentation led to cyclical over-production and price instability and difficulties in managing market access between farmers and processors. Supply management in poultry was motivated by similar dynamics and a growing trend toward integration of production with the feed and processing segments. Thus, supply management was developed to provide transparency and discipline in markets where it was lacking.

Among the principal objectives of supply management are enhancement and stability in market access and return to producers. One means of observing the relative success of these objectives is comparing supply managed farm prices in Canada with the US, which lacks a supply management system. Figure 9-1 compares eastern Canadian milk prices with milk prices in the US Northeast and Midwest, measured in Canadian dollars, and at very similar butterfat test standards. The figure confirms that Canadian milk prices are significantly higher than those in the US, and that Canadian prices appear much less volatile.

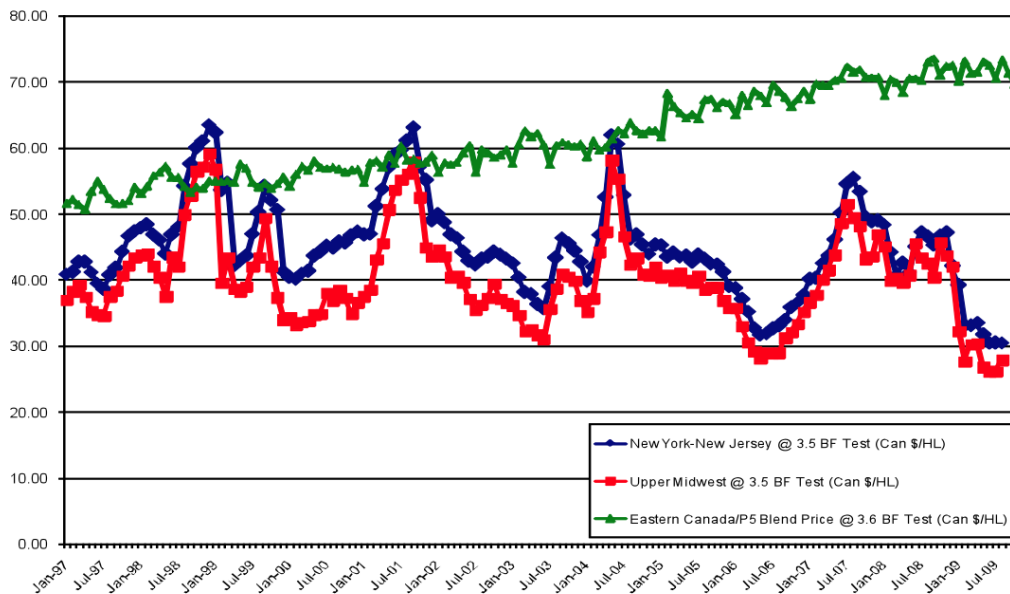


Figure 9-1. Eastern Canadian versus US Regional Milk Prices. Source: Canadian Dairy Commission and USDA-Agricultural Marketing Service.

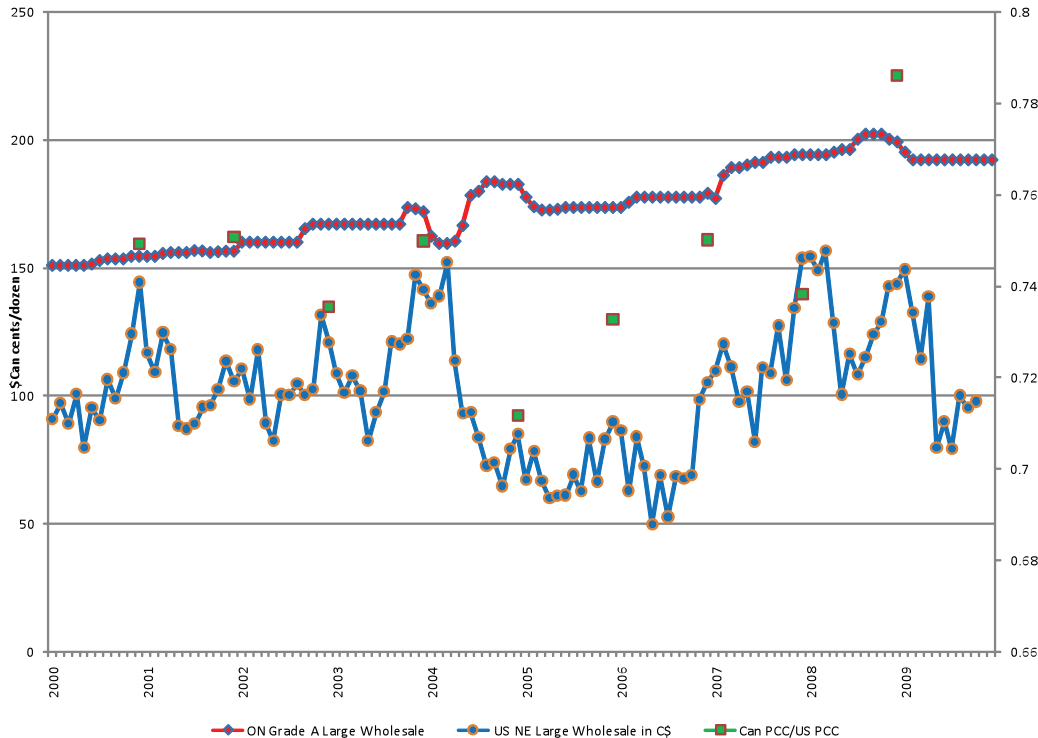


Figure 9-2. Canadian and US Egg Prices, Per Capita Disappearance Ratio. Source: Statistics Canada CANSIM, USDA-Agricultural Marketing Service, and USDA World Agricultural Outlook Board.

Thus, prices appear more stable due to supply management, and producer prices are higher.

At the same time, the environment of relatively high, stable prices under supply management has shaped the Canadian marketplace. Its impact influences market size and growth. For example, Figure 9-2

plots Canadian and US wholesale egg prices and the ratio of per capita disappearance (a proxy for consumption) of eggs in Canada versus the US. The prices exhibit a similar pattern to that of milk in Figure 9-1, but Figure 9-2 suggests that this pricing carries an implication with it. Per capita consumption of eggs in Canada is significantly lower than that in

the US. When Canadian egg prices increase relative to the US, the relative per capita consumption in Canada decreases; conversely, when US prices increase compared to Canadian prices, relative per capita consumption in Canada increases. Recently, Canadian and US prices have narrowed, boosting relative per capita consumption in Canada – this reverses a trend observed through most of this decade. Thus, while the egg market is generally stagnant or slow growing, the combined effects of higher prices and quota-bound supply limit the size and growth of the Canadian market. The effect is also to limit access to export markets, given international trade rules associated with supply management.

The environment of relatively high, stable prices under supply management also creates competition for assets to enter the (limited) market. This is most evident in the value of tradable production quotas. This is illustrated in Figure 9-3 for Ontario milk quota. Quota values are currently just over \$25,000 per kg, which is approximately the quota required to support one cow's production. Ontario milk quota values have increased markedly over time, and have only recently decreased as regulatory measures were introduced

to suppress quota prices. The economic logic driving competition to enter the limited supply managed markets remains and spills over into specialized assets like breeding animals, farms, and farmland.

Finally, as supply management has evolved, the regulatory system backing it is challenged to adequately respond to a changing market. First, in the main, farm products produced under production quota are distributed to processing plants under a regulated allocation system. This can make it difficult for processing plants to access farm products in developing new or different food products. Quotas historically allocated at a provincial level have been challenged to adjust to differential population growth. Some elements of supply management involve classified pricing and pooling of product, which limits the ability of farmers to work with processors in developing new products. In other cases, the interface between marketing boards, plants, and farmers sharply reduces the incentive for farmers and processors to work together. Thus, while some innovation has developed in supply managed products, such as Omega-3 eggs and DHA-milk, it has been limited.

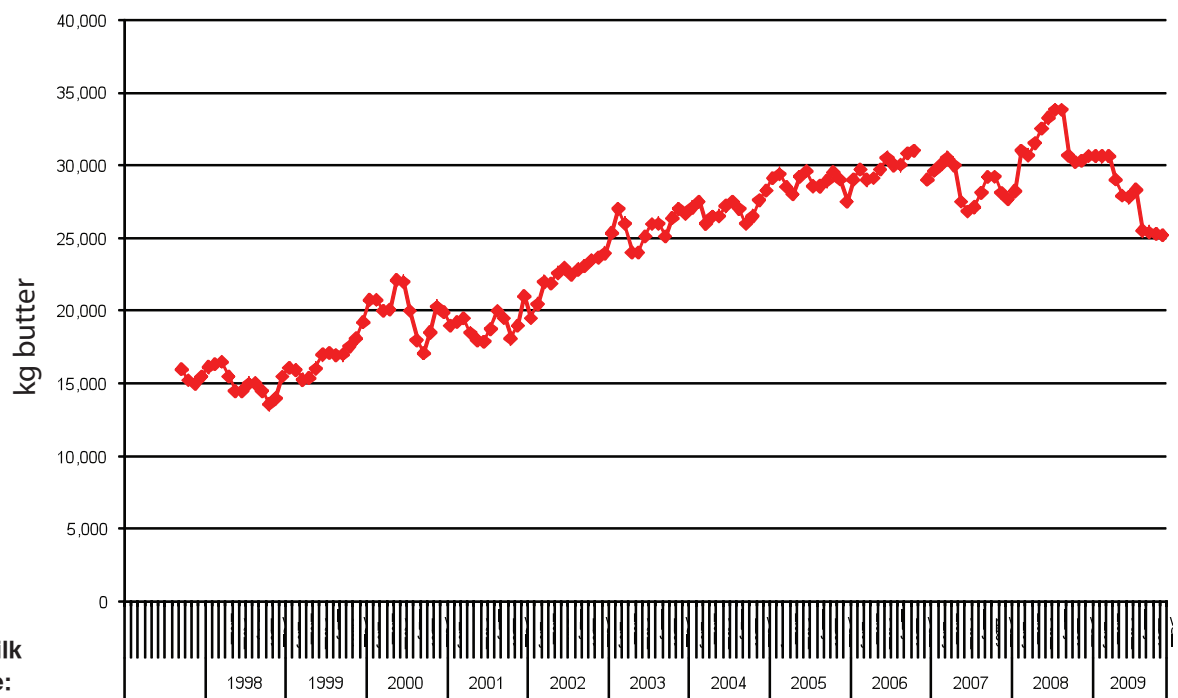


Figure 9-3. Ontario Milk Quota Values. Source: Dairy Farmers of Ontario

Conclusions

Supply management has generated significant benefits in terms of high and stable prices for producers who suffered under past conditions of market fragmentation and processor market power. With this corrected, supply management is faced with serving a next generation of stakeholders and market demands. In so doing, it must engage issues of slow growth in the domestic market, a very limited and non-growing export market, capitalization of system benefits into asset values, substitution of Canadian products by imports and new products, and difficulty in aligning with downstream customers. The high cost of entry has driven inequity between existing producers and those wishing to enter supply managed production. Finally, the regulatory system backing supply management is challenged in facilitating innovation in the value chain.

References

- Biggs, Everett. 1990. *The Challenge of Achievement: The Ontario Milk Marketing Board's First 25 Years of Operation-1965 to 1990*. Mississauga, Ontario: Ontario Milk Marketing Board.
- Goldfarb, Danielle. 2009. *Making Milk: The Practices, Players, and Pressures Behind Dairy Supply Management*. The Conference Board of Canada. November.
- Mestern, H.J. 1972. "The Evolution of Supply Management in the Canadian Dairy Industry", *Canadian Farm Economics* 7(5), 12-16.
- Scullion, Erin. 2006. *The Canadian Dairy Commission: a 40-Year Retrospective*. Ottawa: Canadian Dairy Commission.

10. Canadian Agricultural Policy in International Context

by Al Mussell and
Tesfalidet Asfaha

PREVAILING THOUGHT: CANADA DEVELOPS ITS AGRICULTURAL POLICIES TO BE CONSISTENT WITH ITS KEY COMPETITORS, WITH ACCOMMODATION TO ADDRESS ITS ISOLATED SENSITIVITIES.

Findings

- ❑ Canada's agricultural policy is consistent in scope with its key competitors.
- ❑ Countries support agriculture if they have the means to do so, and where this support is consistent with international trade marketing strategies. As an illustration, the large domestic markets of Europe and the US offer extensive support compared with Australia and New Zealand, which depend more heavily on exports. Canada falls somewhere in between.
- ❑ Environmental protection and sustainability is a core component of agricultural policy in both developed and less developed countries.
- ❑ Many countries present dichotomies in their agricultural policies. For example, some subsets of agricultural industries are protected even though others are heavily market-oriented.
- ❑ Canadian agricultural policies contain certain contradictions:
 - ❑ Canada is heavily oriented toward agricultural exports, but its PSE (producer subsidy equivalent) exceeds that of most comparable nations by a significant margin.
 - ❑ Agricultural policies in Canada are not strongly aligned with the country's broader economic policies, as they are in other large exporting nations such as New Zealand, Australia, Chile, or Brazil.
 - ❑ Agri-environmental policies in Canada are not as closely aligned with either agrarian landscape or sustainability goals as those of some of its key competitors.
 - ❑ Canada publicly funds agricultural research and inspection services, rather than sharing these costs with industry, which some of its export competitors do.

PUBLIC POLICY QUESTION: ARE CANADA'S AGRICULTURAL POLICIES ADAPTING AND EVOLVING TO MEET THEIR DISTINCT NEEDS?

Introduction

Agricultural policies are developed to exert public influence on a range of agriculture and food issues. These issues include marketing regulations, border measures that affect export/import flows, research and development, food safety and inspection rules, natural resource/environmental initiatives, and the income support/stabilization of producers. The ways countries prioritize and implement agricultural policies shape their foreign policies, provide evidence of trends in public action, and demonstrate policy instruments and means of implementation that others can learn from. It is important that export-oriented countries like Canada understand the international agricultural policy environment.

Purpose

By understanding agricultural policies in competing nations, Canada can remain current and competitive in both domestic and international markets. This understanding will also help Canada anticipate needs and opportunities in policy development. This paper provides an overview and survey of agricultural policy trends in Canada and among its key competitors.

Approach

To provide some perspective on international agricultural policy, this paper examines:

- ❑ Canada's key competitors in agri-products.
- ❑ Common elements and aspects of agricultural policy.
- ❑ Essential factors characterizing national agricultural policies.

Data and Analysis

Canada competes with a range of countries in foreign and domestic markets. In grains and oilseeds, its principal competitors are the US, Australia, Europe, and South American countries. In meats and dairy, its competitors are largely drawn from these same regions, along with New Zealand. Canada's

competitors in horticultural products are the US, New Zealand, South America (especially Chile) and, increasingly, China. At the same time, the prospect of increasing incomes and a developing middle class in China makes it an important prospective market for many products. To examine policy trends among Canada's competitors, the following regions are considered: the US, the EU, Australia, New Zealand, Brazil, China, and Chile.

Given that agricultural policies can vary sharply in intent and implementation, a common format is required to view and interpret policies from other countries. The following framework is adapted from one applied by the OECD (2009):

1. Identify the apparent objectives of agricultural policies.
2. Identify the instruments used to implement policy objectives.
3. Observe the producer subsidy equivalent (PSE) associated with policies employed in a country (as estimated by OECD), along with the basic structure of the PSE. A PSE measures the extent of government support in agriculture, converting the range of mechanisms of support to producers into a subsidy equivalent.
4. Observe the general trade orientation of the region, which provides additional context for policy development and implementation. The design and subsidy equivalents of the agricultural policies of various regions can be related to their status as trading nations, and to their policy objectives.

The sections below provide a brief overview of agricultural policies in the countries identified above; the essential aspects of the discussion are summarized in Table 10-1.

Canada

Contemporary agricultural policy formulation in Canada is a shared responsibility between federal and provincial/territorial levels. Under this framework, legislation supports a range of policies at federal, provincial, and territorial levels. Federal legislation provides for national supply management schemes

in dairy, eggs, and poultry, and encompasses the Canadian Wheat Board. Federal legislation also covers federal agricultural research stations, agencies that supply farm credit, agri-environmental services, and food inspection/grading/handling services. Provincial legislation covers commodity marketing boards, provincial food inspection, provincial agricultural research stations, environmental regulations and extension services.

Increasingly, agricultural policies are based on programs implemented under joint Federal-Provincial-Territorial agreements. The first of these was the 2003 Agricultural Policy Framework (APF). The APF presented a new model for agricultural policy in Canada. It established committed funding for a range of initiatives over a five-year period, and streamlined the federal government's farm business risk management (BRM) program. Under the APF, five-year funding commitments were established for five priority policy areas. These areas are defined as BRM, science and technology, environment, renewal, and food safety/quality (AAFC, 2003). Under the BRM pillar, federal-provincial BRM programs were consolidated into a single whole-farm, margin-based Canadian Agricultural Income Stabilization (CAIS) program, which operated in tandem with crop insurance. Subsequent to the APF, federal and provincial initiatives were established to provide support and mandates for biofuels.

A second omnibus agricultural policy program, Growing Forward, was established in 2008. It is largely a renewal of the APF, with some programming changes. Under BRM, CAIS was rebranded as AgriStability, programming was extended to include a farm saving subsidy program, AgriInvest, and crop insurance was rebranded as AgriInsure. Ad hoc catastrophic risk programs were streamlined under AgriInsure. Support was broadly retained under the areas identified in the APF. Market price support mechanisms were retained under the Canadian Wheat Board and supply management systems.

Table 10-1 shows that, for 2006-08, Canada had a PSE associated with its agricultural policies of 18% of farm cash receipts. This is driven mostly by commodity-specific support, owing almost exclusively to dairy, poultry, and eggs.

United States

The US Agricultural Adjustment Act was implemented in 1933, providing the first basic legislation governing U.S. agriculture. Its main purpose was to stabilize agricultural supply and prices through government purchases of excess stocks (European Commission, 2005). This provided price support by eliminating excess supply in the market. According to the European Commission (2005), government assistance to agriculture in the US has not changed much since the Act was implemented. It was replaced by the Food and Agriculture Act in 1965, on account of the rising cost of the policy and the declining farm population in the US.

While several components of the previous policy remained unchanged, the 1965 Act introduced some measures favouring the open market. The "Farm Bill" in the US authorized a range of programs in addition to price support, such as food security, food inspection, and agricultural research. In the 1980s, as the US government faced large budget deficits and burgeoning government stocks of program commodities, its agriculture policy moved toward greater market orientation. However, price support and supply control remained core elements of this policy.

By 1994, balancing the federal budget was a high priority for the US government. The 1996 Federal Agricultural Improvement and Reform (FAIR) Act called for \$13.4 billion to be cut from farm budget outlays over a seven-year period (EC, 2005). This Act was considered a turning point in US farm policy, and was a significant step toward increased market-orientation (AAFC, 2006). Targeted, price-based deficiency payments for individual commodities were removed and replaced by production flexibility contract (PFC) payments, an income support-based system. The Act eliminated milk price supports through direct government purchases, and removed the supply control elements of past programs (Tweenten and Zulauf, 2008). As a result, price support declined in importance in US farm policy relative to income support programs (Normile, Effland and Young, 2004).

However, the Farm Security and Rural Investment Act of 2002 (also known as the 2002 Farm Bill) reintroduced counter-cyclical payments to help US farmers deal with increased competition and depressed global agricultural prices (AAFC, 2006; OECD, 2007). The Act subsidized the production of cereals, rice, upland cotton, oilseeds, peanuts and pulses (OECD, 2007). It increased funding for environmental goods and services, supported ethanol production through tax credits and import tariffs, and provided interest concessions, fuel tax concessions, payments for natural disasters, and payments for grazing and irrigation.

The 2002 Farm Bill expired in September of 2007 and was replaced by the Food Conservation and Energy Act (FCEA) of 2008, a five-year agricultural policy (2008-2012). According to the OECD (2009a), the new Act is a continuation of the 2002 Farm Bill. It sustains the long history of agricultural support measures in the US, and provides little progress toward market orientation. Additional initiatives in the Bill include increased funding for the Food Stamp Program, which provides food to low- and no-income US families, and increased support for the production of cellulosic ethanol (OECD, 2009; USDA-ERS, 2010).

As shown in Table 10-1, the PSE for US agricultural policy is 10% of farm cash receipts, focused on sugar, dairy, poultry and eggs within commodity support. In historical terms, the subsidy is low, and is largely the result of high market prices for grains and oilseeds rather than because of a change in program design. By contrast, since the early 2000s the US has seen PSEs of up to 20%, where commodity-based programs were a much higher proportion of PSEs and a broader range of commodities registered commodity-specific PSEs.

European Union

The Common Agricultural Policy (CAP) provides a set of rules for governing agriculture in EU member nations. The CAP was initiated in 1962 and remained unchanged for many years. In recent periods there has been accelerated evolution in the CAP. The primary objectives of the original CAP in 1962 were to:

- ❑ increase agricultural productivity.
- ❑ ensure a fair standard of living for farmers.
- ❑ stabilize markets.
- ❑ guarantee regular food supplies.
- ❑ ensure reasonable prices to consumers (USDA-ERS, 2008).

In the mid-1990s, significant reforms were made to the substances of the CAP (USDA-ERS, 2008). The first reform was adopted in 1992 and implemented in 1993/94. It was intended to limit increasing production surpluses and promote free agricultural trade by replacing commodity-based support with a new supply and direct payments program. Another major fundamental reform of the CAP came in 2003, when subsidy payments were decoupled from current production. These new support payments – known as Single Farm Payments (SFP) – varied by commodity, did not affect production levels, and were based on 2000–02 historical payments (USDA-ERS, 2008). The SFPs were subject to cross-compliance with certain environmental programs. The 2003 reform made more program funds available for environmental quality, land management, animal welfare, and food safety/quality.

As a continuation of the 2003 reform, several commodity-related reforms were made between 2004 and 2008. These reforms involved decoupling payments based on historical payments and compliances with EU regulations for cotton, tobacco, olive oil, bananas, fruit, vegetables, and sugar (USDA-ERS, 2009; OECD 2009a). In 2005, for instance, EU agriculture ministers announced plans to cut the intervention price for sugar by 39% over four years starting in 2006, in order to make it more effective and reduce production to sustainable levels (EC, 2007). The 2008 Health Check reform was due to be implemented in 2010. It includes the elimination of compulsory supply control through land set-asides, cereal intervention schemes, the phasing out of milk production quotas (OECD, 2009a) and other, more recent, reforms. Health Check also calls for adjustments to a set of preconditions relating to the environment, animal welfare and food quality.

Overall, EU agricultural policies have evolved toward fewer impediments to trade, reduced domestic support, and more coupling of farm support with environmental and rural landscape objectives. Food inspection has also increased in significance, as has funding of agricultural research, allowing EU countries to be more competitive under reduced protection. Finally, in practice, EU policies are somewhat flexible for member countries, since the EU has expanded on multiple occasions, and new members have different needs and resources than incumbent members. This situation also has the effect of making EU budgets and presumably the associated programming more disciplined.

As shown in Table 10-1, the most recently available OECD information (2006-08) estimates a 27% PSE for the EU, based largely on non-grain/oilseed commodities. This is influenced by recently high commodity prices, in addition to CAP reforms. For example, as recently as 2004 the PSE was 35%, with over half of the PSE coming in commodity-specific payments. The EU is a large net importer of agri-food products.

Australia

Australia brought in a unified farm policy in the mid 1970s, following the introduction of the Rural Reconstruction Scheme (RRS) in 1971 (Botterill, 2003). The focus of the RRS was on structural adjustment and the restoration of economic viability to farmers with the requisite capacity. The RRS was replaced by the Rural Adjustment Scheme (RAS) in 1976 with a similar structure and objective, along with a household support program for farmers leaving the land. In this period, Australia also initiated risk management programs, supply management schemes in the dairy industry, and buffer stock and reserve price schemes in the wool industry (AAFC, 2007a). RAS reforms were made in 1985, 1988 and 1992. The successive RAS reforms focused on increasing farm productivity rather than direct income support, and many aspects of Australian agriculture were deregulated. As a result, in the 1980s and 1990s Australia evolved to a more market-oriented agricultural policy (Botterill, 2003; AAFC, 2007).

The Agriculture Advancing Australia (AAA) program, which replaced RAS in 1997, was designed to help the Australian farm become more competitive, sustainable, and profitable (AAFC, 2007a). The AAA programs provide the following:

- ❑ Funding for business and natural resource management training and education.
- ❑ Support for industries undergoing change.
- ❑ Financial management tools.
- ❑ Financial information and referral.
- ❑ Funding for professional advice, skills development and training.
- ❑ Assistance for farm families in serious financial difficulty (up to \$55,000).
- ❑ Improved access to markets.

Recently, Australia developed a Farming Futures initiative to help primary producers adapt and respond to the impacts of climate change by providing funding through its AAA programs (Australian Government, 2009). Other major initiatives and policy priorities in 2006–08 included strengthening water policy reforms and environmental programs, and enhancing bilateral and regional trade policies (OECD, 2009a). The Australian agricultural policy is now highly market-oriented, with little government support from budget-financed programs, regulatory arrangements, and tax concessions. Since the deregulation of the dairy sector in 2000, agricultural commodity price support has all but disappeared (OECD, 2009a).

As shown in Table 10-1, the PSE for Australia in 2006-08 is estimated by the OECD at 6% of gross farm receipts. Within this relatively low PSE, commodity specific payments are negligible. Since the reforms of the 1980s, Australian PSEs have hovered below 10%. The proportion of PSE due to commodity-specific payment has declined sharply since the late 1990s, and has remaining low since 2000. During the past 10 years, Australia has consistently been a large net exporter in agri-food.

New Zealand

New Zealand initiated policies supporting agriculture in the late 1960s. By the early 1980s, New Zealand had a range of programs protecting and regulating

agriculture, including deficiency payments for farm commodities, input subsidies, and pastoral assistance. These policies included an extensive use of producer marketing boards in agricultural marketing. Environmental programming existed, but had no direct link to mainstream agricultural policy (New Zealand MAF). Low world prices for many farm products in the early 1980s generated large expenditures on farm programs; the PSEs for New Zealand agricultural policy in the period 1980-84 grew to over 30% (New Zealand MAF). In 1984, New Zealand went through far-reaching reforms that largely de-regulated agriculture. Market price and input subsidies were substantively removed, and tax incentives for farmers were withdrawn. At the same time, the New Zealand currency appreciated. As a consequence, farm incomes in New Zealand fell from the mid to late 1980s. In the 1990s, reforms of regulated marketing were implemented that sharply reduced the extent and effect of marketing boards, and thus liberalized agricultural marketing.

Since these reforms, New Zealand's agricultural policies have focused on innovation and environmental stewardship. The innovation policies mainly facilitate private initiatives. The government matched industry research funding and cooperated with industry to undertake a cost-shared provision for food inspection. Government assistance is also used to identify target markets and help industry obtain export market access (AAFC, 2007b). Initiatives are also in place to protect environmental resources, specifically sustainable farming practices and public natural resource management. As well, New Zealand maintains a precisely defined and austere safety net program to mitigate the effects of natural events on farm incomes (AAFC, 2007b).

Table 10-1 shows that in 2006-08, the PSE for New Zealand was 1% of gross farm receipts. This is the lowest among OECD countries. New Zealand is a major net exporter of agri-food products, and its agricultural policies are designed accordingly.

Brazil

In the late 1980s, Brazil dissolved the Import Substitution Strategy (IMS). Beforehand, the

objectives of the Brazilian agricultural policy had been to promote food self-sufficiency, and to provide credit, price and investment support to the sector (OECD, 2005). In the 1980s, the IMS model was abolished and replaced with a strategy of liberalization. From 1985 to 1995, deregulation became the focus of agricultural policies. In the 1990s, Brazil reformed its agricultural policies and shifted to a more market-oriented approach (OECD, 2005), reducing price supports and subsidized credit. As a result, the cost of agricultural support to the overall economy is among the lowest among OECD countries.

Between 1995 and 2005, due to the prevalence of high levels of poverty and income inequality, land reform programs and family farm income support were key policy goals in Brazil. The government introduced the Programme for Strengthening of Family Agriculture (PRONAF), which provided policies targeting small farms and the rural poor with subsidized credit, training and extension, and the promotion of value-added activities. In 2003, the Zero Hunger Program and the Second National Agrarian Reform Plan were implemented. Collectively, these programs focused on farm family income support and the alleviation of hunger and poverty (OECD, 2009b).

The current objectives of Brazilian agricultural policies are to promote economic development, environmental sustainability, income growth and equality, and competitiveness (OECD, 2005; 2009b). To those ends, the government maintains a diverse system of price guarantees, deficiency payments, and support prices. Price support is also affected by import tariffs. Recently, the government launched programs that provide for subsidized credit, environmental goods and services, infrastructure development, biofuel blend standards, land reform and territorial development and trade policies (OECD, 2009b). The PSE for Brazil in 2005-07 was 6% of gross farm receipts, as shown in Table 10-1. Just over half of this PSE comes from commodity-specific payments, mostly for rice, cotton, corn, and wheat.

China

In 1978, China moved from a centrally planned economy toward a socialist market economy.

Since then, its agricultural policies have undergone fundamental changes. The country undertook successive reforms of agricultural policies to create a more market-based economy and stronger competitiveness. The country needed these reforms in order to face the increased competition that followed the opening of its domestic markets (OECD, 2005; AAFC, 2005). The policy reforms were accelerated in the 1990s, with growing attention paid to ensuring food security, reducing rural-urban income disparities, and improving food safety and environmental protection (OECD, 2005; OECD, 2009b). This period also saw substantial market deregulation and an easing of price controls.

Agricultural policy in China responds to changing circumstances (e.g., China implemented several policies when food prices surged in 2007 and 2008 to protect poor consumers), but the general direction of policy can be described as follows. In the early 1990s, food security was the focus and policies were aimed at ensuring an adequate supply, particularly of grains. In the late 1990s and early 2000s, the rising income disparities between rural and urban areas and between developed and underdeveloped rural areas grew in importance. In 1997, several measures were adopted to improve food safety. Between 1998 and 2005, environmental protection (sustainable use of land and water resources), and support for rural income were major elements of agricultural policy, while food security and strengthening competitiveness continued to be of high priority (OECD, 2005; OECD, 2009b).

Today, the goals of China's agricultural policies include achieving food security through self-sufficiency in grain production and doubling the incomes of rural households. As well, these policies are intended to make improvements in several areas, including food safety, agricultural competitiveness, environmental sustainability, and social and technical infrastructure in rural areas (OECD, 2009b). The instruments of achieving these objectives include price supports based on border measures and government floor price schemes for rice and wheat. They also include subsidies for livestock production, input subsidies for agronomic products, and payment to remove acreage from production. Table 10-1 shows that for 2005-07, the PSE for China was estimated by

OECD at 9% of gross farm receipts. About 32% of the support comes from commodity-based payments, mostly for cotton, sugar, and corn.

Chile

Since the Pinochet dictatorship ended in 1990, Chile's agricultural policies have evolved as a component of the country's economic development policy. Within the broad objective of national economic development, agricultural policies are intended to provide for the development of small holder agriculture, and to protect the sustainability of natural resources (OECD, 2009b). In doing so, agricultural policies are shaped by Chile's open trade regime and available government budgets.

First, with regard to trade, Chilean tariff rates range up to about 6%; under trade agreements tariffs are commonly lower than 6%. This puts an effective ceiling on producer price protection of 6% (OECD 2009b). Within this envelope, some direct payment schemes have been used and are targeted toward small farms. One exception to limited producer price support is a set of programs referred to as the "price band system." They provide for producer price supports for wheat, sugar, and vegetable oils. After multiple trade disputes, this system is being reformed and now has less impact (OECD, 2009).

Second, budgeted public funds have been directed to building infrastructure by subsidizing inputs, and into redistribution and competitiveness improvements for small farms. Government programs provide funding in several ways, including irrigation investments, crop insurance riders, credit, capital projects that improve the capacity of small farms, and extension training to increase the human capital stock in small holder agriculture (OECD 2009b).

Third, funding is provided for environmental sustainability, with some targeting of small holder agriculture. For example, the Soil Recovery Program is used to improve soil quality and fertility, including the provision of fertilizer.

Table 10-1 shows that Chile has a very low PSE of 4% of gross farm receipts. In 2005-07, 29% of the PSE was obtained from commodity-based payments,

Table 10-1. Agricultural Policy Overview; Alternative Countries

	Canada	U.S.	E.U.	Brazil
Principal Policy Objectives	Income stabilization/ support Environmental sustainability Market development	Producer income support/stabilization Environmental sustainability Biofuel development Rural development Food security/aid	Producer income support/stabilization Preservation of agrarian landscape Environmental protection Competitiveness	Economic development Producer stabilization/support Environmental sustainability Rural social policy
Principal Instruments	Income stabilization via AgriStability, AgriInvest, AgriInsure, and AgriRecovery Market price support via supply management, CWB, provincial programs Environmental programming Research and innovation Market development Biofuels support Regulatory/inspection	Income stabilization/support via marketing loans, direct payments, countercyclical payments, crop revenue protection of field crops Border protection and support prices for sugar and dairy; export subsidies for dairy Land conservation and environmental programming Biofuels support Domestic food assistance Foreign food aid Regulatory/inspection Agricultural research	Direct payments based on historic production Market price support via deficiency payments for cereals, supply control and import protection in sugar and dairy, and border protection for livestock, horticulture, poultry and eggs Rural development assistance and environmental programs Mandated cross-compliance of support with environmental programming Biofuels support Regulatory inspection Agricultural research	Floor prices, with preferential access to small farms Deficiency payments Buffer stock programs Subsidized credit Agricultural extension and training for small farms Technical assistance-environment Biofuel tax incentives and mandates Border protection measures
PSE	18% of farm cash receipts ^a	10% of farm cash receipts ^a	27% of farm cash receipts ^a	6% of farm cash receipts ^b
PSE Structure	Single commodity transfers 61% of PSE; focused on milk, poultry, eggs	Single commodity transfers 29% of PSE; largely sugar milk, poultry, eggs	Single commodity transfers 42%; mainly sugar, livestock, poultry, corn	Single commodity transfers 53%; driven by rice, cotton, corn, and wheat
Agri-food Trade Balance	Large net exporter	Net exporter	Net importer	Large net exporter

	China	Australia	New Zealand	Chile
Principal Policy Objectives	Rural economic development Grain self-sufficiency Rural infrastructure development Environmental protection	Innovation in ag sector Adaptation to climate change Drought preparedness/recovery	Innovation in ag sector Environment/water protection	Improved agricultural competitiveness Rural economic development Environmental sustainability Bioenergy development
Principal Instruments	Price supports based on border measures Floor prices for rice and wheat; government grain reserve stocks Direct payments on corn, wheat, and rice acreage Input subsidies on fertilizer, seed, and machinery Incentive payments to retire acreage Livestock subsidies Regulatory and inspection services	Income stabilization through income tax and Transitional Income Support program; cross compliance requirement Funding of HR development Matching research funding Climate change research and adjustment programs	Agricultural research, producer match funded Biosecurity protocols Regulatory and inspection services, industry cost-shared	Price support based on border measures Input subsidies on irrigation, management training, soil conservation, and credit Rural development programs Regulatory and inspection services Agricultural research
PSE	9% of gross farm receipts ^b	6% of gross farm receipts ^a	1% of gross farm receipts ^a	4% of gross farm receipts ^b
PSE Structure	32% commodity based transfers; largely cotton, sugar, corn, lamb, and soybeans	Very low commodity-based transfers Dominated by input subsidies and all-commodity transfers	58% commodity based transfers to poultry and eggs Input subsidies	29% commodity based, mostly transfers to sugar, wheat, and beef
Agri-food Trade Balance	Recent net importer; has been net exporter	Large net-exporter	Large net exporter	Large net exporter

^a 2006-2008 period; ^b 2005-2007 period. Source: OECD (2009a, 2009b)

mostly for sugar and wheat. It is likely that this reflects past effects of the price band system.

Observations and Conclusions

From country to country, agricultural policies are diverse and operate in a range of very different environments. At the same time, many common elements are evident. For example:

- ❑ Most countries have programming in place for farm income support/stabilization, research/innovation, food inspection/safety, and the environment.
- ❑ The extent of farm income support/stabilization and price support programs in agricultural policies appear related to the level of economic development and general agricultural trade orientation of a country. Among the wealthy regions observed in the sample, the US, EU, and Canada maintain material income support/stabilization/market price support programs as implied by their policy PSEs. In contrast, Australia and New Zealand do not offer material support programs. Australia and New Zealand are heavily dependent upon trade, while the US and EU both have very large domestic markets. Canada appears to fall somewhere in between.
- ❑ Agricultural policy is seen to be an element of broader economic development and rural development in lesser developed countries (Chile, Brazil, China) and in developed countries that are large net exporters (Australia and New Zealand). In other words, in these countries agricultural policies are integrated with economic policy. Elsewhere, it is not clear that agricultural policies are closely connected with broader economic policy.
- ❑ From country to country, environmental

programs are developed to varying degrees, but it is clear that the environment is a core component of agricultural policy.

- ❑ Developed countries that are significant net exporters tend to see themselves as enablers of private sector initiatives, and utilize cost-share programming in lieu of direct financing of initiatives. Australia and New Zealand exemplify this approach.
- ❑ Dichotomies exist in the agricultural policies of many countries. For example, in certain cases some subsets of industries are protected even as others are heavily market-oriented.

In this context, Canada emerges as a nation with agricultural policies containing certain contradictions. It is heavily oriented toward agricultural exports, suggesting that income support/stabilization and commodity-based transfers should be low, in both an absolute and relative sense. Instead, Canada has a PSE that exceeds most of these countries by a significant margin, due largely to commodity transfers to dairy, poultry, and eggs. It is also not evident that agricultural policies are strongly aligned with broader economic policy in Canada, as economic development of rural areas or regions is not well defined in agricultural policies. This is in contrast to New Zealand, Australia, Chile, and Brazil, which are oriented toward exports but root agricultural policy in national economic development policy. Canada's initiatives in environmental policy appear consistent with that of its key competitors, but it is less clear that the environmental aspects of its agricultural policy are closely aligned with either agrarian landscape goals (as in the EU) or agricultural sustainability goals. Finally, Canada has elected to retain public financing of agricultural infrastructure, such as research and inspection services, rather than sharing these costs with the private sector.

References

AAFC (2003). *Overview of the Agricultural Policy Framework*. Retrieved Feb. 16, 2010 from: <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1183142019494&lang=eng>

AAFC (2006). Next generation of Agriculture and Agri-food policy: *Policy directions in other countries. Agriculture and Agri-Food Canada*. Retrieved Jan. 5, 2010 from: <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1201201969749&lang=eng>

AAFC (2007a). *Australia Agriculture Policy Review*. Agriculture and Agri-food Canada, Project No. 07-048-b

AAFC (2007b). *New Zealand Agriculture Policy Review*. Agriculture and Agri-food Canada, Project No. 07-050-b

Australian Government (2009). *Agriculture Advancing Australia*. Department of Agriculture, Fisheries, and Forestry. Retrieved Jan 11, 2010 <http://www.daff.gov.au/agriculture-food/aaa>

Botterill, Linda (2003). *From Black Jack McEwen to the Cairns Group Reform in Australian Agricultural Policy*. National Europe Centre Paper No. 86. Australian National University.

European Commission (2005). *MAP: Monitoring Agri-trade policy*, Directorate general for Agriculture and rural development, No. 01-05 March 2005.

European Commission (2007). Sugar reform: Council backs improved sugar restructuring scheme. Press release, Brussels, 26 September 2007, European Commission, Agriculture and Rural Development. Retrieved Jan. 6, 2010 from: http://ec.europa.eu/agriculture/capreform/sugar/index_en.htm.

New Zealand Ministry of Agriculture and Forestry. 1996. *The Environmental Effects of Reducing Agricultural Subsidies: the New Zealand Experience*, paper prepared for the OECD seminar on the Environmental benefits of sustainable agriculture, Helsinki, September 1996. Retrieved February 13,

2010. <http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/resource-management/environmental-effects-of-removing-subsidies/agref.htm>

Normile, M.A., Effland A., and Young, C.E. (2004). U.S. and EU farm Policy - how similar? In *U.S. – EU Food and Agriculture Comparisons*, USDA-ERS, WRS-04-05.

OECD (2005). OECD Review of Agricultural Policies: Brazil. Retrieved Jan 15, 2009 from http://books.google.ca/books?id=7V057RbSH_QC&dq=Brazil+Agricultural+Policies.&printsec=frontcover&source=bl&ots=OtWU9f-2yY&sig=H01cG07q395Bkh6UOPtPkAytDrs&hl=en&ei=VDxPS82WHoOI8Qbn2fieCg&sa=X&oi=book_result&ct=result&resnum=10&ved=0C4Q6AEwCQ#v=onepage&q=&f=false.

OECD (2005). OECD review of agricultural policies: China. Retrieved Jan 17, 2009 from http://books.google.ca/books?id=IMPZ0pdb8kC&dq=OECD+Review+of+Agricultural+Policies+China&printsec=frontcover&source=bl&ots=frW1VZusaj&sig=yXaNjCCNPfP4ppryTG7dRIP8U2A&hl=en&ei=PcFQS8ueJ-aA8Qbk3omZCw&sa=X&oi=book_result&ct=result&resnum=2&ved=0CA0Q6AEwAQ#v=onepage&q=&f=false

OECD (2007). *Agricultural Policies in OECD Countries: Monitoring and Evaluation*.

OECD (2009a). *Agricultural Policies in OECD Countries: Monitoring and Evaluation*.

OECD (2009b). *Agricultural Policies in Emerging Economies: Monitoring and Evaluation*.

Tweeten, Luther, and Carl Zulauf. 2008. "Farm Price and Income Policy: Lessons From History," *Agribusiness*, Vol. 24 (2) 145–160.

USDA-ERS (2008). *European Union: Common Agricultural Policy*. Retrieved Jan. 5, 2010 from: <http://www.ers.usda.gov/Briefing/EuropeanUnion/policy.htm>.

USDA –ERS (2010). *Farm and Commodity Policy*. Retrieved Jan 10, 2010 from <http://www.ers.usda.gov/Briefing/FarmPolicy>

