

[Canadian Agri-Food Policy Institute](#)

# Factors Affecting Current and Future Farm Income Prospects

## A Synthesis Report

*November, 2005*

### Farm Income Project

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## **Executive Summary**

CABI has undertaken one of the most comprehensive studies on the farm income situation in Canada and on the factors that affect farm income and the competitiveness of the agri-food sector.

Real (inflation adjusted) aggregate farm incomes have been declining for decades. However, the trend in nominal farm income (in the aggregate) is flat, slightly increasing, or slightly decreasing, depending on the starting point and end point chosen. Aggregate net farm income is an aggregate measure across all farms and all products produced.

This aggregate measure masks the dynamics of the farm sector, where farm numbers have been decreasing and average per farm net income has been increasing for many farms. As well, the number of commercial farms has been increasing, particularly those in the larger sales category.

Significant analysis was undertaken by many experts, through commissioning of twenty papers. Our synthesis of these reports through our June 2005 Farm Income Forum, and through our analysis identified nineteen key issues and success factors. There are three major themes that emerge from these key findings. These are:

1. Farm incomes in Canada are shaped by global forces, particularly prices for commodities that are determined in the global market place and are reflective of exportable supplies of low-cost exporters; these long-run market forces are beyond the control of farmers and Canadian government policy;
2. The farm sector has commercial business focused farms and many non-business focused entities; business management capability is necessary for business success; government policy has tended to take a one-size fits all approach versus recognition of the large number of smaller non-business focused farm operations; and
3. Government policy has focused on supporting incomes versus policies that support the business of farming; levels of government support and spending on R&D, innovation, and marketing and promotion, and regulations that affect the availability of essential inputs are not conducive to a business focused commercial agriculture.

The Canadian agri-food sector has an opportunity to respond to these challenges and key issues. Part of this response is to highlight the implications of these key issues and findings. These include the policy implications that are logical extensions of these findings. CABI is assessing the policy implications of what has been learned in this project. Another response is the implication of these findings on possible new strategic directions for the agri-food industry. CABI is also starting a project that will take these key issues and the associated policy implications as input into developing a number of possible strategic directions for the Canadian agri-food sector. A new strategic direction supported by industry and government can lead to initiatives that support a viable and competitive agri-food sector.

Addressing these key issues through a strategic planning and policy development process is critical to creating and maintaining a dynamic sector, which will attract our next generation of successful primary producers.

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### Preface

*This synthesis report summarizes the results of one of the most comprehensive studies undertaken on the farm income situation in Canada. This project is supported by many commissioned papers and input from agri-food sector stakeholders. A summary of the major findings is provided in the Executive Summary. A three-page version of the summary is found on page 60. For readers who want to review a longer list of major findings, this can be found on pages 55 to 58. These pages include comments received by CAPI at the Farm Income Forum held on June 13<sup>th</sup> and 14<sup>th</sup> 2005.*

*CAPI thanks the many individuals and organizations that assisted in the project. These include the experts commissioned to prepare reports, the CAPI Advisory Committee, the Farm Income Project Steering Committee members, and the stakeholders who gave their time and input through participation at the June Farm Income Forum.*

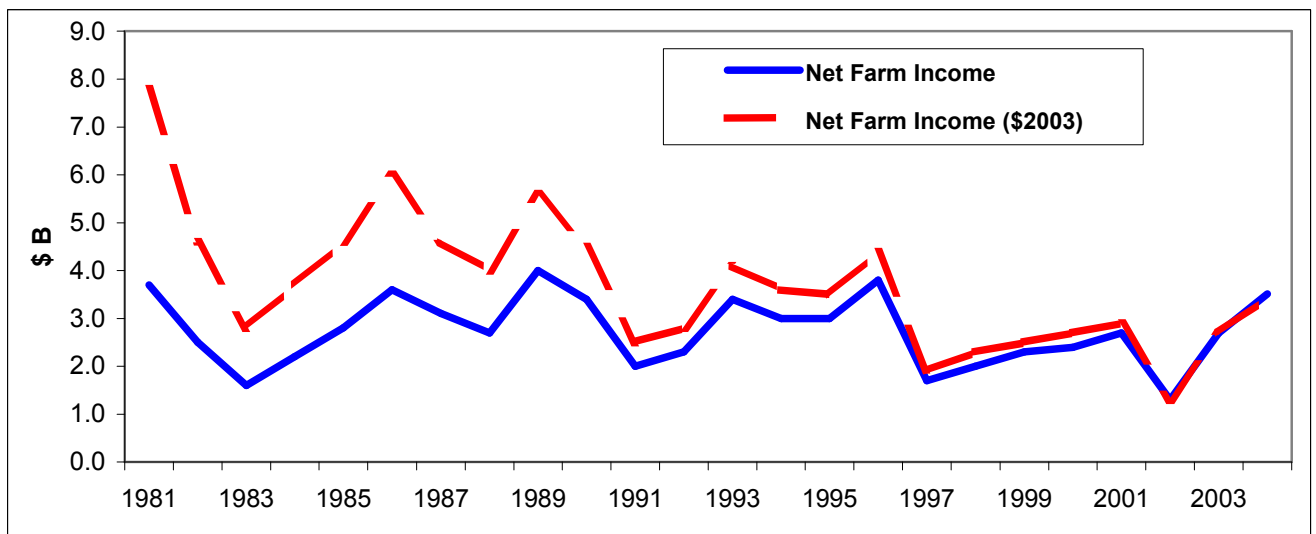
# 1.0 Introduction

The Canadian Agri-Food Policy Institute (CAPI) has undertaken a significant project on competitiveness of the agri-food sector and associated impacts on long term farm income prospects entitled *“Understanding Factors Affecting Current and Future Farm Income Prospects*. This project is one of the most comprehensive studies that has been undertaken on the factors affecting farm income prospects in Canada. As part of this project, CAPI commissioned twenty (20) papers that addressed factors affecting farm income prospects. A short summary of each of these papers<sup>1</sup> is provided in Annex I. The farm income issue in Canada is complex and is affected by numerous factors, and as a result although CAPI commissioned these 20 papers, some factors were not directly covered such as input prices and productivity. This farm income project is a situational analysis and accordingly it does not explicitly provide policy prescriptions. Implications of the findings in this situational analysis are being addressed in a subsequent CAPI project. This paper represents a synthesis of the major findings of the CAPI project.

## 1.1 Farm Income Trends

While the agri-food sector is an important part of the Canadian economy, the farm sector, or primary agriculture, has been facing a number of challenges. One of these is the overall decline in aggregate real (inflation adjusted) net farm income. An indisputable fact is that at the national level, farm incomes have been decreasing in real terms, whether measured since 1970, 1960, or 1950, and whether measured as net cash income, or as net realized income after accounting for depreciation of assets, or as a return on assets employed in the sector. The trend in aggregate farm income since 1981 is shown in Figure 1.1, highlighting the perennial nature of the farm income issue, and why farm income has been a concern for governments and a prominent feature of agricultural policy.

**Figure 1.1 Aggregate Net Farm Income Has Been Declining in Real Terms**



Source: Agriculture and Agri-Food Canada

<sup>1</sup> The titles and authors and a one-paragraph summary of these papers are listed in Annex I. These papers, as well as 2 page summaries of these papers are accessible on the CAPI web-site ([www.capi-icpa.ca](http://www.capi-icpa.ca))

Figure 1.1 also shows the trend in nominal (not inflation adjusted) net farm income. Depending on the starting point and end point chosen, one can argue that the trend in nominal farm income (in the aggregate) is flat, slightly increasing, or slightly decreasing. Aggregate net farm income is an aggregate measure across all farms and all products produced. It is measured by subtracting an aggregate estimate of expenses from an aggregate measurement of revenues received. As such it does not measure the financial performance of farms, or sub-sectors of the farming sector. Notwithstanding these weaknesses, aggregate measures of net farm income have been used, and are currently used to characterize the profitability of primary agriculture (i.e., farming).

## 1.2 Factors Affecting Farm Income Investigated by CAPI

It is clear that real net farm income, in the aggregate, has been decreasing. An important policy issue is whether this trend is universal across all farmers, or has the decline in farm numbers been larger than the decrease in aggregate net income, resulting in an increase in the net farm income for each of the remaining producers. Or, are some farm operations becoming more profitable, and other farm operations following the aggregate trend.

Equally important is to understand what are the factors and forces at play that have resulted in a decline in aggregate real net farm income. This can occur when expenses increase faster than revenue, and when revenue growth is influenced by lower prices received for products traded in a global marketplace.

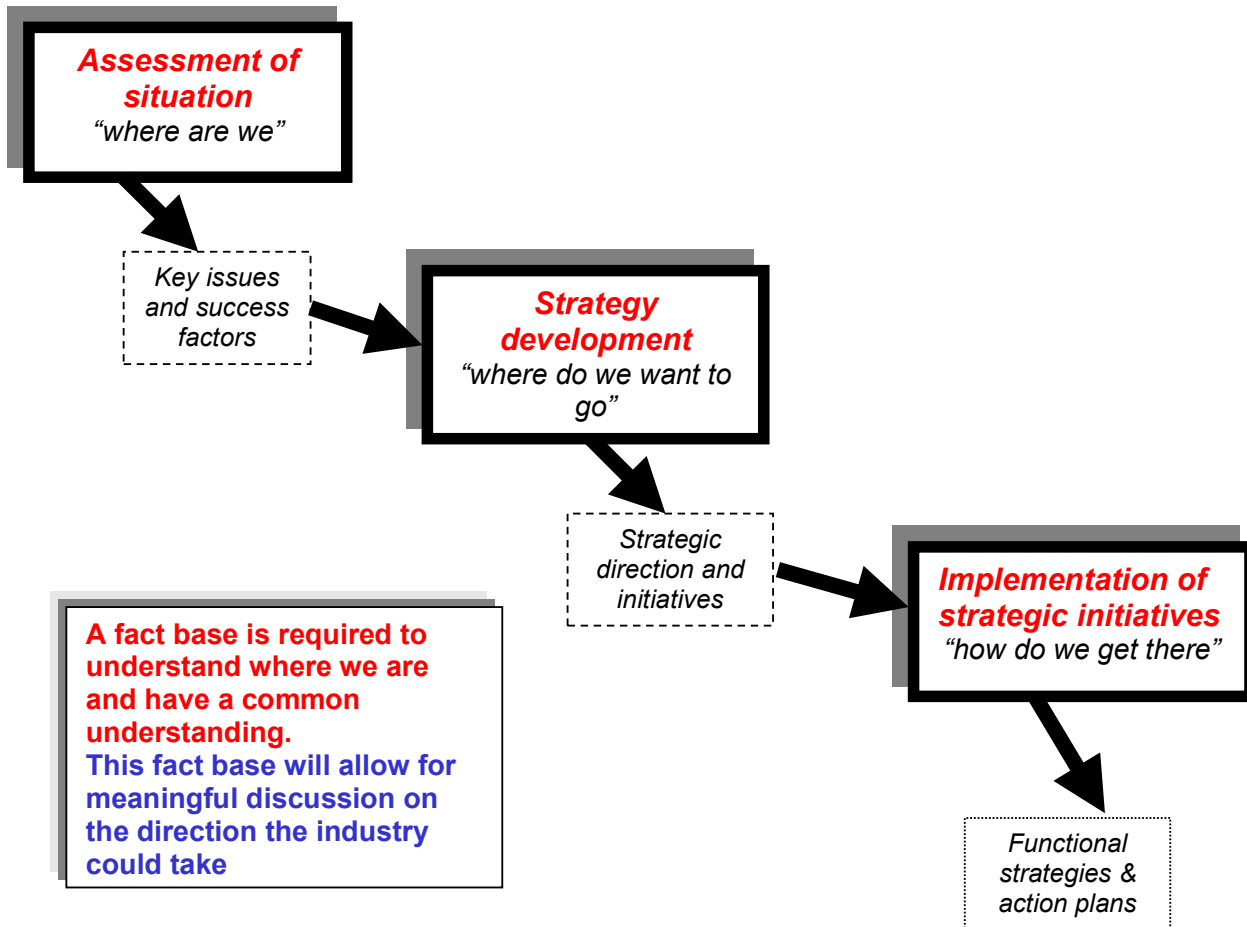
The CAPI farm income project<sup>2</sup> was guided by the objective of “*provide a fact-based analysis to significantly contribute to the policy dialogue, and stimulate discussion on the key issues affecting farm income prospects for the sector*”. The overall strategic context of this project is illustrated in Figure 1.2. A main part of the project activities are a situational assessment, to allow for a better understanding of where the agri-food sector is today regarding farm income prospects, and the factors affecting farm income prospects.

This situational assessment leads to the identification of key issues and success factors for the sector. The associated policy implications are being considered in a follow-on CAPI project.

Once these key issues, success factors, and associated policy implications are understood, a strategic direction for the sector can be contemplated, given a more complete understanding of the operating environment. In a subsequent project, CAPI plans to address the issue of strategic directions for the agri-food sector. These will be a logical extension of the key issues identified. This is part of the strategy development phase as shown in Figure 1.2.

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<sup>2</sup> The CAPI project included a number of activities ranging from commissioning of papers, to synthesizing results, to holding a roundtable with industry leaders, and presenting high-level findings to Ministers of Agriculture in July 2005.

**Figure 1.2 CAPI Farm Income Project in A Strategic Context**

The intended output of this CAPI project is to “enhance understanding of issues affecting farm income prospects leading to constructive dialogue of the evolution of Canadian farm policy and programming”. Our focus in this project has been on the situational analysis and on the identification of possible directions to assist in the development of strategy/policy for the sector.

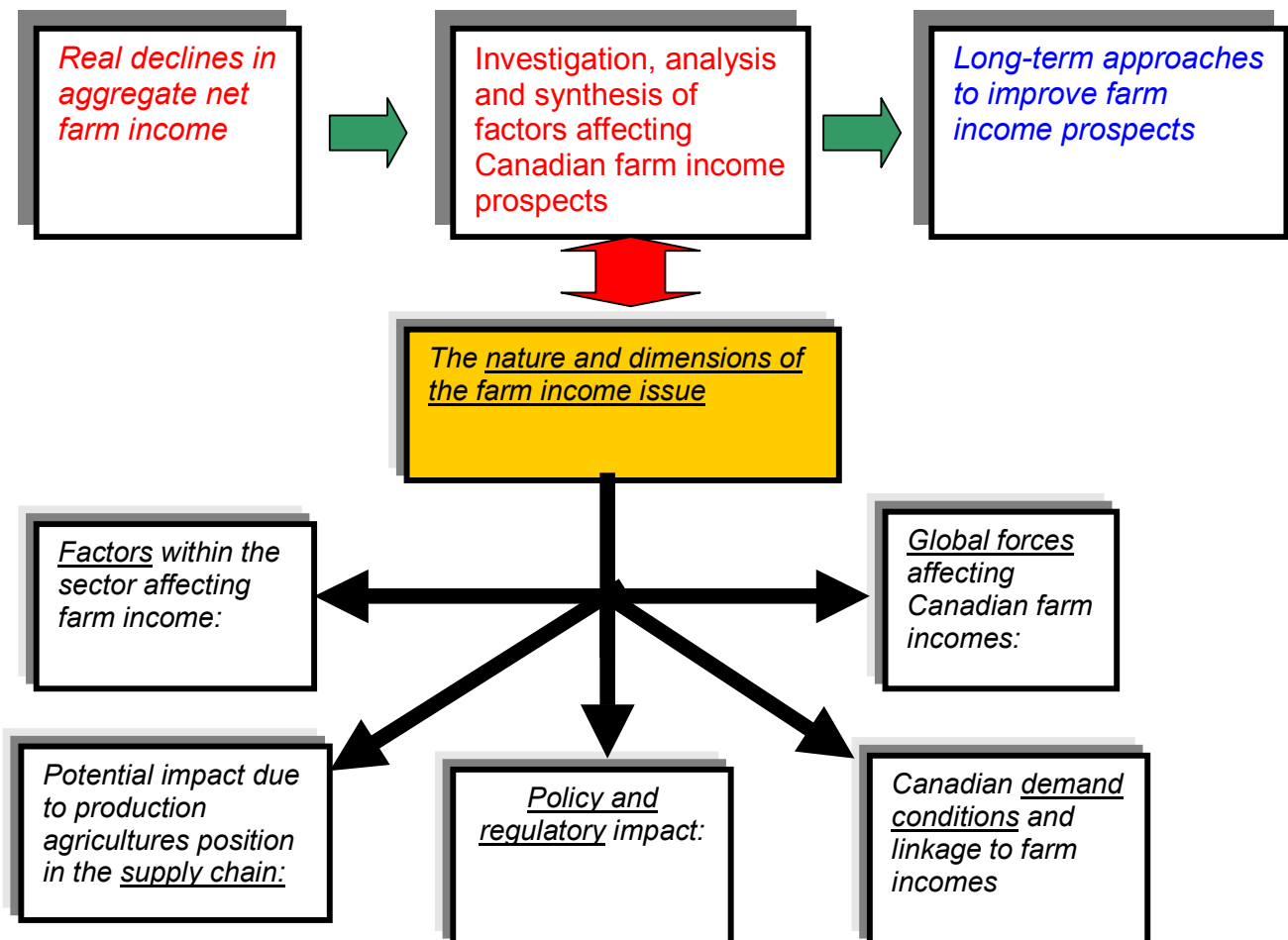
Issues associated with action plans and implementation are beyond the current scope of this current CAPI project. Implementation of resulting agreed upon initiatives typically are the responsibility of government, industry organizations, and individual enterprises in the agri-food sector. CAPI’s role is to stimulate dialogue and share information with stakeholders and policy makers.

The problem statement for the CAPI farm income project can be summarized as: what is the nature of the farm income issue and what are the contributing factors. In this context, the desire to find long-term approaches to improve farm income prospects is illustrated in the top three boxes in Figure 1.3 below.

There are six inter-related areas that have been identified as requiring investigation in the CAPI project. They include:

- ❑ The nature and dimensions of the farm income issue,
- ❑ Global forces affecting Canadian farm incomes,
- ❑ Canadian demand conditions and linkage to farm incomes,
- ❑ Any differential impacts due to production agriculture’s position in the supply chain,
- ❑ Factors within the agriculture sector that can affect farm income, and
- ❑ The policy and regulatory environment within which the sector operates.

**Figure 1.3 Inter-Relationship of Supply Chain Factors Affecting Farm Income**



These areas of investigation are closely linked to the determinants (broad factor areas) affecting farm income, which were identified in the integrating framework developed for this project (see also Annex II).<sup>3</sup> The papers commissioned by CAPI for this project were

<sup>3</sup> This framework is an extension of the national advantage or diamond framework developed by Michael Porter to assess and investigate national competitiveness and competitiveness of industries. This supply chain framework is illustrated in Annex II. The framework used has more detail in each of the boxes representing the supply chain and the determinants affecting supply chain competitiveness and farm income prospects.

designed to address factors affecting farm income based on the six inter-related areas listed above<sup>4</sup>.

Another important part of the farm income project was to share preliminary findings with a diverse set of stakeholders in the agri-food sector. Annex III provides more detail on the stakeholder Forum that was held on June 13 and 14 (2005) in Toronto. At the Forum, information from a subset of the commissioned papers was presented. The Forum provided valuable feedback to CAPI, which is being used in related CAPI projects on policy implications and on possible strategic directions for the agri-food sector. Over seventy (70) stakeholders provided valuable input to CAPI. The proceedings of the Forum are organized around specific feedback requested from the attendees<sup>5</sup>. The proceedings are also available on the CAPI website ([www.capi-icpa.ca](http://www.capi-icpa.ca)).

### **1.3 Organization of this Report**

This report is organized in the following manner. The next section (2.0) provides an analysis of farm income trends based on the papers commissioned in this area. Section 3.0 looks at Canadian farm income based on global forces affecting the farm sector. A number of market considerations and the resulting affect on farm income is the focus of section 4.0. In section 5.0 the farm sector is discussed in the context of the overall agri-food supply chain. Regulations and policies can have a significant impact on farm incomes, and this issue is highlighted in section 6.0, based on the papers that were commissioned on this topic. The resulting key issues and success factors affecting farm income prospects are provided in section 7.0. These key issues become the basis for the policy implications, which CAPI is exploring in a subsequent report. This synthesis paper concludes with a summary section.

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<sup>4</sup> While CAPI commissioned 20 papers covering areas and factors that affect farm income, a few areas and factors that affect farm income were not covered by this study. Areas not investigated by these papers includes topics such as the WTO negotiations and resulting agreement affecting agriculture and food, access to markets, the structure of markets within Canada, multinationals and the agri-food supply chain, state trading organizations, supply management, trends in productivity, and focus of government policy on distributive and efficiency issues.

<sup>5</sup> The proceedings contain responses to questions posed, such as: "What are the three takeaways you have garnered from this afternoon's presentations?"; "Do we have the right data?; What is missing from the papers presented?"; "In your opinion, what are the key findings from the papers presented in this section?," and "Suggestions for moving forward?"



## 2.0 Analysis of Farm Income

In this section we analyze farm incomes, its trends and associated issues. This analysis begins at the aggregate level and then continues on a farm level basis. At the end of the section information is provided on the importance of program payments and farm income.

### 2.1 Growth in Revenues and Expenses

A key determinant of net farm income trends is the relative change in revenues and expenses. While revenues have been growing in both Canada and the U.S.; in Canada expenses grew faster than revenues, while the opposite has occurred in the U.S. This is shown in Table 2.1.

**Table 2.1 Annual Revenue and Expenditure Growth, Canada and United States**

	1996 - 2003	1980-2003
<b>Canada</b>		
Revenue growth	3.1%	3.5%
Expense growth	4.2%	4.5%
<b>United States</b>		
Revenue growth	2.2%	2.4%
Expense growth	1.9%	2.1%

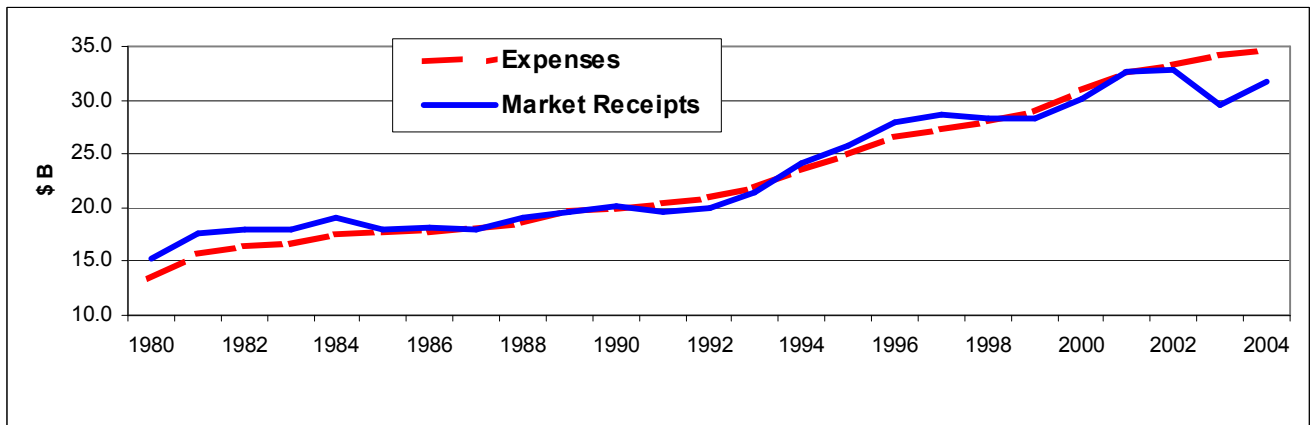
Source: Derived from Statistics Canada and USDA data, (Brinkman and Grenon)

This raises the question of whether the Canadian farm sector has a revenue problem, or an expense problem, in the context of the farm income trends observed in prior sections. If an expense issue, it should be noted that depreciation has decreased as a percentage of all expenses and is now 13 percent of expenses for the average farm, and interest costs have not been increasing. It can be observed that the aggregate costs of many inputs that are tradeable (affected by the value of the Canadian dollar) have increased by over 300 percent. While commodity prices that are traded in global markets have increased with the lower valued Canadian dollar, that is very much a part of this period, it is possible that the impact on costs have swamped the impact on revenues.

When total net farm income is decomposed into some of its constituent parts<sup>6</sup>, some insight can be captured on fundamental long-term trends. Figure 2.1 shows the trends in expenses (operating expenses plus depreciation) and cash receipts from the market place. (Program payments are not included in this diagram).

This figure shows clearly that expenses have been increasing faster than market revenues, particularly over the last few years. In these years, the extra-ordinary impact of BSE in 2003 and 2004 and the impact of prairie drought in 2002 and 2003 sharply curtailed revenues. After considering the contribution of government program payments, net farm income is positive.

<sup>6</sup> Net farm income is defined as market cash receipts plus program payments plus income in kind plus the value of any change in inventory minus operating expenses and depreciation. Net cash income is total cash receipts minus operating expenses.

**Figure 2.1 Trends in Market Revenue and Expenses**

Source: Based on Statistics Canada Data

While depreciation is one of the major expense items, at \$4.5 billion, as a percentage of all expenses it has been decreasing from 17 percent of all expenses in the 1980's to 13 percent today.

*In aggregate, revenue from the market place has not kept pace with costs, a symptom of an industry in trouble, which may indicate that repositioning is necessary.*

One of the fundamental challenges for farmers is to develop strategies to generate adequate farm income and profitability in this broader environment where, in the aggregate, revenue from the market place is not keeping pace with expenses. Before farm level issues are addressed, some context is provided on the contributing factors by investigating how the aggregate data can be decomposed into a number of important performance measures.

## 2.2 Performance Measures

The performance of the farm sector can be viewed in a number of ways, including:

- Farm income at the aggregate level versus the farm level,
- Factors affecting revenues and expenses, and
- Return on assets employed.

### Aggregate Level versus the Farm Level

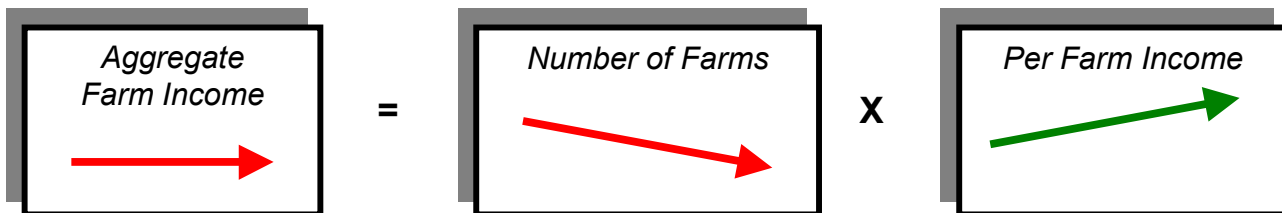
Aggregate net income can be decomposed into:

- Net income per farm, and
- Number of farms.

Over the last few decades, the number of farms has been decreasing by 1.5 percent per annum, with 246,923 farms in 2001 according to the Census of Agriculture. This represents all farms, including those with only \$10,000 in sales per year. As shown in

Figure 2.2, with aggregate net farm income flat, or modestly increasing in nominal dollars, then net income per farm increases, by definition. This has been occurring although some farms are reporting a decrease in net income. Other farms are growing their net incomes faster than the national average. Analysis of various databases (based on farm level data) indicates that the average farm with sales over \$500,000 per annum is the category where net farm incomes have been increasing.

**Figure 2.2 Factors Affecting Farm Income – Farm Numbers**



The decrease in the number of farms is a trend that has been occurring since the 1930's and farm numbers in Canada have been declining at the same rate as in the U.S. Primary agriculture is a mature industry, and in these industries where per unit margins are decreasing, the primary response is consolidation. This consolidation trend is expected to continue.

Associated with this consolidation is an increase in the number of farms with sales over \$500,000. In 1991, these farms represented 2 percent of all farms, and accounted for 5 percent of farms in 2001 based on Census data. While total farm numbers decline by 12 percent over this time period, the number of farms in this size category more than doubled as they increased by 120 percent.

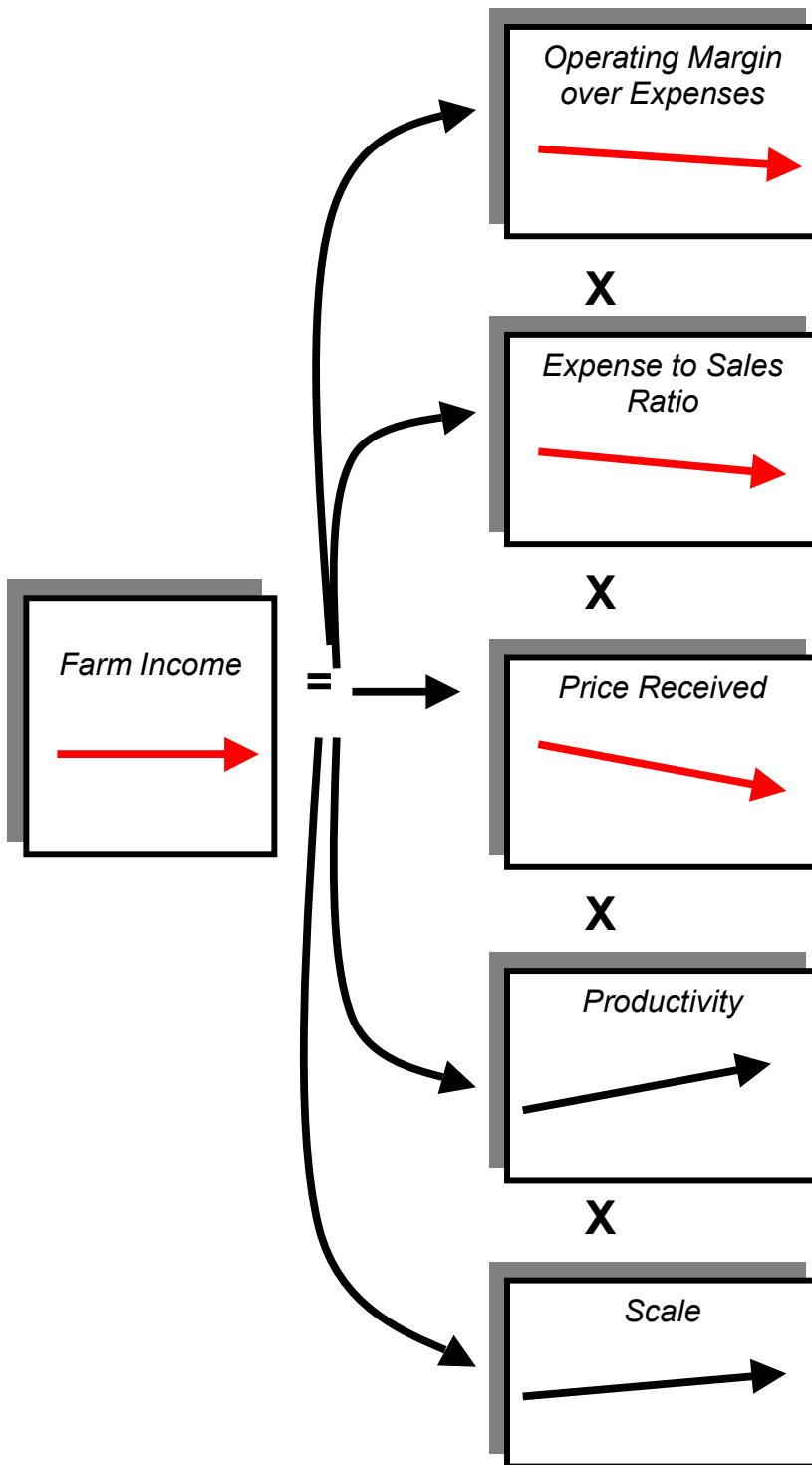
### **Factors Affecting Revenues and Expenses**

Another view of the aggregate net farm income is through a decomposition of net income, whether in aggregate or at the farm level into an annual revenue and expense view. This is shown in Figure 2.3, with net farm income a function of:

- Operating margin,
- Expenses in relation to cash receipts,
- Price received,
- Productivity, and
- Volume produced, or the size of the operation.

Two of the factors that are contributing to an increase in net farm incomes are productivity and volume produced (scale), or the size of the average farm. However, three inter-related factors are generally decreasing in the aggregate, which is resulting in the per unit margin squeeze. As reported in our commissioned papers, prices are generally decreasing, in real terms and some are decreasing in nominal terms as well. Figure 2.3 indicates that if farmers can not realize higher prices, then productivity and scale are required to generate higher farm level returns. Management capability on farms does affect how these performance measures are managed to determine overall farm income and profits.

Figure 2.3 Factors Affecting Farm Income- Revenue and Expense View



*Productivity and scale can offset the negative trend in price received and expenses in relation to the dollar value of sales.*

This trend in prices received is placing tremendous pressure on the per unit operating margin, and/or the dollar value of expenses required to generate a dollar of sales value. When operating in commodity markets, where the average output price is not increasing in real terms, to have an increase in per farm profitability requires offsetting increases in productivity and/or scale of operation.

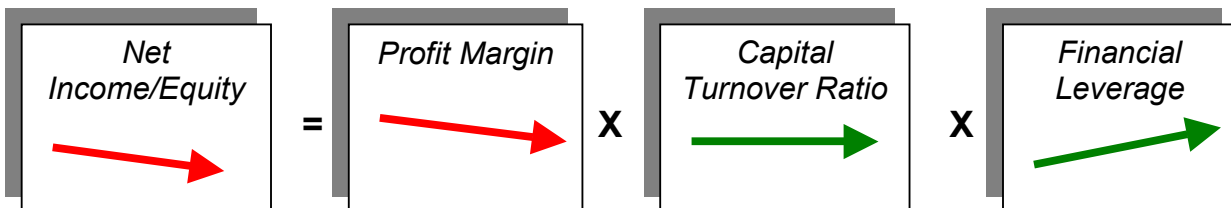
### **Returns to Assets Employed**

Another view to consider is the return to assets or equity invested in the business of farming. Farm income in relation to equity, or return on equity (ROE) in the operation is related to:

- ❑ Profit margin, or net income in relation to sales,
- ❑ Capital turnover ratio, which is revenue over assets employed to measure the efficient use of capital to generate revenues, and
- ❑ Financial leverage, or assets employed in relation to equity in the operation.

This relationship is shown in Figure 2.4. The first two components, when combined, becomes the return on assets employed in farming.

**Figure 2.4 Factors Affecting Farm Income- Capital Employed View**



At the aggregate level, based on using market values for assets and equity, versus book values, the ROE has been decreasing slightly, based on an increase in the market value of assets owned by farmers. In terms of the constituent parts, the profit margin has been decreasing, based on the price cost squeeze noted above. Over the last number of years the capital turnover ratio has been relatively stable at \$0.20 of annual revenue for each dollar of asset employed in the sector<sup>7</sup>. Financial leverage has also been increasing slightly over time, with farmers using \$1.20 in assets for every \$1.00 in equity.

This illustrates the fact that farm operations need to have efficient use of assets to generate revenue and adopt a practical financial leverage strategy. By doing so, the trend of a declining profit margin can be offset. Management capability can affect these factors and the resulting financial returns.

This view shows the critical importance of the profit margin in agriculture. As shown in Figure 2.2 and Figure 2.3 prices received and costs are fundamental drivers of profitability in the agricultural sector.

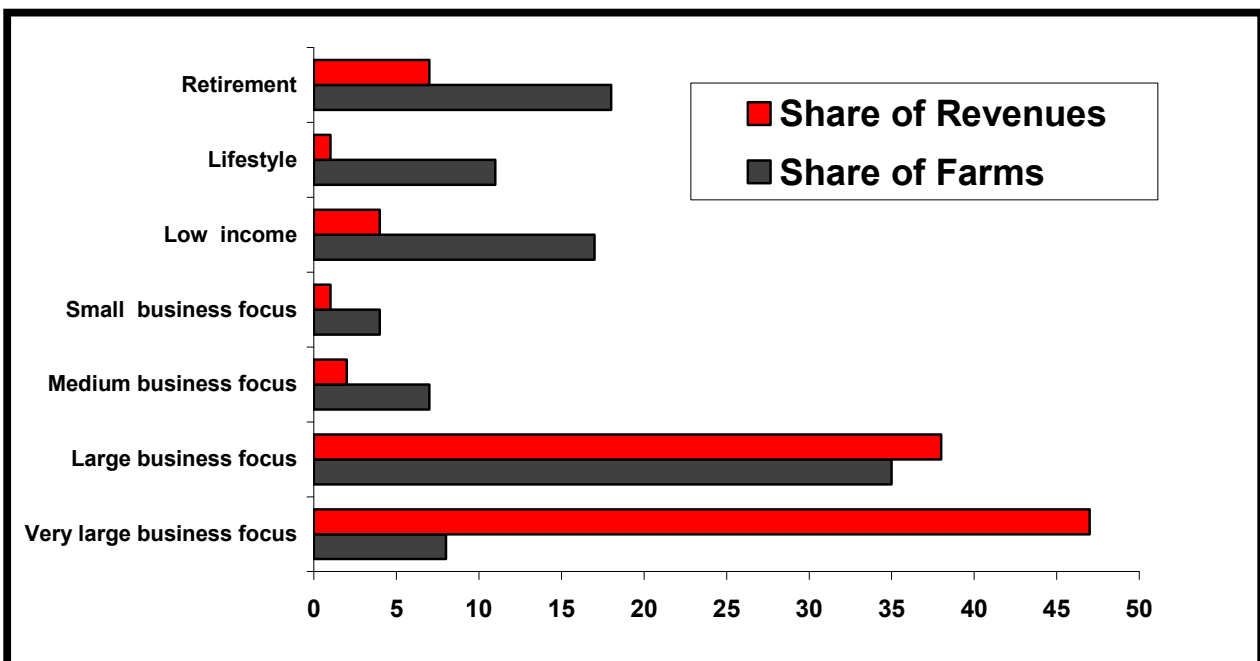
*The profit margin has been declining, on average, however performance on profits is a key to success. Weakness in the profit margin can be offset by volume, efficient use of capital and financial leverage.*

<sup>7</sup> If book values were used, this measure would be increasing slightly.

### 2.3 Farm Income and Profitability at the Farm Level

While aggregate net farm income, or return to resources employed in the production of agricultural products, has not been increasing, this same trend is not necessarily the case for each of Canada’s commercial farmers. The distribution of farms and associated aggregate farm revenues by farm typology<sup>8</sup> is shown in Figure 2.5. This figure shows that the majority of the enterprises defined as farms are not full time commercial farm operations. In fact, when farms with over \$100,000 in sales are considered (large business focused and very large business focused in Figure 2.5), these farms represent only 43% of the farms and account for 83% of the revenues. Although Statistics Canada classifies farms with over \$100,000 in sales as “large” this represents a fairly modest sized commercial farm, and one that would have difficulty generating enough income to support a farm household with normal profit margins.

**Figure 2.5 Distribution of Farms and Revenues by Farm Typology, 2003**



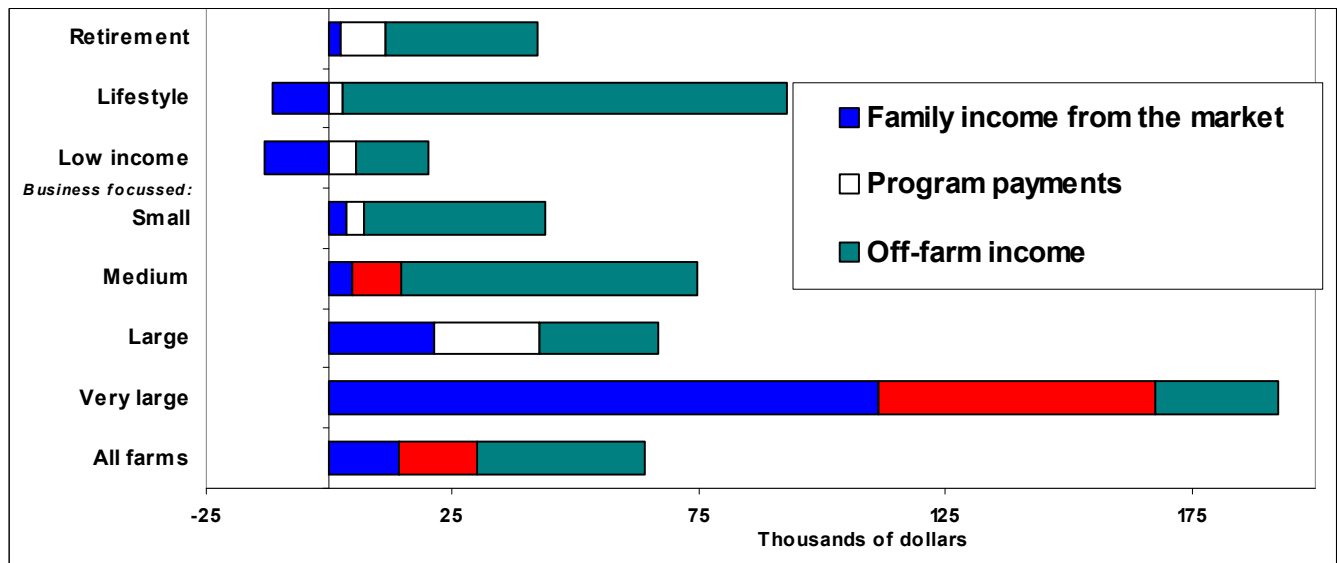
Source: Provided by Agriculture and Agri-Food Canada based on Statistics Canada data.

<sup>8</sup> The farm typology defines the following:

- ❑ **Retirement -18% of farms** -Family farms where the oldest operator is 60 years or older and receiving pension income, and where no children are involved in the day-to-day operation of the farm
- ❑ **Lifestyle -11% of farms**- Small-sized family farms (revenues of \$10,000 to \$49,999) with total family off-farm income of \$50,000 or more.
- ❑ **Low-Income- 17% of farms**- Small and medium-sized family farms (total revenues of \$10,000 to \$99,999) with total family income less than \$35,000
- ❑ **Small Business focused – 4 % of farms**- Family farms with total operating revenues of \$10,000 to \$49,999
- ❑ **Medium Business focused – 7% of farms**- Family farms with total operating revenues of \$50,000 to \$99,999
- ❑ **Large Business focused – 35% of farms and 35% of revenues**- Family farms with total operating revenues of \$100,000 to \$499,999
- ❑ **Very Large Business focused – 8% of farms and 47% of revenues** - Family farms with total operating revenues of \$500,000 and over

Over time the number of very large farms (annual sales > \$500,000) has been increasing. In 2003, these 13,232 farms represented 8 percent of all farms with annual sales over \$10,000. In 1996, for example, there were just over 8,000 farms with sales over \$500,000. For the smaller farm operations, off-farm income is an important source of household income, while very large operations achieve most of their incomes from the market, as shown in Figure 2.6. For larger farm operations, the market can generate net income for use by the operator and his/her household. Those operations with over \$500,000 in sales account for just under 50 percent of all production.

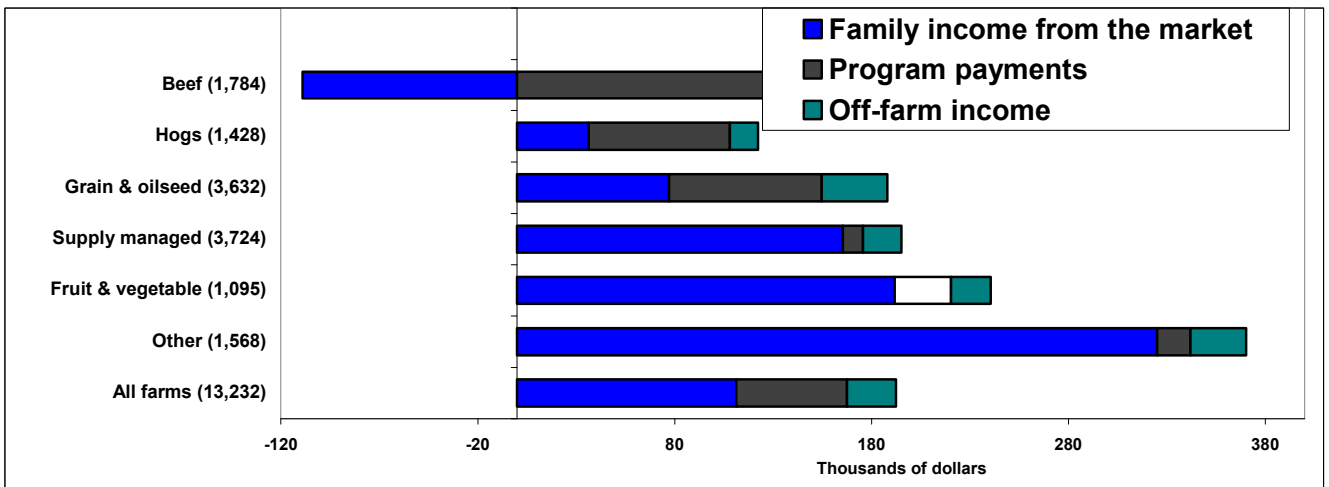
**Figure 2.6 Family Income by Farm Typology, 2003**



Source: Provided by Agriculture and Agri-Food Canada based on Statistics Canada data.

Very large farm operations (over \$500,000 in sales) exist in all lines of specialization, as shown in Figure 2.7 for 2003.

**Figure 2.7 Family Income for farms with Sales over \$500,000 - 2003**

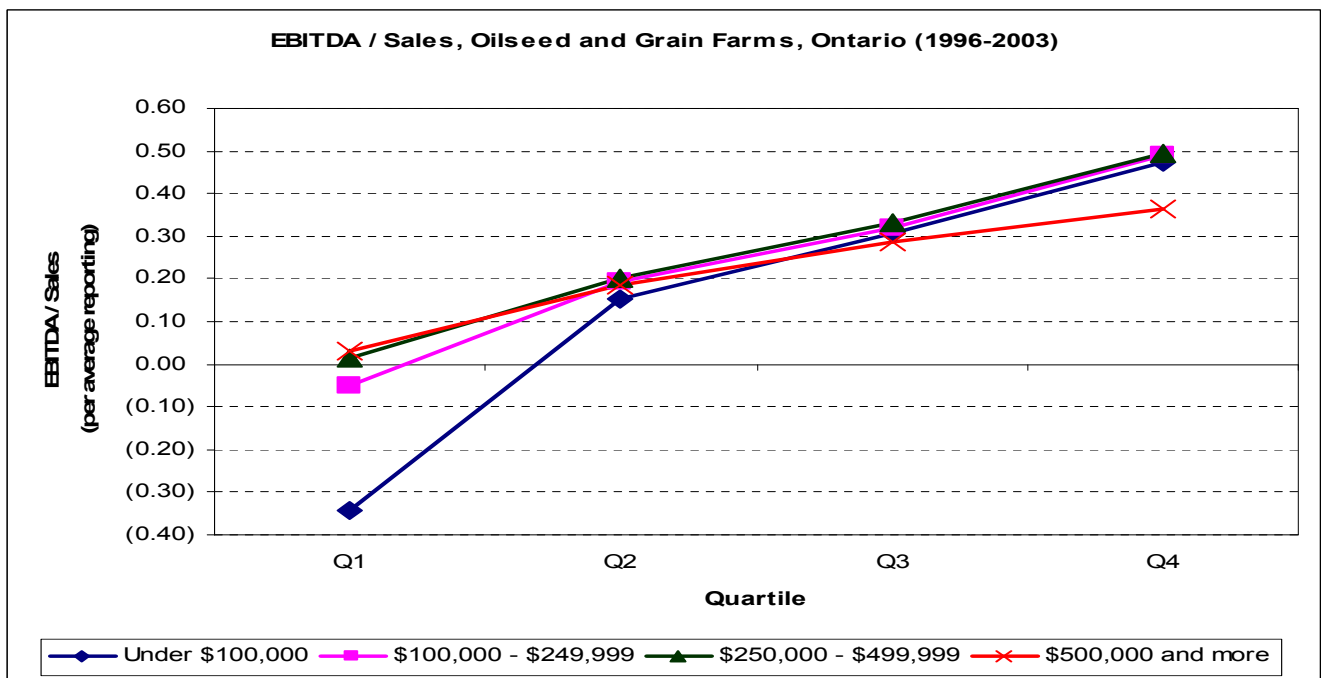


Source: Provided by Agriculture and Agri-Food Canada based on Statistics Canada data. The numbers in brackets refer to the number of farms.

The data presented in Figures 2.6 and 2.7 are averages, and one expects variability around the mean. Analysis conducted for CAPI using selected farm level data bases shows some interesting results<sup>9</sup>. For each year over the 1996 to 2003 period, each sales class (<\$100,000, \$100,000 to \$250,000, \$250,000 to \$500,000, and >\$500,000) was segmented into quartiles based on financial performance. This was conducted for major commodity groups on a provincial basis. One of the interesting findings is that using this approach, the financial performance did not vary significantly between commodities in a province, or between provinces.

Figure 2.8 shows the results for Ontario grain and oilseed farms<sup>10</sup> using EBITDA<sup>11</sup> over sales revenue as a proxy for profit margin. This shows that as one moves up the quartiles in any sales class, the profit margin increases, and is 40 to 50% in the top quartiles in each sales class. This means that if an operation has \$500,000 in sales, EBITDA are at least \$200,000.

**Figure 2.8 Profit Margin by Sales Class and Quartile in Various Sales Classes**



Source: Report prepared by Mussell et al for CAPI

There are differences between sales classes. In fact there is more variability within a sales classes using this performance measure than between sales classes (the average profit margin is between the second and third quartile and is in the 20% to 30% range).

Related to this finding is the fact that for the lowest quartile in each sales class the profit margin was negligible or negative. It should be noted that this quartile analysis was conducted on a year-by-year basis. This means that farms in the lowest quartile in one

<sup>9</sup>CAPI, *Testing the Structure of Canadian Farm Incomes*, prepared by Al Mussell et al (May 2005)

<sup>10</sup> If we show this information for Saskatchewan grain and oilseed farms, or Quebec hog farms, the results would not be significantly different.

<sup>11</sup> EBITDA = earnings before interest, taxes, depreciation and amortization.



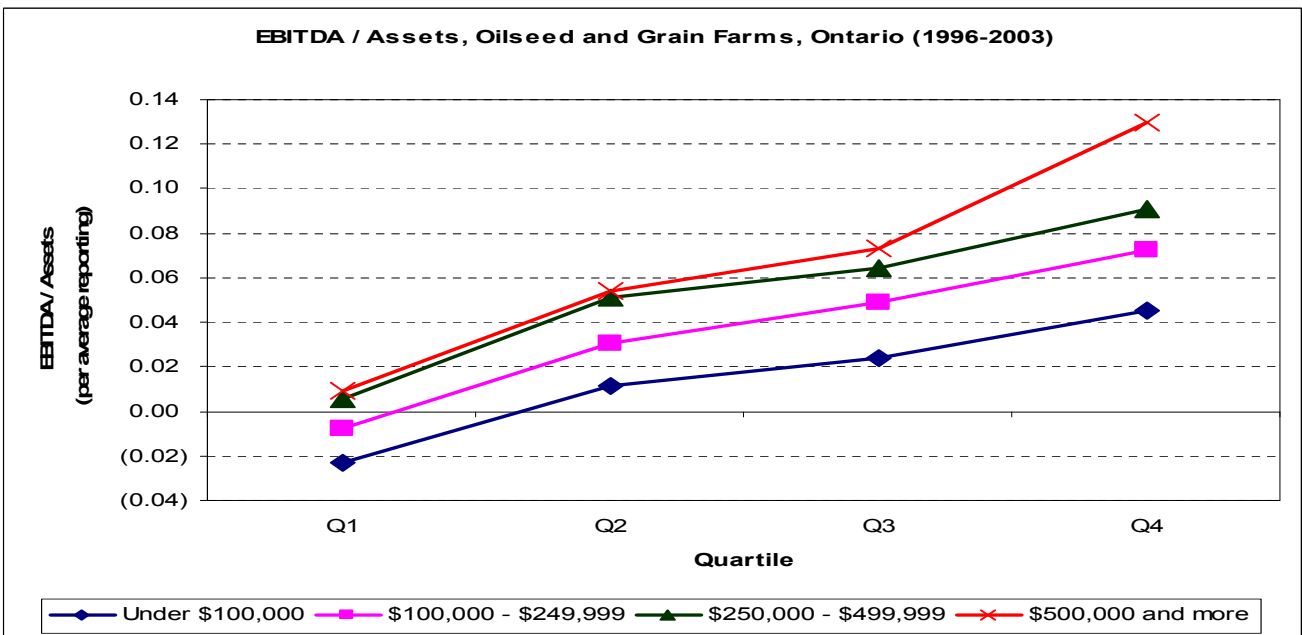
year, could be in another quartile in another year. Thus we do not have adequate information on the systemic nature of low profitability for individual operations from this data base.

As noted in a prior section, the profit margin is one of the major contributors to a producers return on assets employed, or return on equity (the capital turnover ratio is another important contributor). Figure 2.9 shows the return on assets for these same farms, with this defined as EBITDA in relation to assets employed. As expected, returns increase as we move through the quartiles in any sales class, with farms operating in the third quartile (just above average) having a return on assets of;

- ~2% for farms in the under \$100,000 sales category,
- ~5% for farms in the \$100,000 to \$250,000 sales category,
- ~6% for farms in the \$250,000 to \$500,000 sales category, and
- ~7% for farms in the over \$500,000 sales category.

This shows a clear economies to scale phenomena in grain and oilseed farming. The divergence in ROA in relation to the profit margin is due primarily to the more efficient use of capital by larger operations (the capital turnover ratio). In the top quartile the results ranged from a return of just over 4% for the smallest sales class to over 12% for the largest sales class.

**Figure 2.9 Return on Assets by Sales Class and Quartile in Various Sales Classes**

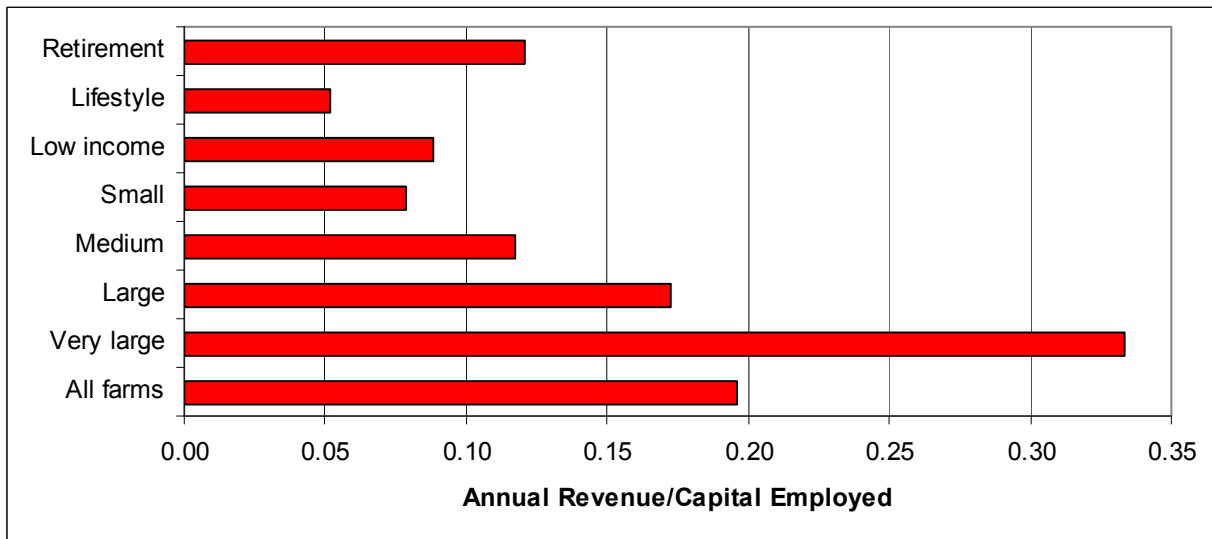


Source: Report prepared by Mussell et al for CAPI

The data available for this analysis did not include a net earnings measure. However, based on aggregate data we know that depreciation accounts for 13 percent of all expenses and interest 6.5 percent. This suggests that the profit margin shown in Figure 2.9, would be adjusted downward by a factor close to 20 percent; resulting in the same pattern of findings in a net earnings context.

The capital turnover ratio measures how much revenue is generated each year by assets held, and averages 19 cents to 20 cents for each dollar of assets employed for the sector as a whole. However, as shown in Figure 2.10 this ranges significantly from a low of ~0.05 for lifestyle farms to ~0.17 for farms in the \$100,000 to \$500,000 sales range to ~0.33 for the larger farms. This means that for every dollar of assets held large farms generate \$0.33 in annual revenue, compared to ~\$0.20 for the average farm.

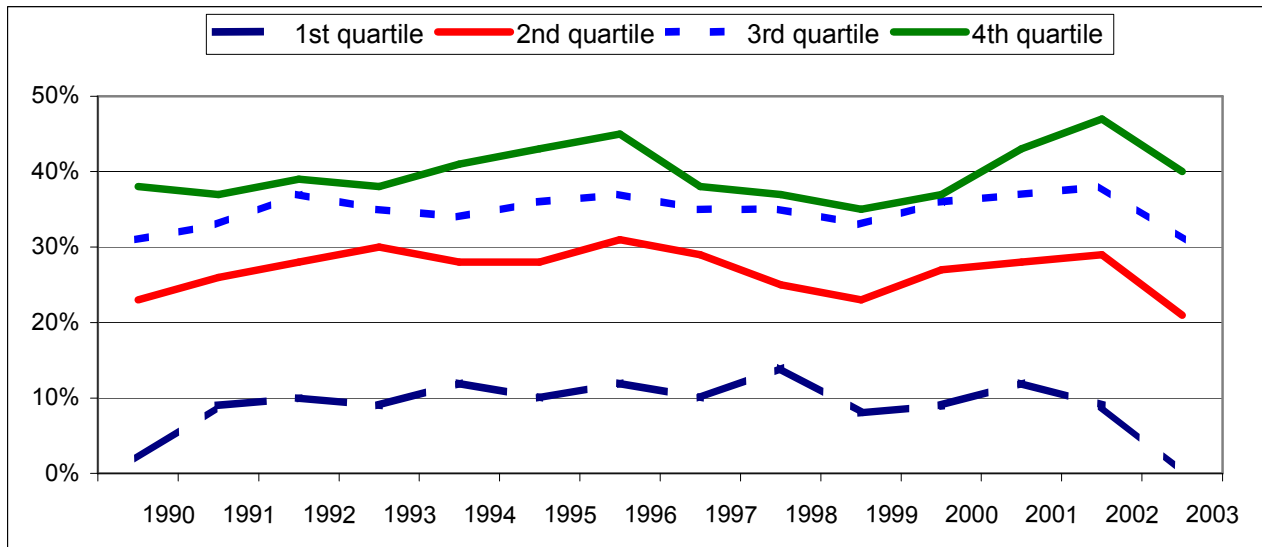
**Figure 2.10 Efficient Use of Assets Varies by Size of Farm**



Source: Calculations based on Statistics Canada data provided by Agriculture and Agri-Food Canada

Within the larger sales classes, farm income has been gradually increasing over time. This can be observed by looking at profitability (EBITDA over sales) by quartile in any sales class. This is shown in Figure 2.11 for Alberta grain and oilseed farms with sales over \$500,000 during the 1990 to 2003 time frame. The same general pattern in profit margin between the sales classes is observed, as well as a gradual increase for the top two quartiles and essentially a flat trend for the bottom two quartiles. It should be noted that the drought affected earnings in 2003, and possibly 2002.

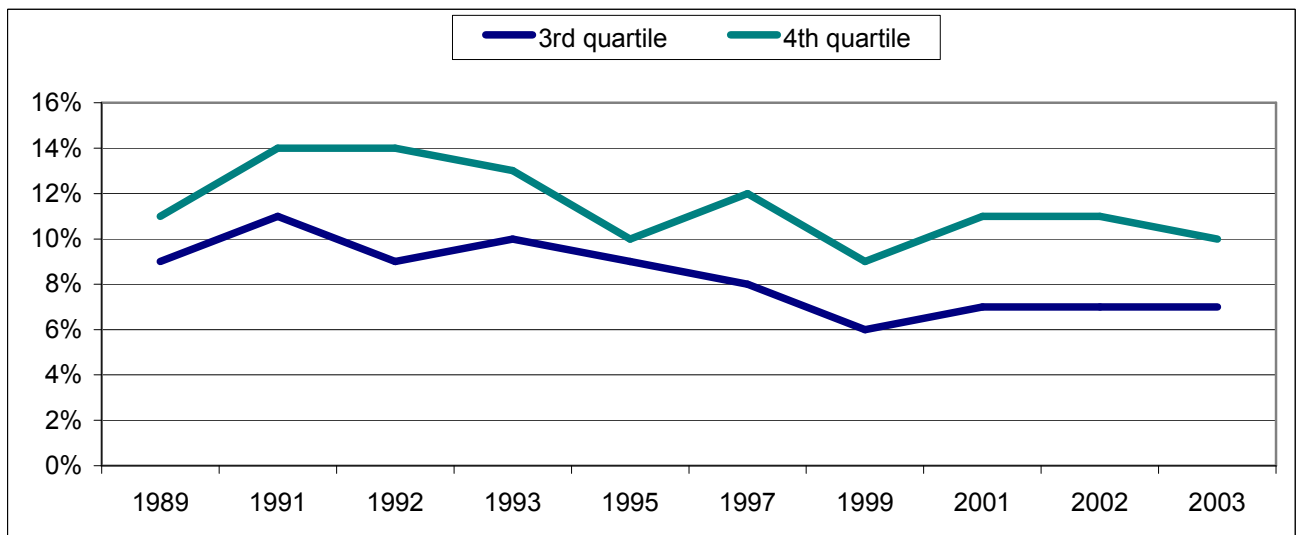
**Figure 2.11 Profitability (EBITDA/Sales) of Alberta Grain And Oilseed Farms, >\$500,000 sales**



Source: Report prepared by Mussell et al for CAPI

Figure 2.12 shows the ROA based on EBITDA over asset value for the 1989 to 2003 period. This data shows a gradual decline in profitability using the ROA measure for Manitoba grain and oilseed farms in the \$250,000 to \$500,000 sales category, and for the farm operations in the top two profitability quartiles. As noted in the commissioned paper, this measure of profitability is not decreasing for all farm types, particularly those in the higher sales classes<sup>12</sup>.

**Figure 2.12 ROA of Manitoba Grain and Oilseed farms, \$250,000 to \$500,000 sales**



Source: Report prepared by Mussell et al for CAPI

<sup>12</sup> In real estate, another land intensive industry, an important financial measure is cash flow. In real estate and in many parts of agriculture, overall return is related to annual cash flow as well as the appreciation in the real assets owned.

The analysis conducted by Mussell et al for CAPI “uncovered three significant findings that are material in understanding farm incomes:

- ❑ *There is tremendous variability in operating income, even within a farm sales category. There are farms with sales well over \$500,000 that struggle to generate operating income, and some small farms that are very efficient in generating operating income. This basic fact is somewhat masked by the fact that the top farms in the largest sales category tend to perform better than the top farms in smaller categories, and by the fact that averages suggest that operating profit performance is strongly tied to size.*
- ❑ *Off-farm income has a crucial role in sustaining farm households. Generally, the lower quartile of farm operators only generate enough operating income and off-farm income to cover overhead expenses; family living expenses must therefore be covered by other family members working off the farm.*
- ❑ *Operating income measured relative to revenue or assets is tightening over time. This implies that some or all of the following is occurring: revenue is falling over time, expenses are increasing, or farm program payments are decreasing.”*

This farm level information indicates that while some farms are not operating at an acceptable level of profitability to support a farm family household, other farm operations are profitable. Management capability appears to be a fundamental driver for farm level success. The case study analysis conducted by Betker of Meyer Norris Penny highlighted the importance of management as a necessary condition for financial success.

These farms are operating in a mature industry, and approaches taken by producers in such industries can include:

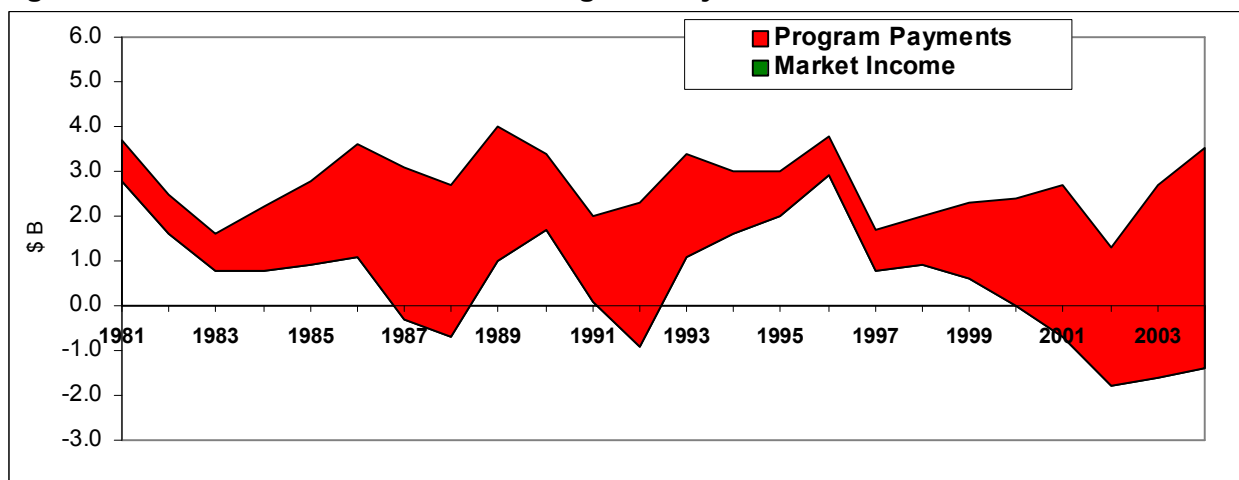
1. fewer operations, which implies either farms
  - Exit the business, or
  - Diversify into other non-farm enterprises and income sources.
2. remaining businesses focusing on strategies to compete in mature markets;
  - Increase scale of operations to compete in commodity markets,
  - Adopt technologies to lower costs and increase output,
  - Improve farm business management skills,
  - Use supply chain strategies to increase share of market returns,
  - Supply differentiated products,
  - Change focus and pursue higher value market opportunities,

At the same time the policy environment, which is beyond the control of individual farmers, are important complements to these individual producer responses. This environment can include policies affecting innovation, policies and programs impacting on research and development, and the overall regulatory environment.

## 2.4 Trends in Aggregate Farm Income and Program Payments

While aggregate net income has been decreasing in real terms and relatively flat in nominal dollars over the last 20 years<sup>13</sup>, program payments received from government by farmers have represented a large part of net farm income, as shown in Figure 2.13. If it had not been for government payments to the farm sector, the aggregate net income after depreciation would have been negative for the last four years. This, of course, assumes that in the absence of government payments total output and the mix of products would have been the same as with the government payments.

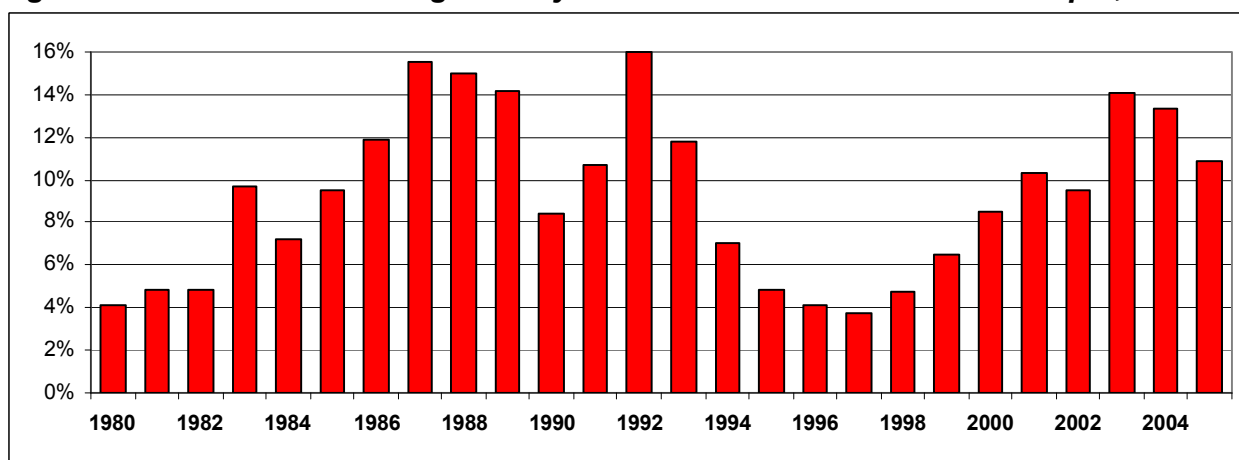
**Figure 2.13 Trends in Government Program Payments and Net Income**



Source: Provided by Agriculture and Agri-Food Canada based on Statistics Canada data.

When these payments are expressed as a percent of all farm cash receipts, they have ranged from a high of 16 percent of cash receipts in 1992 to a low of 4 percent in 1980 as well as 1996 and 1997. (See Figure 2.14) In the 1960's government payments were a much smaller percentage of cash receipts and income. For example, in 1965 government payments were less than 1 percent of cash receipts.

**Figure 2.14 Government Program Payments as a Percent of Cash Receipts, Canada**



Source: Provided by Agriculture and Agri-Food Canada based on Statistics Canada data.

<sup>13</sup> Over a 40 year time frame net farm income, in nominal dollars, has increased.

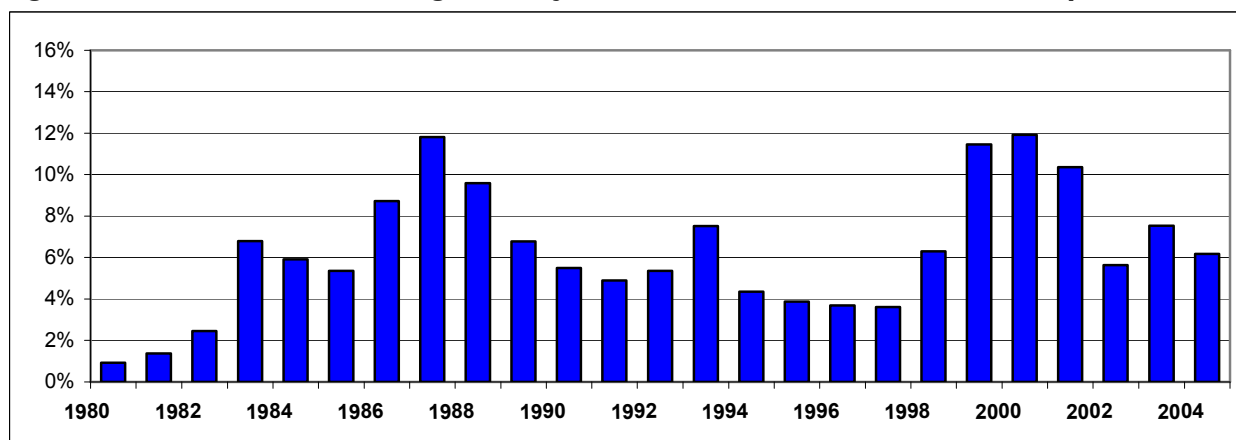
In 2004, program payments were 13 percent of farm cash receipts and they are forecast by Statistics Canada to be 11 percent of farm cash receipts in 2005.

*While program payments as a percent of cash receipts range from 4% to 16% of total cash receipts, without these program payments, aggregate farm income would have been negative in a number of years, if output and product mix remained the same..*

By way of comparison, in the U.S. program payments as a percent of cash receipts were 5.3 percent compared to 9.5 percent in Canada, the pre-BSE period. Comparing Figure 2.15 for the US to Figure 2.14 for Canada show that generally U.S. program payments provided to farmers, as a percent of cash receipts, have been lower than received by Canadian producers. For example, while program payments were 13 percent of cash receipts in Canada, they were close to 6 percent of cash receipts in the U.S.

This result can seem counterintuitive, when it's widely known that U.S grain and oilseed farmers receive significant subsidies through government programs. The reason for the lower overall US direct support to farmers is that in Canada, government financial support is provided to most commodity sectors, while in the U.S. it is focused on the grain and oilseed complex (as well as some other crops).

**Figure 2.15 Government Program Payments as a Percent of Cash Receipts, U.S.**



Source: Derived USDA data, (Brinkman and Grenon)

Program payments made directly to farmers varies significantly across countries. Using OECD data for 2003, a comparison is provided for a number of countries on budgetary expenditures for producer support in relation to cash receipts<sup>14</sup>. This data shows that budgetary support for producers was 19.2 percent of cash receipts in the EU, compared to 12.6 percent for Canada<sup>15</sup> and 0.3 percent for New Zealand. This graph shows the range in government expenditures directed to support farm incomes across countries, and that Canada is below the OECD average<sup>16</sup>. The data used by the OECD and which is part of

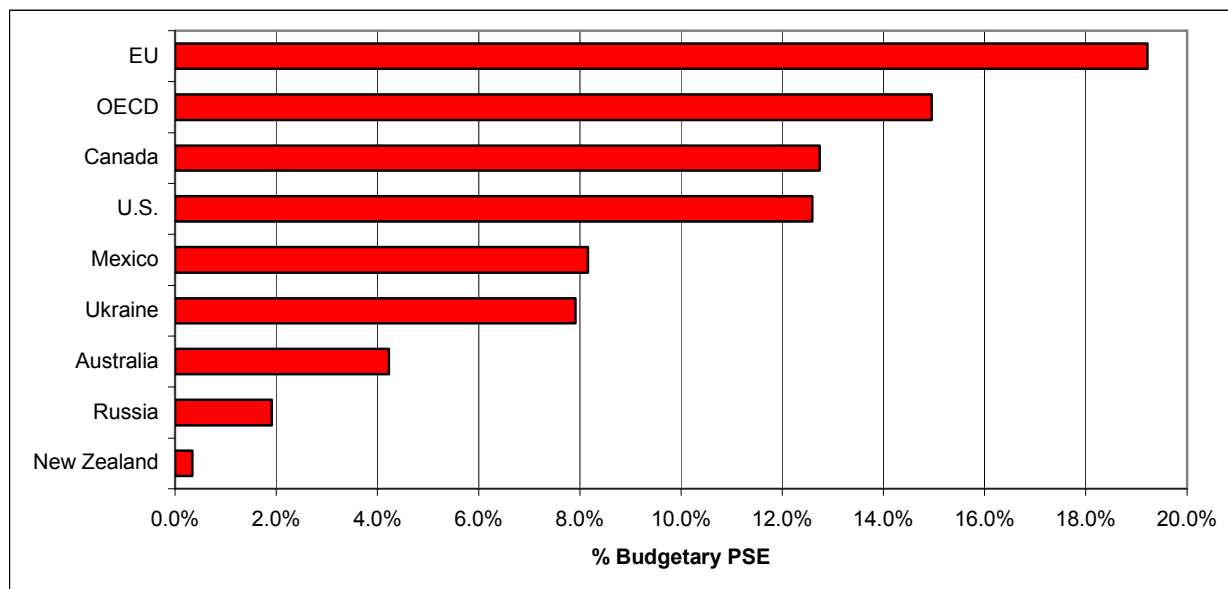
<sup>14</sup> This data essentially subtracts the market price support estimate (MPS) from the total producer support estimate (PSE) since the former is an estimate of support provided through import tariffs and regulations.

<sup>15</sup> Direct payments were higher than usual for Canada in 2003. See Figure 2.14.

<sup>16</sup> The average is higher in large part due to the support levels provided to EU farmers.

Figure 2.16 includes expenditures used to support farm incomes. This data is different than the data set that measures direct government payments to farmers, and which become part of the aggregate farm income and which are included in the data used for Figure 2.13 and 2.14 above.

**Figure 2.16 Budgetary Expenditures on Producer Support, % of Cash Receipts 2003**



Source: OECD

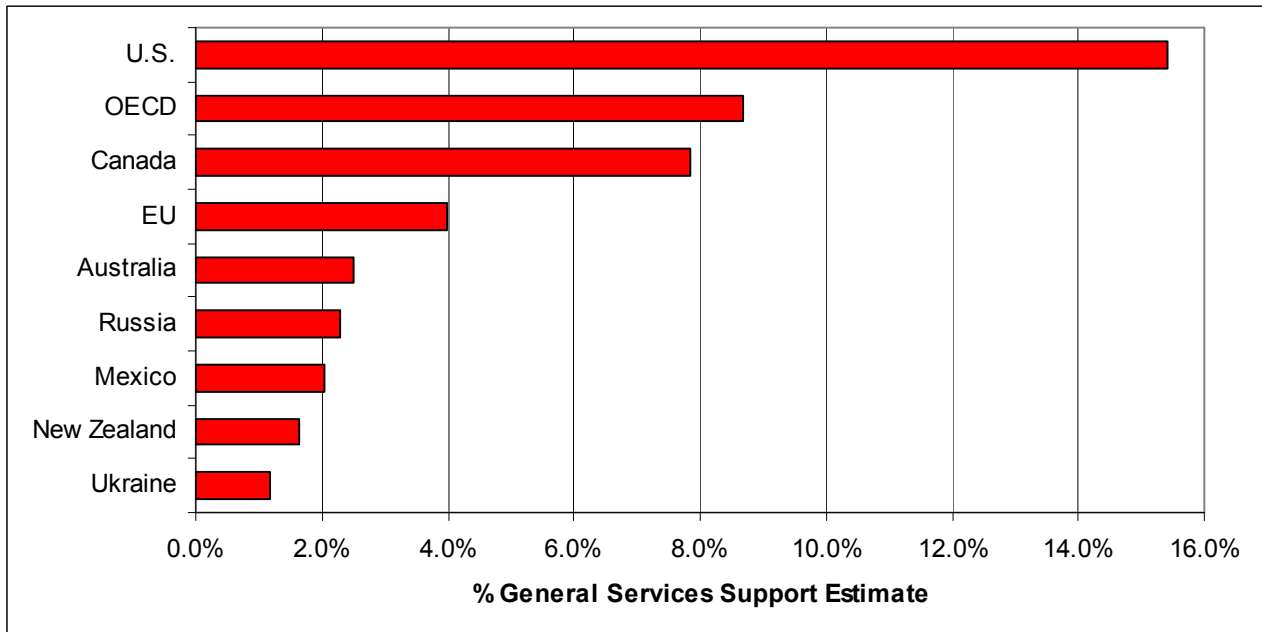
Program payments are only a subset of total government expenditures directed to the agricultural sector. When payments to categories such as marketing and promotion, research and development, etc are considered, the U.S. spends proportionately more on the agricultural sector. For example, prior to BSE, in 2002 total expenditures on agriculture were \$6.2 billion<sup>17</sup>, or 18.9 percent of market place cash receipts in Canada; while total expenditures were \$(US) 76.0 billion in the U.S., or 38.9 percent of market place cash receipts. As an example, of the differences the US spent \$17.2 billion of public funds on marketing and promotion, while the comparable number in Canada was \$619 million<sup>18</sup>.

The OECD estimates government expenditures on general services (GSSE) that are provided to the agriculture sector. This captures public expenditures on categories such as research and development, agricultural schools, inspection services, infrastructure, and marketing and promotion. As a percent of cash receipts, U.S. expenditures on this category were almost twice the level of Canadian expenditures, at 15.4 percent versus 7.9 percent as shown in Figure 2.17. The large difference in marketing and promotion was noted above.

<sup>17</sup> While OECD calculations of TSE (Total Support Estimate) was \$9.7 billion for Canada in 2002, the majority of the \$3.5 billion in MPS (market price support) was due to calculated expenditure equivalents due to supply management having the ability to establish a made in Canada price. This was deducted from the total to obtain the \$6.2 billion. A comparable calculation was made for the USMPS value of \$(US)15.6 billion.

<sup>18</sup> CAPI, "*Comparison of Government Support to Agriculture Across Selected Countries*", prepared by Carina Linberg, April 2005.

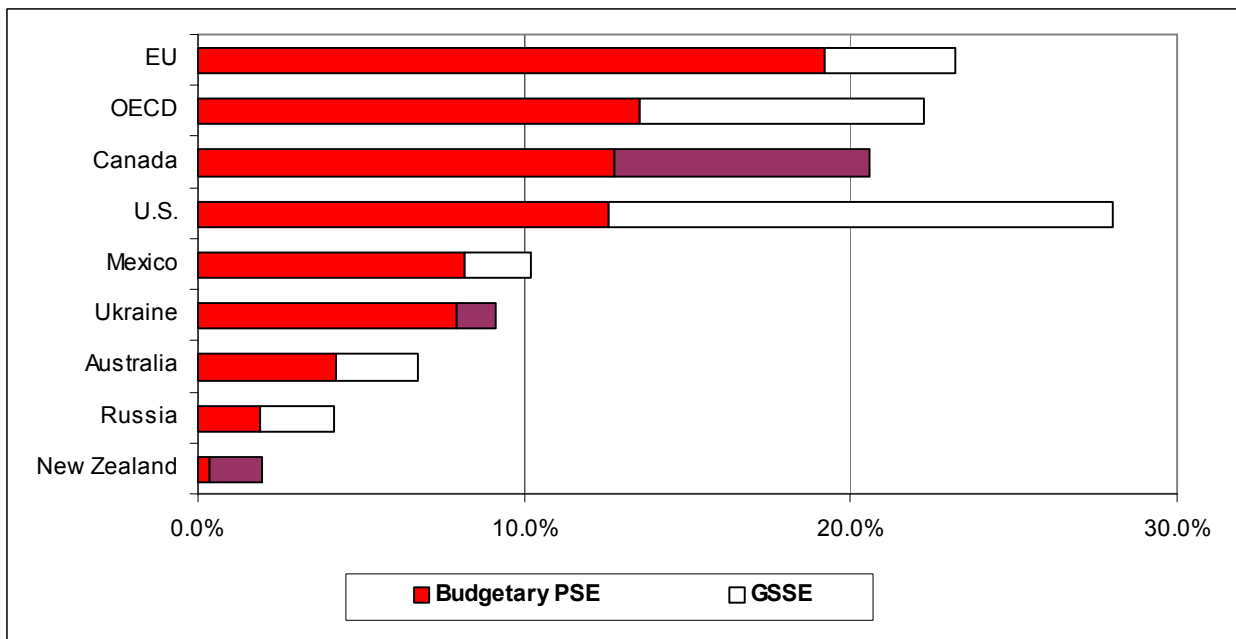
**Figure 2.17 Expenditures on General Services Support, % of Cash Receipts, 2003**



Source: OECD

Figure 2.18 shows the combined level of budgetary support to agriculture through producer support measures, excluding MPS, and expenditures on general services support (as a percent of cash receipts). This figure highlights the large public expenditures on U.S. agriculture (before considering taxpayer benefits to consumers) and the large emphasis placed on GSSE type support in U.S. agriculture, as it exceeded financial expenditures directly supporting agriculture.

**Figure 2.18 Expenditures on Producer Support and General Services, Percent 2003**



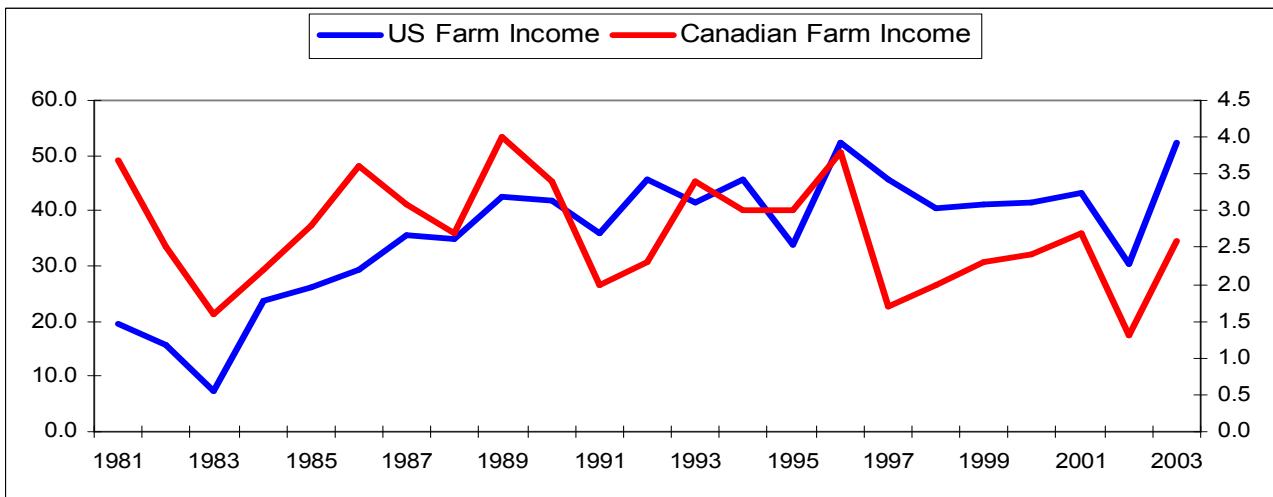
Source: OECD



## 2.4 Some Further Comparison to the United States

While aggregate farm income in Canada has been relatively flat, or slightly decreasing over the last 20 years, the trend is much different in the US, where aggregate farm income has doubled over the last 20 years. (See Figure 2.19). The major reason for this difference is that in the U.S. gross income rose faster than expenses, while the opposite occurred in Canada, with expenses rising faster than income. The faster growth of expenses over receipts in Canada has not been due to increasing interest payments, as total interest payments were \$2,510 million in 1981 compared to \$2,374 million in 2003, primarily because of declining interest rates over the last two decades. As well, depreciation charges have been decreasing as percent of all expenses. The impact of past changes to exchange rates on a wide range of input costs (fertilizer, seed, energy, etc.) was a contributing factor to the growth in expenses.

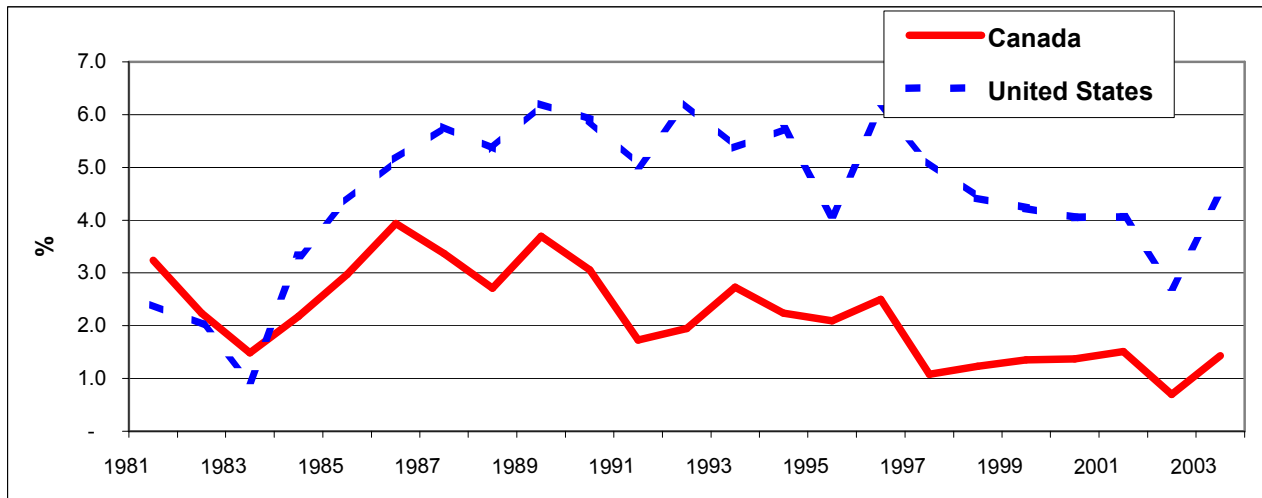
**Figure 2.19 Trends in Net Farm Income, Canada and the U.S.**



Source: Calculations based on Statistics Canada and USDA data (Brinkman and Grenon)

When measured in relation to equity in the agricultural sector, the implied return on equity measure shows a gradual reduction on the average sector return on equity to 1.5% in 2003, while the comparable measure shows a ROE of over 4% for the average U.S. farmer.

**Figure 2.20 Farm Profitability – Net Farm Income in Relation to Equity**



Source: Provided by Agriculture and Agri-Food Canada based on Statistics Canada data.

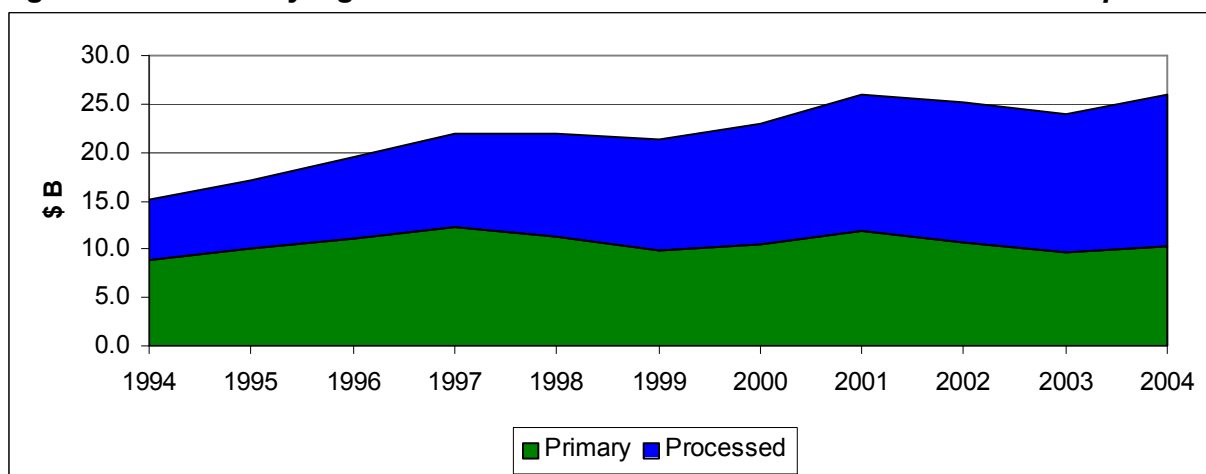
This section indicates that the trends in aggregate farm income are not necessarily the same as the trends in farm income at the farm level. Individual farms, whether larger farms or smaller farms can generate acceptable financial returns. However, the data clearly show that all farms are not able to achieve the same level of performance. Furthermore, while there is a decline in the number of overall farms, as classified by Statistics Canada, the number of farms with annual sales of over \$500,000 per annum continues to grow.

### 3.0 Global Forces Affecting Canadian Farm Incomes

Canada is a trading nation, and this applies to the agri-food sector as well. In some commodity areas, over 50 percent of income is derived from exports, whether as farm level product, or as a processed food product. In 2002, for example, 67 percent of oilseed production was exported, while 57 percent of red meat production was exported, and 33 percent of grain production. As a result of Canada's reliance on the export market, and because the Canadian farm economy is linked with the global farm economy<sup>19</sup>, global forces have a direct effect on farm incomes in Canada.

Over time, the composition of exports has changed, with proportionally more of Canada's exports as processed products, and as consumer-oriented products. Figure 3.1 illustrates that all of the \$11 billion growth in agri-food exports over the last decade has been through processed agri-food products. Total exports were \$27 billion in 2004.

**Figure 3.1 Primary Agricultural Product and Processed Food Product Exports**



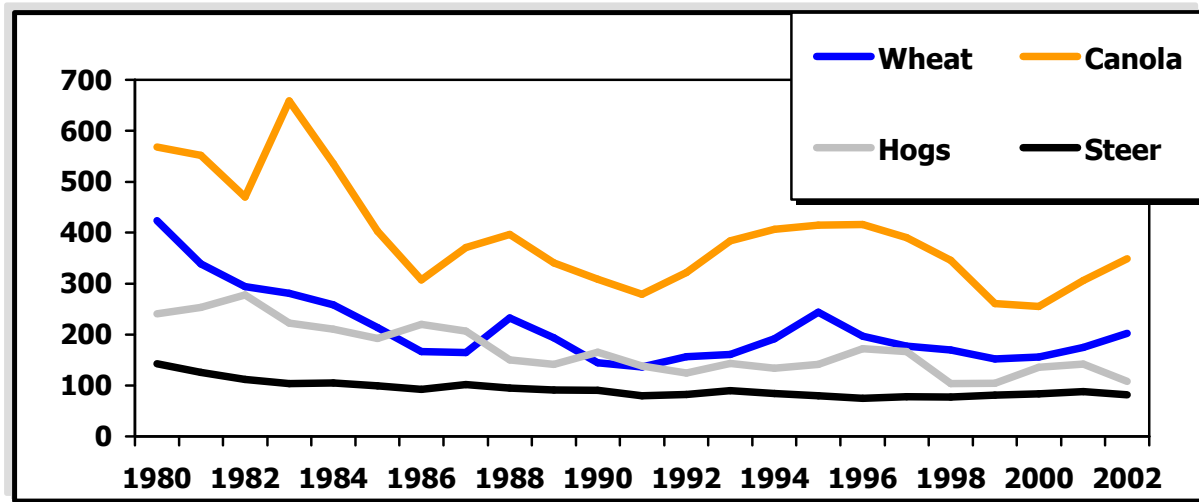
#### 3.1 Farm Prices Continue to Fall in Real Terms

Farm prices in Canada are established based, in large part, on the prevailing world market price for commodities, such as with grains and oilseeds. These world prices have been decreasing in real terms over the last 50 to 100 years. Figure 3.2 shows the decline since 1980.

These decreases in the real world price (when expressed in Canadian or US dollars) have been occurring for the simple reason that the growth in supply of products in the global marketplace has been increasing faster than the demand for these products. The only response in this situation is for price to fall. As noted in our framework in Figure 2.3, decreasing (real) commodity prices is one of the major reasons for declining net farm income.

<sup>19</sup> An exception is the supply-managed sectors (dairy and poultry).

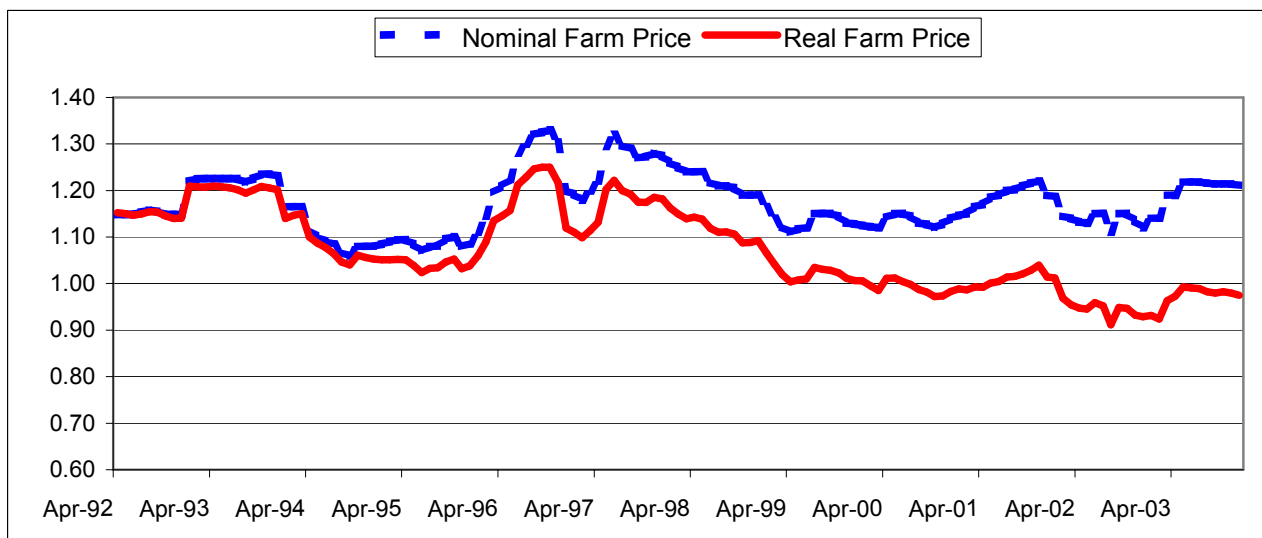
**Figure 3.2 Real Price of Agricultural Products, 1980 to 2002**



Source: Data supplied by Agriculture and Agri-Food Canada

This same trend can also be observed in chicken, a supply managed commodity. Over the 1992 to 2003 period, the monthly farm price of chicken in Ontario has increased slightly in nominal terms (from a \$1.15/kg to \$1.20/kg)<sup>20</sup>; however, after accounting for inflation the real price of chicken at the farm level has decreased by 15 percent.

**Figure 3.3 Real and Nominal Price of Chicken, Ontario 1992 - 2003**



Source: Paper prepared for CAPI by Gervais and Larue *“Establishment of Farm prices and Degree of Linkage to Consumer Prices”*

Global factors affect farm incomes in one of two ways; global factors contribute to higher incomes through demand growth, while other global factors contribute to lower incomes through supply growth.

<sup>20</sup> It should be noted that in the summer of 2005, the Ontario live chicken price was under \$1.15/kg.

### 3.2 Exportable Supplies From Emerging Exporters and Price Impact

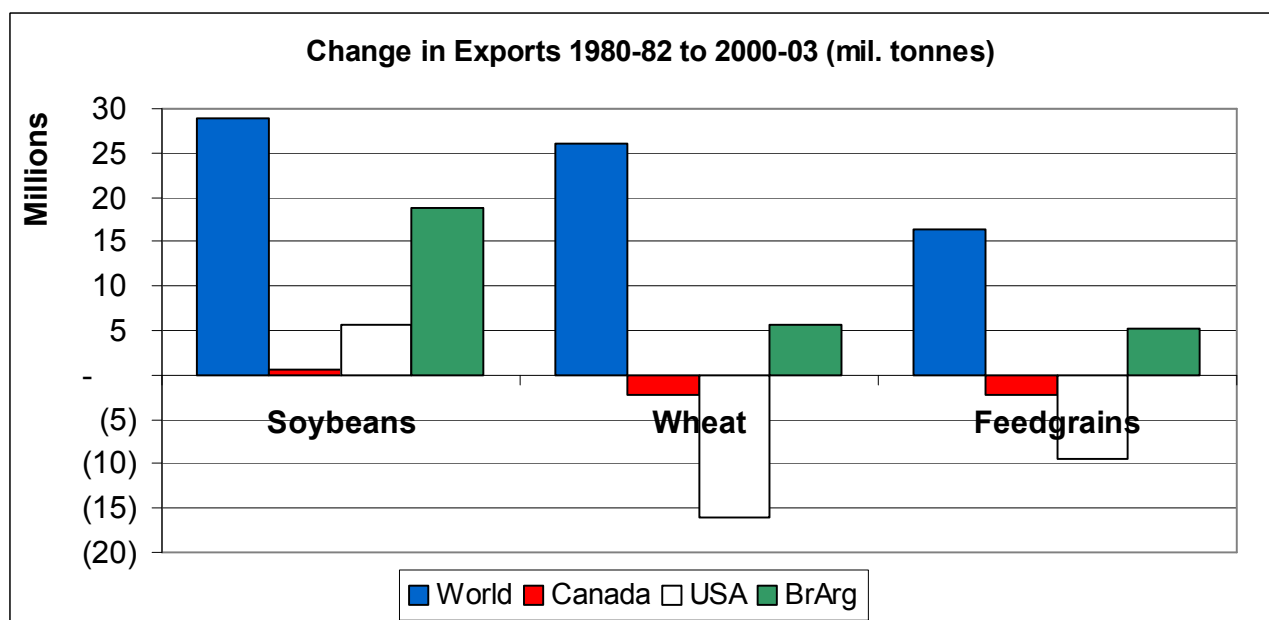
Growth in exportable supplies from exporters, when considered in relation to the growth in import requirements, is a major determinant of the world price for a commodity. Over the last 20 years, the exportable supplies of grain and oilseeds from South America has increased significantly, while U.S. exportable supplies have decreased for grains and increased for soybeans. The change in exports from the U.S., compared to the combined volumes of Brazil and Argentina, are rather instructive, as shown in Figure 3.4. This chart shows that countries like Brazil are contributing to the growth in supply, compared to countries like the U.S, which actually has a lower export volume in wheat and feedgrains over the last 20 years.

This growth in exportable supplies for low cost exporters, such as Brazil and Argentina further suggests that supplies from emerging exporters constitute a major factor affecting the farm price of grains and oilseeds in Canada.

Accordingly, Canadian farmers are competing with new emerging exporters, such as Brazil, in the global market place. Brazil is a low cost supplier in many products (soybeans, corn, beef, chicken, etc.), and has used this advantage to capture an increased share in export markets. Brazilian export growth has been phenomenal, and Brazil is now:

- The second largest exporter of soybeans and meal, with a 33% market share,
- The largest exporter of chicken, with a 29% export market share,
- The largest exporter of beef, with a 20% export market share,

**Figure 3.4 Changes in Exports, Selected Suppliers, 1980-82 to 2000-03 (Mil. t)**



Source: de Gorter and Cranfield, *“The Impacts of U.S. Crop Subsidies on Livestock Production”*

Multinational investment has assisted in the rapid export expansion by Brazil, and a large supply potential can further increase the competitive position of a low cost suppliers such as Brazil. Brazil now has 60 million hectares in crop production, with an estimated 100 to

200 million additional hectares that can enter into production. This production base well exceeds the production base of the U.S. Demand for crops can be considered the factor that is limiting Brazilian expansion, as supply potential is considerable.

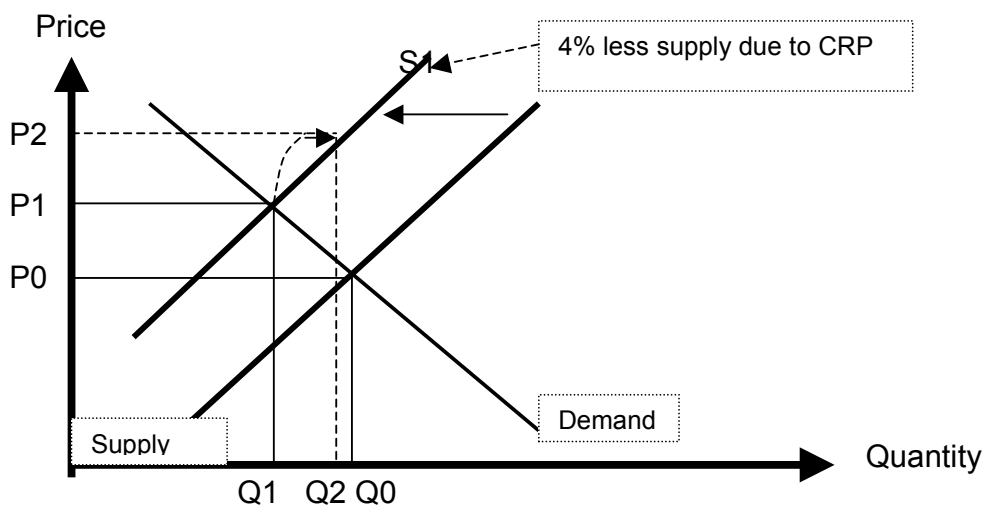
### 3.3 Net Effect of U.S. Programs

One of the alleged contributors to grain and oilseed supply growth and lower farm prices in Canada for grains and oilseeds are U.S. subsidies. Most criticisms of U.S. programs highlight the effect of price supports and subsidies, and suggest that these subsidies lead to more production, and therefore lower the market price for grains and oilseeds.

However, to assess the full impact of U.S. farm programs, the effect of subsidies that expand production and lower price must be considered in the context of the U.S. acreage removal programs. While U.S. subsidies are significant, and can account for 20% of the market price, which encourages production, the CRP (conservation reserve program) in the U.S. has idled 10% of U.S. cropland used in grains and oilseed production. The USDA has estimated that just under half of these idled acres will not return to production, and based on assuming a somewhat lower yield potential on the other idled acres, the CRP can reduce production by more than 4%, which has a price enhancing effect<sup>21</sup>.

The impact of the CRP is shown in Figure 3.5, where the supply curve shifts to the left by 4% due to the CRP, and results in a price increase from P0 to P1.

**Figure 3.5 Accounting for the Effect of U.S. Programs**



The impact of subsidies can then be accounted for by following the impact of higher subsidies on the supply curve S1. The subsidies<sup>22</sup> are equivalent to P2-P1 and result in a

<sup>21</sup> *The Impacts of U.S. Crop Subsidies on Livestock Production*, Prepared by Harry de Gorter and John Cranfield, prepared for CAPI.

<sup>22</sup> All subsidies are considered, with direct price support subsidies modeled the same as market price, and decoupled subsidies modeled to be have a smaller impact on output than price or a coupled subsidy, as they are decoupled from production (more detail can be found in the deGorter and Cranfield paper).

supply of Q2, which is less than the original supply of Q0, before we considered CRP and subsidies. With a supply of Q2, and considering the original demand curve, the market-clearing price will be just above P0.

This CRP affect can more than offset the production enhancing effect of price support and related subsidies. Based on modeling these important factors over the 2003-2004 period, the net effect of all U.S. programs is to increase market prices in 2003-2004 by about 1.4% for wheat, 1.2% for feedgrains (corn), and 2.1% of soybeans. This means that the production enhancing effect of subsidies by moving up the supply curve is lower than the production reducing effect of the CRP in shifting the supply curve inwards<sup>23</sup>.

However, this was not the case in the 2000 and 2001 period, when the subsidy rates were much higher than in the 2003-2004 period. As a result, the impact of these higher subsidy levels on production was larger than the estimated supply reducing effect of the CRP. Consequently, the net effect in this earlier period, therefore, is for the net impact of US programs in the grain and oilseed sector to lower grain and oilseed prices. These lower prices are then readily translated into Canada.

The net result is that prices received by Canadian farmers can be negatively or positively affected by US farm policy. In some years, the net effect may be that US farm policy is helping support grain and oilseed prices, as it did through the loan rate program in the 1970's through to the mid-1980's.

Even when US policy does have a net price depressing effect on grain and oilseed markets, it should be remembered that as highlighted in Figure 3.4, the US has not been the major contributor to increases in exportable supply. The exportable supply from lower cost exporters, such as those in South America, are larger contributors to the exportable supply situation, and therefore the prices that are established for these commodities.

The above discussion focused on market prices, and not overall returns: at the individual farm level the impact is much different. These large U.S. grain and oilseed sector subsidies provide a higher overall return to grain and oilseed production to individual US farmers when compared to Canadian producers.

These higher returns (in the U.S.) influence input prices paid by U.S. farmers. In the continental North American market, prices of inputs in one market can influence prices paid in another market. As a result, costs paid by Canadian farmers for some inputs can reflect the U.S. price, which results in more margin pressure in Canada than in the U.S. for the average grain and oilseed farmer.

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<sup>23</sup> The direction of these estimates can change, however, especially given that subsidy rates are forecast to be significantly higher in 2005 (and if one changes the assumptions on the parameters used).

### 3.4 In Global Markets Farmers Are Price Takers

When part of a global market and the absence of effective border measures<sup>24</sup>, the market price received by farmers, whether in Canada, Australia, or Brazil is based on global supply and demand conditions, with adjustments for quality, freight, and commercial handling and storage. Farmers are price takers in global markets, and not price makers as with supply management systems, based on regulatory powers given to producers to limit production, control imports, and establish price.

Producers around the world have extensively adopted new varieties and technologies to reduce costs and widen their price-cost margin. The aggregate impact of this adoption is that supply increases and price falls. While the early adopters of the technology have been able to achieve an increase in the price-cost margin, for the majority of producers the price drop offsets the cost savings. The result is what Cochrane<sup>25</sup> calls a “treadmill” – farmers have to keep adopting new technology and lowering their costs just to remain in business. Indeed, the late adopters typically are forced to leave agriculture because of low returns.

Given the falling farm level price, different production regions, such as Canada, can remain competitive only if they are able to reduce their costs and/or increase their yields more rapidly than other regions. The mechanisms available to a region to maintain its competitiveness are well known and involve actions by producers, governments and private business. Farmers can contribute by ensuring they are using the best varieties for their region and that they are effectively using chemicals and fertilizers. Education is critical, as is the adoption of appropriate technology.

Individual actions by producers, while critical, are not sufficient to guarantee that regions remain cost competitive. Also important are actions by private business and government. Transportation and storage infrastructure must be constantly enhanced, inputs must be made more effective, and new varieties – be they in the public or private domain – must be developed. Since there is some evidence that yield increases are becoming increasingly difficult to obtain, greater investment in R&D will be required just to keep yields constant; this, of course, is not enough since any given region will likely require substantial yield increases to remain competitive with other regions.

Attention must be paid to the fact that producers are not homogeneous, and that farmers have different cost structures. Some farmers can often find themselves in a downward spiral in which higher costs restrict their ability to bid for land or purchase new technology, which in turn further reduces their cost competitiveness. At the same time, farmers with low cost structures are in a better position to purchase new technology or expand operations. A well known fact in agriculture is that the price of land and other scarce factors (such as quota, or production rights in supply management) is established by the low cost and efficient producers. As a result, higher cost producers will either have declining incomes due to their inability to invest in expansion or new technology, or require off-farm income sources to help finance the investments. This is part of the treadmill dynamics that Cochrane referred to in the 1950's.

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<sup>24</sup> Supply managed commodities have effective border measures since the TRQ's limit the amount of product that can enter Canada before rather large tariffs are imposed.

<sup>25</sup> Cochrane, W.W. 1958. *Farm Prices: Myth and Reality*. University of Minnesota Press: Minneapolis.



The emergence of new exporters, such as Brazil, Argentina, India, and China, continues the trend of supply increasing faster than demand, with a consequent reduction in price to create a market equilibrium. However, because of their lower cost structure, the world price observed today can be considered an equilibrium price for grains and oilseeds. In this context, clear strategies are required to offset the impact of low cost competitors in higher cost countries, such as Canada.

This is the *key issue* for consideration in a policy context. First, the trend of supply increasing faster than demand for commodities can be expected to continue. Second, the price being established is based on the much lower costs of emerging suppliers.

In this context, Canadian farmers must decide whether they can adopt strategies that will allow them to compete in these markets. Low cost strategies include the use of new technology, productivity and scale. Another strategy is to compete based on higher quality, or to compete by using innovation to produce varieties that offer premiums in the global market. Another possible strategy is to withdraw resources from these commodities and focus on products with a Canadian advantage, or develop new products (such as was the case with canola, northern flax for food markets, specific pulses, etc.). Opportunities also exist in non-food uses for primary products with specific attributes for domestic markets (e.g., ethanol, plastics). Leading through innovation requires a massive research and development focus, whether from industry, government, or a collaborative effort between the two.

## 4.0 Market Considerations and Farm Income

The prior section highlights one of the major factors affecting farm income which is that the growth in exportable supply of exporting nations continues to increase faster than the demand for these products, with price falling to allow markets to reach an equilibrium.

Canadian farmers operate in this environment, whether they ship product into export markets or if their products are used in a manufacturing process in Canada. In both cases, the price received is tied to these international forces. The exception is supply managed commodities (dairy and poultry), where Canadian prices are made in Canada prices, versus an extension of the world price.

### 4.1 Price as a Potential Lever to Increase Incomes

An increase in the farm price will lead to improved farm incomes; however the issue is whether farmers have any control over the price they receive. In supply managed commodities, farmers through regulatory measures have been given the power to establish a made in Canada price for their products. This has allowed farmers (in supply managed commodities) to take a cost based approach to establishing a farm price<sup>26</sup>, as this made in Canada price can be isolated from the global price for the product. However, as noted in section 2.0, producers in supply managed commodities do not always generate superior income performance compared to farm operations that are not in supply management.

Not all commodities can use the supply management approach. This occurs when the performance of the sector is heavily dependent on the export market, or even linked to export or import prices, or when demand is highly price elastic. In these global commodity markets farmers are price takers, which means that local prices equal the world price with adjustments for quality, timing, handling costs and freights costs. This means that for example, the price of fresh tomatoes in Ontario is based on the supply and demand for tomatoes in North America, with exportable supplies from Europe, Asia and South America affecting the price established in the North American market. The price received by Ontario farmers is based on the price in a major North American wholesale market, with adjustments for freight, quality, grading and packing costs, and the exchange rate.

In these situations, where prices are linked to the global economy, the base price received is beyond the control or influence of Canadian farmers. However, price premiums can be used to increase revenues and income. Price premiums can be obtained for quality, and meeting other buyer attributes (e.g., providing a continuous source of supply).

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<sup>26</sup> For example, the price of eggs is based on estimated costs and the price of chicken is based on feed and chick costs plus a margin. These costs are not always actual costs and some cost categories can be negotiated with processors, as in the case of chicken.

## **4.2 Increasing Revenue in the Domestic Market**

Consumers have indicated in numerous studies and surveys that price is all important, and growth in sales of product are based on a competitive price offering and positioning of attributes important to them. Many attributes are considered essential and a part of doing business. Food safety is one of them and consumers (on average) are not willing to pay extra for this fundamental attribute. Other attributes can be used for product positioning and growing business volume, and these include quality, freshness, reliability, made in Canada, environmentally friendly, etc.

In niche markets and markets that serve consumers, more income can be derived from the domestic market. However, this must be earned by being responsive to and delivering on market requirements of the buyers. Using a positioning of made in Canada, with out regard to a competitive price offering or meeting a buyers requirement of providing 12 month supply, or providing shipments in the needed size and frequency to reduce logistic costs will not result in much success. However, offering food products that are competitively priced and delivering on non-price product attributes (e.g., quality, environmental) and meeting non-product supply chain requirements (e.g., 12 month supply, truck load deliveries to distribution centers, specific shipping container sizes, etc) will increase the probability of success.

Agriculture benefits by being able to deliver more product into the domestic market. Farm incomes can benefit through the volume effect versus the price effect.

## **4.3 Market Position Earned**

The Canadian greenhouse vegetable industry is an example of an industry that has responded to market requirements of delivering fresh product 52 weeks of the year, when the economics of production in January are unattractive. The industry is a North American leader, in part due to the larger marketers developing alliances with greenhouse operations in Mexico and brokers of Spanish product to offer a continuous supply of greenhouse vegetables at distribution centers across North America.

Canadian food service operators have indicated that they source certain cole crops from the U.S., while Canada has an advantage in production of crops such as broccoli, Brussels sprouts, cabbage, etc. The reason is that Canadian suppliers were not willing to offer product 52 weeks of the year, while U.S. based operators were willing and able to do so. The successful supplier would have used a model of sourcing production from different regions of the continent to ensure the continuous supply required in the food service industry. This means, of course, becoming more than a producer of the commodity.

The above examples show that a position in the market place is achievable, however, this position has to be earned by meeting the requirements of buyers in the complex agri-food supply chain. However, achieving this success in many ways requires doing things much differently than in the past, as competitors are willing to respond to these market requirements.

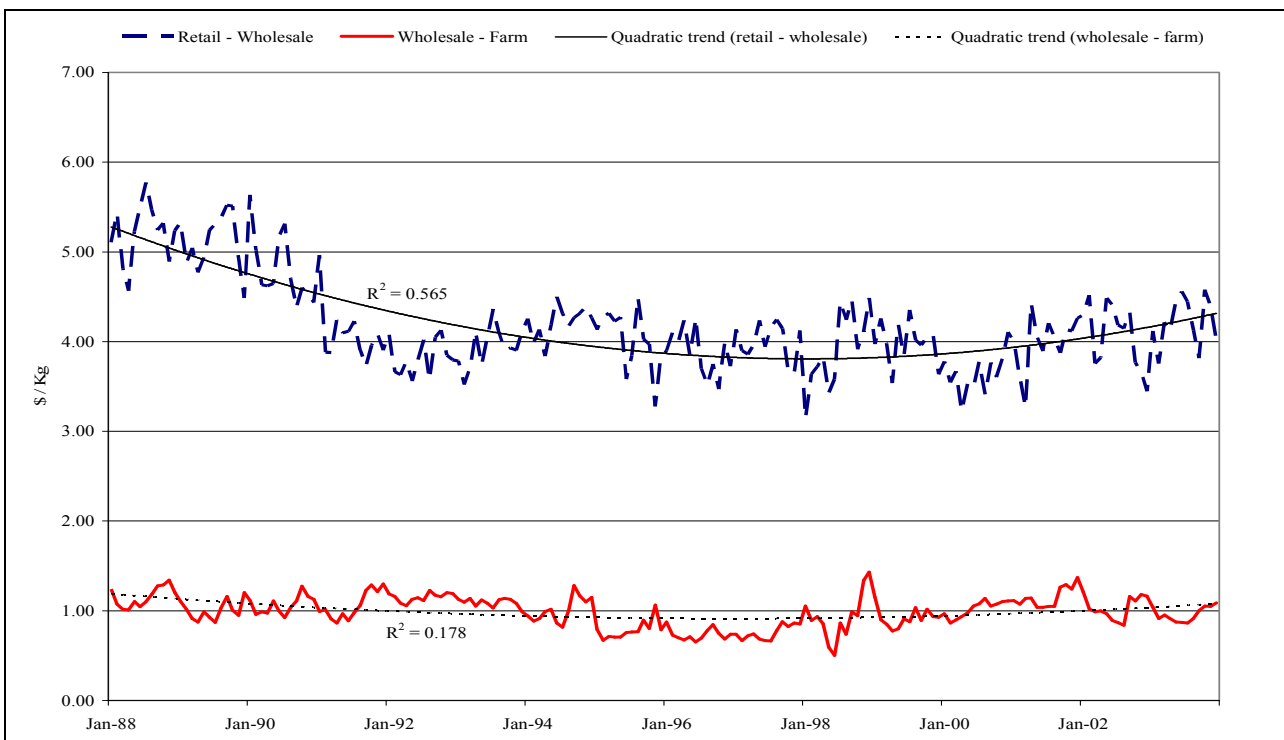
### 4.4 Linkage Between Farm Prices and Retail Prices

While farm prices are determined on the global stage, retail prices are often determined by another complex of factors, including costs, productivity and competition in the supply chain between farmers and consumers. Using the evidence of three provinces, retail prices have grown at a faster rate than farm prices in the beef, pork and chicken sectors in recent years.

Figure 4.1 shows the price spreads between the wholesale price and the farm price from 1998 to 2003 for pork in Quebec. It shows that on a real basis, the wholesale to farm price relationship was fairly constant, implying that the price spread used by the processors to make a profit has remained relatively constant in real terms over the time period analyzed. Conversely, the retail to wholesale price spread (in real terms) declined in the late 1980's and early 1990's, was flat, and then in the last few years has been slightly increasing.

There are a number of factors at play in determining these price spreads, whether at the farm to wholesale level, or the wholesale to retail level. Fundamentally, any market power available to retailers and processors will have minimal impact on producer prices and farm incomes when markets are operating efficiently and producers have access to other market opportunities, such as exporting raw product, shipping to another province, or establishing their own processing and marketing capability.

**Figure 4.1 Wholesale to Farm and Retail to Wholesale Price Spreads for Pork**



**Based on monthly Quebec data for retail, wholesale and farm level prices (in 1992 dollars) 1998-2003**  
 Source: Paper prepared for CAPI by Gervais and Larue “Establishment of Farm prices and Degree of Linkage to Consumer Prices”

## 4.5 Importance of Processing to Farm Income

Processing of farm products for food and non-food uses is of strategic importance to the farm sector. Without a viable processing sector, a larger share of farm product would be exported as raw product, and wholesalers and distributors would be importing finished products for consumers. Currently, an estimated 66% of farm level production is processed<sup>27</sup> in some form within Canada. Approximately one-third of Canada's grain and oilseed production is exported without undergoing any value added processing. The strategic importance of the processing industry to the farm sector includes (1) alternatives to exporting raw product by the demand pull of local processing activity and the improved returns that results from such opportunities, and (2) additional stability for markets available to Canadian farmers, and supports the further development of Canada's rural economy.

A viable processing sector is strategic to Canada in other aspects including:

- the potential for enhanced economic impact from the export of agricultural raw materials and primary processed product will be limited as access to these markets will increasingly be protected; opportunity exists to process the considerable raw product grown and raised in Canada; there remain over \$10 billion of raw product exports from Canada each year;
- the economic activity and employment impacts of value added activities in each of Canada's regions;
- the ability to provide a safe supply of food to Canadians.

The capabilities and capacity of Canada's food (and non-food) processing sector are not well understood, and there is a potential role for the public sector to facilitate a coordinated, strategic approach to the further development of supporting infrastructure. Canadian food processors have excellent access to such industry development requirements as raw material supply, transportation, quality control infrastructure, and human resources. Lacking is market access and power for Canadian commercial enterprises to grow based on international market success. These gaps can affect farm incomes through the demand pull aspect of food processing in the supply chain.

## 4.6 A Market Life Cycle View of Agriculture

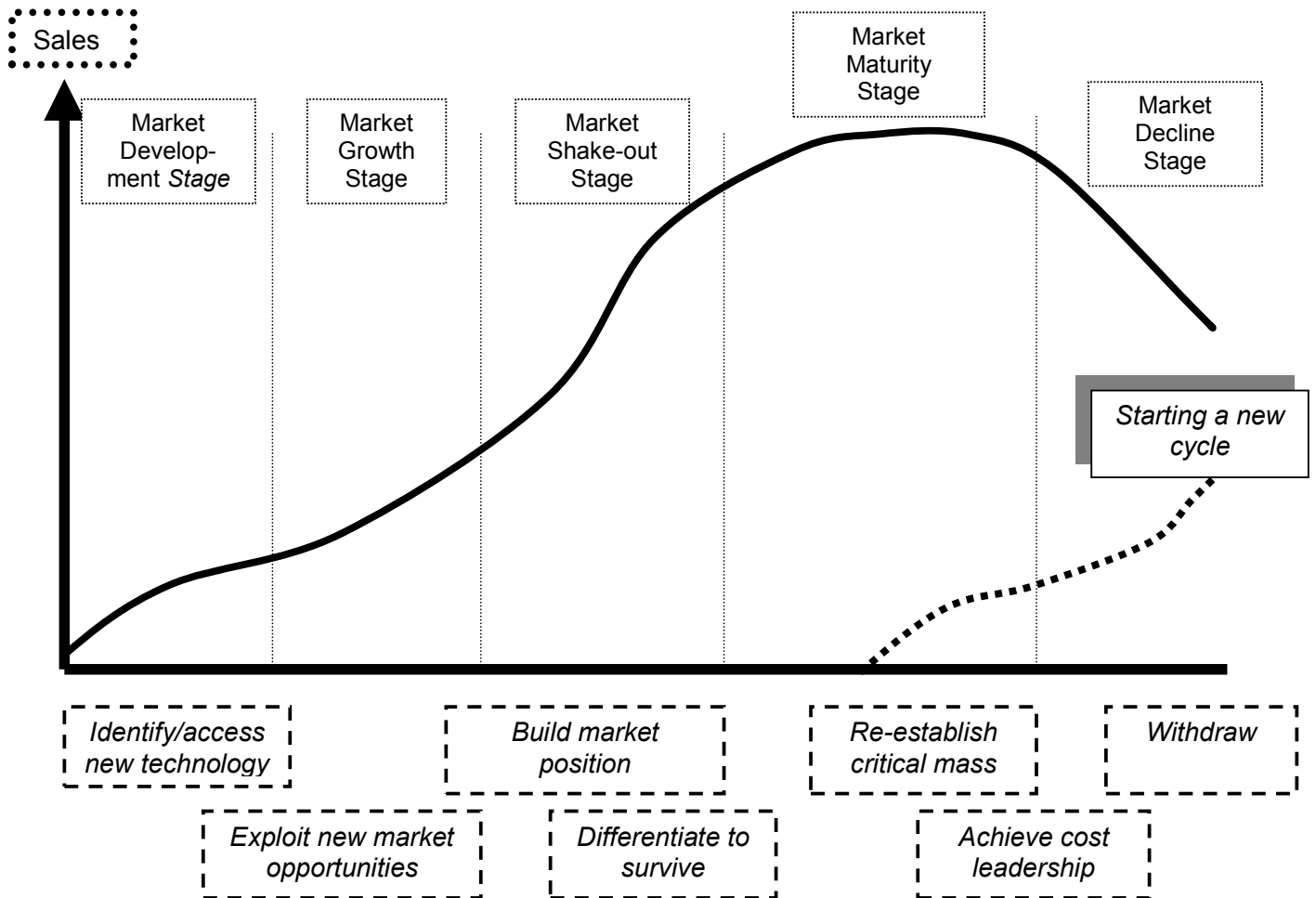
The market/product life cycle model is an industry model that is often used to characterize an industry and focus on imperatives for success. These stages start at the market development stage and continue through market growth to industry shakeout and then through to a mature industry and in some cases to a declining industry. These stages are shown in the upper portion of Figure 4.2.

Some parts of agriculture are in the market growth stages (e.g., ethanol production, organic milk), while others are in the market maturity stages (e.g., corn production), while others may be in decline stage (e.g., tobacco).

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<sup>27</sup> This measurement is based on the value of farm production and does not include the grading and packing activities that occurs with marketing of fresh produce and eggs, for example.

**Figure 4.2 Changing Business Imperatives During Market Life Cycle and Research**



Associated with each stage are specific business imperatives, which are shown at the bottom of Figure 4.2, which must be implemented to retain business success in the various stages of the life cycle.

These imperatives are different depending on where an industry is on the market life cycle. For example, for products in a mature market, the imperative is critical mass and being a cost leader. Consolidation in an industry occurs when firms attempt to establish the necessary critical mass and cost leadership required to be successful in a mature industry. Another reality is that firms exit an industry that is in decline. These firms withdraw resources and invest them in markets and products that are either emerging or growing.

More importantly, when an industry or business is in the mature and or declining stage it can re-invent itself to enjoy the rewards of a new market/product life cycle. To do so requires identification and accessing of new technology. Fundamental to implementing this business imperative is innovation and associated research and development activities to develop competitive and possibly comparative advantage given our natural resources.

## **4.7 Agriculture is a Mature Industry and Some Parts Are in Decline**

This framework in Figure 4.2 provides insight as to the actions that can lead to a more successful agriculture and food sector. The first observation is that most of production agriculture is in mature markets and some may be in declining markets. A classic sign of a mature market is narrowing margins, a cost price squeeze, and consolidation. This is happening in commodity agriculture, whether in the grain sector or the hog sector, with tighter per unit margins identified as a major force affecting farm incomes.

In mature markets the focus must be on critical mass and cost leadership. Critical mass provides for the economies of scale and cost control and innovation allows for cost leadership. These same elements were highlighted in Figure 2.3 and Figure 2.4 as performance elements necessary to improve farm income. Critical mass can be provided through alliances, cooperative marketing, and through scale of operations. Cost leadership starts with cost control and innovation to reduce costs.

Consolidation is a natural response in a mature industry, and has been applying to each segment of the agri-food supply chain, where input suppliers, farmers, processors, distributors, or retailers. Consolidation occurs to reduce costs and achieve cost leadership and to achieve the critical mass necessary to operate in a mature market segment.

Most fundamentally, businesses operating in mature and declining markets should be looking at developing new products and accessing new markets that are in growth stages. The example of canola is one where through innovation a new product and market was developed. Current development of new varieties that produce specialty oils (e.g., high oleic sunflower oil, low linolenic/high oleic canola oil, etc.) that can substitute for partially hydrogenated fats and oils are examples of new products and markets for Canadian agriculture.

Some markets may be in decline and the operative response is to withdraw resources from that market/product; with these resources redeployed in more profitable opportunities. An example of a market in decline was the grape industry that had mostly product suitable for low-end wines and grape juice. Producers withdrew from this market area and committed resources to varieties in demand and which were suitable for growing conditions in the wine producing regions of Canada.

The egg industry is an example of an industry that was in decline; however the development of new products such as omega 3 eggs and marketing/positioning efforts has allowed the egg industry to again become a growth market.

## 5.0 The Farm Sector in the Agri-Food Supply Chain

In this section the farm sector as part of the agri-food supply chain is discussed.

### 5.1 Farming Prospects and Consolidation Trends

Consolidation has been occurring in the agri-food supply chain, whether at the input supply level, the farm level, the processing sector, or the retail sector. The exception is further processing, where firms have the ability to differentiate products. Table 5.1 provides a summary of some findings on consolidation through-out the agri-food supply chain.

**Table 5.1 Summary of Consolidation Findings by Supply Chain Level**

<b>Supply Chain Level</b>	<b>Comment</b>	<b>Examples from paper (Concentration and ownership of top firms)</b>
Retail	Driving chain due to its size and buying power but also access to consumer information. Dominated by large Canadian retailers with considerable market power. Will be further reshaped by Wal-Mart. Canadian retailers are repositioning themselves in preparation.	CR4 – 68% (Can) Price indices indicate increasing market power, particularly related to meat.
Further Processing	Many small and medium size firms. Product differentiation opportunities and relatively low barriers to entry have made this the only level where concentration is relatively low.	
Primary processing	Concentration levels are high in primary processing of meat and grain	CR3 Beef – 80% All U.S. firms CR4 Pork - 56% Can/US CR 2 Grain – 78% both U.S.
Farm level	Productivity improvements and economies of scale continue to support consolidation of farm production.	Firms with constant 2000 \$ sales over 250,000 increased from 3% of farms to 14% and the total revenue from those farms grew from 24% to 56%
Input suppliers	Seed and chemical dominated by a few large multinationals. Economies of scale, R&D and long development times all create barriers to entry.	U.S. CR4's are in the 55-80% for most crops.

Source: "*Consolidation in the Canadian Agri-Food Sector*" Paper prepared by David Sparling, Terry Quadri and Erna van Duren for CAPI

Consolidation tends to occur where there are significant economies of scale and where firms have difficulty differentiating themselves and their products. Consolidation is often a by-product of firms adjusting to their changing competitive environment.



Consolidation is a global phenomenon, not national. Most large players in the primary processing of beef, hogs and grain in Canada are multi-nationals as are most seed and chemical suppliers. These companies exert their market power on a North American or global basis.

Globalization has been a driver of consolidation, and as noted in earlier sections globalization and the global nature of commodity markets directly affects farm incomes. Prices are no longer based on local conditions, but instead on international commodity prices with only minor local adjustments. Globalization, consolidation and concentration are based on economic factors that will not likely change in the near future.

There are opportunities for some farmers to move out of commodities into niche markets. Regardless of whether farmers choose to operate in commodity or niche markets they need to manage their farms as any manager would manage their business; by identifying and implementing strategies to build competitive advantages over the long run. Table 5.2 summarizes some activities which farmers will need to undertake to survive and grow their businesses, not simply their crops and animal products.

**Table 5.2 Summary of Activities and Farm Level Needs**

<b>Activity</b>	<b>Farm Level Needs</b>
Understanding markets and market requirements	Market research Requirements analysis Forecasting trends
Identification of competitive priorities	Identification of where commodity vs. niche focus applies to the business What product/market mixes?
Gap analysis in product attributes, production, delivery, quality, traceability and service	Identification of gaps between market requirements and farm capabilities.
Reorganization of resources	Realignment of resources and addition of necessary capabilities
Assessing and adopting new technologies	Ability to analyze and understand the impact of new technologies and develop a technology adoption plan.
Supply chain management	Skills in partner identification, relationship building and maintenance Infrastructure investment – supply chain software and systems and training
Entering foreign markets	Creating relationships with foreign buyers Understanding market needs and differences from current markets
Risk management	Developing skills in risk management tools and strategies or hiring those skills
Performance assessment	Measuring performance and understanding deviations

Source: "*Consolidation in the Canadian Agri-Food Sector*" Paper prepared by David Sparling, Terry Quadri and Erna van Duren for CAPI

Farmers must understand what business they are in, what businesses they can and should be in and where their current businesses fit into their plan for the future. A policy objective should be to help farmers be proactive, self reliant and successful with targeted assistance from associations and government.

Addressing Canadian farm income prospects in the context of consolidation is not a matter of addressing consolidation but rather understanding how consolidation affects farm businesses and developing business strategies to respond to consolidation, globalization and changing market trends. Farm income improvement depends on farmers managing their farms as a productive asset in an overall business strategy. Achieving that will involve many farmers developing new skills in business management and assisting them in making changes.

## 5.2 Farming and Market Power

An increase in market power is one way to help improve farm incomes. The question is how can farmers increase their market power. Market power has been provided through regulation in the case of supply-managed commodities. However, there are other ways to increase market power. Before we look at increasing market power, one way to think about market power is the balance of bargaining power in the agri-food supply chain.

One way to increase bargaining power is by being responsive to the buyer and market requirements (i.e., increase bargaining power). This would include developing and producing products required by buyers and then delivering on all of the attributes required for success. These include product specific attributes such as competitive pricing and non-price attributes such as high quality, fresh, etc. However, many non-product attributes must be delivered for market place success. These include providing continuous supply, supplying in the volumes and locations required by the buyer, and supplying product that conforms to required specifications for identification, handling etc. to keep a low cost profile for the buyer. By doing so, farmers as suppliers will have some bargaining power in the market place.

This market power can also occur on the buying side to help reduce costs. Joint buying groups are used in many industries to achieve the economies of scale associated with buying inputs in large quantities. In agriculture, many cooperatives were created to achieve this buying power for all farmer members.

To achieve this power in the market place often requires needed scale and critical mass. Farmers cannot always deliver on these attributes on their own, rather they need to either:

- ❑ Amalgamate operations,
- ❑ Develop horizontal alliances within a supply chain,
- ❑ Develop or strengthen bargaining entities or co-operatives,
- ❑ Develop vertical alliances within a supply chain,
- ❑ Jointly own processing and marketing capability, whether as a co-operative or a jointly owned corporation,

These are not new actions to the sector, as these tactics are currently in use, but not universally. For example, producer co-ops are in place to block purchase inputs required for production (e.g., buying groups for energy required for greenhouse production, farm supply co-ops), producers through co-operatives process farm products in to consumer products (e.g., dairies), some producers jointly own processing facilities (hog slaughter plants), and some producers are part of supply chains and have long term contracts with marketers in the supply chain to supply product based on certain specifications.

Farmers on their own may not have the organizational and management skills to operate a food processing and/or marketing facility in a superior manner, given the competitive nature of marketing semi processed and consumer ready products to major buyers and distributors. Rather the best approach may be delivering value in a industry supply chain that is successfully competing in the market and supplying key accounts and negotiating contracts to ensure that some of value is captured back at the farm level. Ownership positions in supply co-ops, marketing co-ops and processing facilities (whether or not as a second generation co-op) are other ways to ensure that the as much of the value is captured by producers.

There does not appear to be any magic bullet as each segment of the agri-food supply chain is operating in the same overall market environment, which is the food industry is overall a mature market and affected by consequences of globalization. In today's market environment, undifferentiated product can be offered from almost any corner of the world, and Canadian agri-food supply chains need to be cost competitive with supply chains that are innovating or accessing materials to offer a lower cost structure to buyers for comparable product.

### **5.3 Importance of Processing**

The above section highlights the importance of food processing (and processing for non-food uses) as a way to capture value for the farm sector. Food processing is significant and represents an estimated \$20 billion, or approximately 1.5% of Canada's total GDP (average over 2000 to 2004), and employment of 275,000 direct jobs, (or 1.8% of all employment in Canada) within the food-processing sector. There are an estimated 10,500 total food processing establishments in Canada.

Shipments (domestic sales and exports) from Canadian food manufacturing enterprises represent over \$63 billion in value. Exports of Canadian food manufactured product increased an average of 6.7% per annum from 2000 to 2004 and exceeded \$18 billion in 2004. Approximately 25% of all shipments from Canadian food manufacturing enterprises are now exported. The secondary, or further processing, or consumer-oriented, processing of food is generally recognized as more profitable versus the primary, or intermediate, stages of food processing. Agriculture and food exports are considered a top ten industry sector in exports and are exceeded by automotive, energy, industrial products, machinery and equipment, and forestry. Agriculture and food products account for 3 to 5% of the value of Canadian exports.

Canada's processing sector has primarily been focused on the primary processing of raw product, e.g. meat manufacturing, skim milk powder and butter manufacturing, raw seafood packaging.

The tiered structure of the sector (large number of small food processing enterprises; significant number of manufacturing and distribution operations of foreign owned and controlled enterprises; and the small number of Canadian owned and controlled global players in the food industry) is also significant. There are only a few Canadian-based organizations of world scale size and market power in contrast to the significant number of small family-owned enterprises in Canada. Compared with other Canadian manufacturing

industries, food manufacturing has a slightly higher percentage of smaller enterprises. The market power of the integrated manufacturers/distributors/retailers also has often forced Canadian manufacturers into private label manufacturing roles. Over the past decade, most sub-categories in food manufacturing showed flat to decreasing investment trends.

The industries processing farm products for food and non-food uses industry can be considered of strategic importance based on three considerations:

- The demand-pull for raw agricultural products based on Canadian based food-processing operations. This demand-pull provides market place options to producers and removes a heavy reliance on the exportation of raw products, or semi-processed products. The demand for exports of agricultural raw materials and primary processed product will be limited as access to these markets will increasingly be protected; and the opportunity exists to process the considerable raw product grown and raised in Canada; there remain over \$10 billion of raw product exports from Canada each year;
- The food security for the nation that a viable food-processing sector provides. Food security is even more important as when considering consumer basic requirement is a guaranteed safe supply of food;
- The economic impact of the food (and non-food) processing industry across Canada through the economic activity, jobs and GDP created by the sector in each region of Canada, which is additional to the economic impact of primary agriculture. Efforts should be focused on increasing the processing of existing raw product exports to create additional value added in Canada. Food processing can help maintain a viable rural economy, both directly and indirectly through the associated economic activity.

However to realize these strategic results, an environment is required to assist in the further development of the Canadian food processing industry (either individual enterprises, or clusters).

Another challenge to realizing the benefits of an expanded sector is the apparent barriers to the further development of existing mid to large-sized food manufacturing enterprises in Canada. Some of these barriers may include:

- access to raw materials at competitive pricing to international competitors;
- general lack of harmonization in regulations with our major market, the U.S. in areas such as fortification, labeling, health claims, and packaging. and,
- the lack of a co-ordinated forum for food manufacturing development within government, within industry, and between government and industry.

A strengthened processing sector in Canada provides additional stability for markets available to Canadian farmers, and supports the further development of Canada's rural economy. Canada has excellent access to such industry development requirements as raw material supply, transportation and quality control infrastructure, and human resources. Continued emphasis on food quality and safety will be critical to the future participation of Canada in world food markets. Lacking is market access and power for Canadian commercial enterprises to grow based on international market success.

### 5.4 Performance Through the Agri-Food Supply Chain

An informative comparison is the financial performance by businesses operating in the agri-food supply chain (e.g., farmers sector versus food manufacturers and food retailers). Farming has a lower return on assets (earnings divided by assets) of 2.0 percent to 2.5 percent, compared to food manufacturing and retailing. This is illustrated in Figure 5.1 for the components of the agri-food supply chain along with comparisons to all retailers, all manufacturers, and all industries, with these comparisons based on enterprises that are incorporated. Incorporated farms account for 70 percent of livestock and poultry production and 56 percent of crop production.

**Figure 5.1 Percentage Return on Assets, 1999-2004 average**



Source: Conference Board of Canada *“Performance Measures of the Canadian Agri-Food Supply Chain”* prepared for CAPI

However, after considering financial leverage (assets in relation to equity), where the ratio of assets to equity is greater in farming than for food manufacturing and retailing, the return on equity (earnings over equity) tells a slightly different story. (See Figure 5.2). Farm enterprises in livestock and poultry production generated a return on equity of more than 10 percent, which was higher than that of food manufacturers and for all crop farms.

**Figure 5.2 Percentage Return on Equity, 1999-2004 average**



Source: Conference Board of Canada *“Performance Measures of the Canadian Agri-Food Supply Chain”* prepared for CAPI

Some of the differences in financial performance can be explained by the profit margin (earnings before taxes and interest divided by revenues) and the asset turnover ratio. Livestock and poultry producers have a much higher operating profit margin (at ~7 percent) than food manufacturers (at ~5 percent), crop farmers (at ~4 percent), and food retailers (~3 percent). (See Figure 5.3).

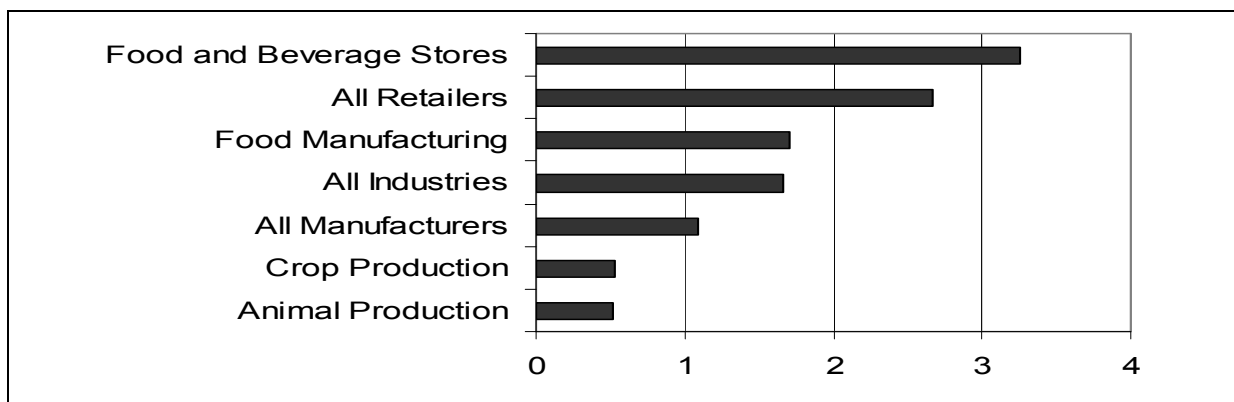
**Figure 5.3 Operating Profit Margin, 1999-2004 average**



Source: Conference Board of Canada *“Performance Measures of the Canadian Agri-Food Supply Chain”* prepared for CAPI

However, the asset turnover ratio (revenue divided by assets), which is a measure of how effectively assets are used to generate revenue, shows that food retailers and food manufacturers are better able to generate revenues with their assets than the farm sector. (See Figure 5.4). That is, the farm sector represented by these incorporated farms generates \$0.50 in annual revenue for each dollar of assets employed, while food manufacturers can generate over \$1.50 each year in revenue for every dollar of assets employed.

**Figure 5.4 Asset turnover ratio, 1999-2004 average**



Source: Conference Board of Canada *“Performance Measures of the Canadian Agri-Food Supply Chain”* prepared for CAPI

This comparative data shows that while farming can generate higher profit margins than food processing and retailing, the financial success of farming is very dependent on attaining these profit margins and making as efficient use of production assets as possible.

The farm sector is an integral part of the agri-food supply chain. There are opportunities for the farm sector to capture some additional value, and this can be achieved by organizing to meet the requirements of buyers in the marketplace and organizing (through buying groups) to help reduce costs. Critical mass can provide the necessary bargaining power to capture a fair share of marketplace returns.

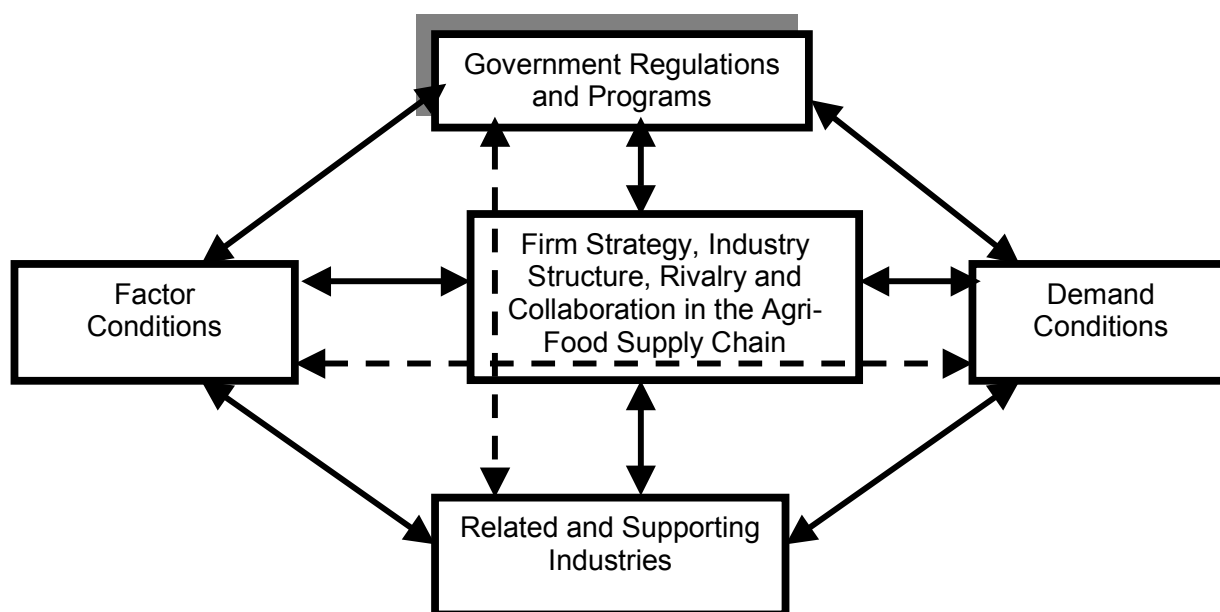
## 6.0 Regulations and Policies And Farm Incomes

Government programs, policies, and regulations can have a significant impact on the agri-food sector, on the competitiveness of the agri-food sector, and on the performance of the farm sector. To show the pervasive affect of regulations and programs on the agri-food sector, a modification of Michael Porter's Determinants of National Advantage model<sup>28</sup> is shown in Figure 6.1.

The elements that are considered important to help shape competitive advantage include:

- ❑ Factor conditions, which refers to inputs used in the production processes in the sector and the resulting productive capacity,
- ❑ Demand conditions, which refers to the nature of demand (domestic and export)
- ❑ Related and supporting industries, which provide know how and advantage to the agri-food sector
- ❑ Firm strategy, structure, rivalry and collaboration in the agri-food supply chain, and
- ❑ Government regulations and programs.

**Figure 6.1 Determinants of Competitive Advantage in the Agri-Food Sector**



Government regulations and programs can have a dramatic effect on the competitiveness of the Canadian agri-food sector. As illustrated by the arrows in Figure 6.1, government, through its policies, program and regulations, has influence over the factor conditions, related and supporting industries, demand conditions, and firm strategy, structure, rivalry and collaboration. Examples of how government can affect the competitiveness of the sector include:

- ❑ Macro economic policy, which has considerable influence over the value of the Canadian dollar, and the attractiveness of Canadian products in export markets,

<sup>28</sup> The modifications include explicit recognition of the role of government, and the inclusion of the growing, processing, and shipping/marketing value chain activities together in the firm strategy, structure and rivalry.



- ❑ Tax policy which can affect the attractiveness of investments in value added manufacturing in Canada versus in competing countries,
- ❑ Competition policy, which influences the amount of merger and acquisition activity in the country, and the resulting structure of the food processing and food distribution industries.
- ❑ Research policy, which provides funds for research on horticulture sector specific issues, which can add to the productive capacity of the sector.
- ❑ Agricultural policy and the signals it sends to the farm community,
- ❑ Standards for environmental practices,
- ❑ Food safety standards, which provides consumers in Canada and abroad with a high quality product that meets their requirements,
- ❑ Harmonization of standards and regulatory requirements with major trading partners, which does not jeopardize the standards established for Canada,
- ❑ Applying comparable standards on imported products as on domestic product (production protocols, food safety standards, crop protection materials used, etc.).
- ❑ Equal enforcement of environmental, food safety, and chemical residue standards on imports as applied in Canada, which ensures a level playing field for each level in the supply chain.

Regulations and government policy can also hinder development of a competitive industry. In the recently released report on smart regulations (*Smart Regulation: A Regulatory Strategy for Canada*<sup>29</sup>) a key finding was the need for increased cooperation among federal, provincial and territorial governments, industry and citizens. In the agri-food sector this underscores issues of duplication, over-regulation, and regulations as impediments to growth.

## 6.1 Regulations Affect industry Competitiveness and Farm Incomes

When the competitiveness of Canadian producers and processors is undermined by the regulatory system, this can have a negative effect on profitability all along the agri-food supply chain, including farm income.

The horticulture sector can be used to show that many regulations have destroyed value (farm incomes). Pesticide regulations are still a major regulatory concern. On the area of cross-border harmonization, regulatory harmonization issues are taking decades to address. This does not support the growth of the industry, rather it provides a competitive disadvantage. It has also been shown that there is built in resistance to change by the regulatory process, which is only at the expense of farmers. Change is needed in this area, which can only benefit the farm sector.

Application of food safety regulations by the Canadian government and by foreign governments can result in a non-level playing field, it can be used as a barrier to trade, and it can be used to provide competitive positioning in markets<sup>30</sup>.

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<sup>29</sup> *Smart Regulation: A Regulatory Strategy for Canada*, a report prepared for the Government of Canada by the External Advisory Committee on Smart Regulations (September 2004)

<sup>30</sup> CAPI, *Food Safety – A Level Playing Field with Competitors\** prepared by Ron Doering (April 2005)

A major issue is whether other countries use their food safety standards or other methods to create unfair barriers to Canadian export products. Based on research conducted by for CAPI, there are a number of cases where Sanitary and Phytosanitary (PSP) measures are used as disguised barriers to trade, and the dispute resolution process is not perfect. While the Canadian government can do a number of things to mitigate the consequences of trade protectionism through food safety, however, there will always be a certain vulnerability for a trade-dependant country like Canada. Several recent cases of disguised barriers to trade include the Australian salmon case, the Beef Hormones case and the Canadian and American challenge involving the EU refusal to approve products of genetic engineering.

In the area of food safety regulations another issue is whether Canada has domestic regulatory standards that inappropriately undermines the ability of Canadian producers to compete with trading partners who may not have such standards or standards that are rigorously enforced. The administration of pesticide regulations and regulations relating to diet related health and nutrition claims undermine competitiveness and innovation. These areas of regulation must be improved by Canada if there is to be a level playing field.

Adequate resources must be directed to inspection services to maintain a level playing field and that government and industry need to continue to monitor this issue in order to determine the extent of the problem to identify problems quickly if they emerge.

Food safety regulation can undermine competitiveness, that there are steps that Canada can take to level the playing field but that a trade-dependant country like Canada will always be vulnerable to protectionism. While there are some limitations on what Canada can do to address the imbalance in some cases, there are also a number of things that are within our power to do to mitigate the consequences.

## **6.2 Programs and Regulations Affects the Location of Production**

As suggested in the competitiveness framework in Figure 6.1, programs and regulations can have a pervasive impact on the agri-food supply chain. This also includes the impact on the location of production; and in a globalized world, the location of production between countries. Different approaches in Canada and the U.S. to income stabilization can impact the value-added industry in each country in different ways.

For example, U.S. programs treat each commodity separately, while Canada takes a whole farm approach. As a result because of the multiple enterprise approach in Canada the profitability of a hog finishing operation offsets the losses of a grain based operation before a whole farm support/income stabilization payment is made. In contrast, in the U.S. the profitability of hog finishing has no impact on whether the corn operation is eligible for program payments. The Canadian approach penalizes on-farm value added activities, while in the U.S. it can be argued that their program design assists in the creation of value added activities.

Furthermore, policies and programs as they affect the supply of primary products (e.g., corn) can have an impact on the location of value added industries, as these industries tend to locate close to the source of raw material to maintain a low cost profile.

Western Canada has moved from a feed grain surplus region to a feed grain deficit region over the last two decades. Part of this is based on the expanded demand on the prairies for feed grains by the expanding livestock and poultry industry, and part is due to the recent drought induced supply shortages. As well, Canadian based policy and regulations can also affect the feed grain deficit situation on the prairies. For example, regulations affecting variety registration, may affect the supply of feed grain available to livestock producers on the prairies.

The effects of programs and regulations can have implications for value-added sectors such as ethanol, high fructose corn, and bioplastics. In the U.S., each of these industries has experienced recent growth and each relies heavily on corn as an input for production. It could therefore be argued that the expansion of these value-added industries is partially attributable to having a cheap and plentiful supply of corn<sup>31</sup>. Overall, companies in the U.S. can be relatively confident that they will have corn to use as a cheap input well into the future, and they are therefore willing to invest in a variety of industries that rely on it. At this time, western Canada can not offer the same competitive attribute to these industries.

Canada needs to consider the effects of U.S. programs in addition to their own when making policies. The agriculture industries in the two countries have become very integrated through free trade, and programs in the U.S. affect Canadian agriculture. Just as some regulations are being harmonized, the impact of agricultural programs needs to be considered in this much larger context.

The farm sector is an important part of the Canadian economy. First and foremost, it is primary supplier of goods into the agri-food supply chain. This supply chain accounts for 8.2 percent of national GDP, starting with input suppliers and ends with food retailing and food service operations<sup>32</sup>. Direct employment in the supply chain is 2 million, which is 13.2 percent of all employment, or one in eight jobs. Ontario and Quebec have the most people employed in the agriculture and food system due to the size of their economies. Total employment attributable to the agri-food sector can be as high as 20 percent of all employment in some provinces, such as Saskatchewan and Prince Edward Island.

This employment effect is before considering the indirect and induced jobs based on the agri-food sector. For example, while agriculture accounts for 160,500 direct full-time equivalent jobs across the country; after accounting for its economic impact, the sector generates another 197,000 jobs through indirect and induced impacts<sup>33</sup>. This is based on its purchases of goods and services, and is before the impact of food processing and retailing is considered. Food processing accounts for at least another 244,000 direct jobs<sup>34</sup>, and with a typical employment multiplier of 2:1, after considering direct and indirect employment based on the goods and services purchased by the processing sector and their employees, the total employment attributed to food processing is close to 500,000 workers. Farming and processing directly and indirectly accounts for at least 850,000 jobs.

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<sup>31</sup> Another contributing factor is that in the U.S., the federal government pays the ethanol subsidy, whereas in Canada provinces are involved.

<sup>32</sup> AAFC, "*An Overview of the Canadian Agriculture and Agri-Food System*", May 2004

<sup>33</sup> CAPI, "*The Economic Impact of Agriculture in Canada: A Three Dimensional Perspective*" Prepared by Econometric Research Limited, May 2005

<sup>34</sup> CAPI, "*Food processing – A Strategic Canadian Industry*" Prepared by Scott Wolfe Management, May 2005

## 6.3 Other Government Experiences

### New Zealand

New Zealand is an example of where subsidies to agriculture were substantially reduced, if not eliminated. Producers quickly and successfully adjusted to the new economic environment by changing resource use to halt the slide in their income. As a result, the general trends in the farm sector were not dramatically altered by the policy reform.

In New Zealand, the economic crisis led to a reform of government intervention in all sectors of the economy. In the late 1970s and the early 1980s, all macro-economic indicators pointed toward the mediocre performance of New Zealand's economy. Major economic reforms began to be implemented in 1984. Given its historical importance in New Zealand's economic development, the agricultural sector was at the heart of the reforms – all the more so, as agriculture-related government expenditures had been increasing rapidly.

The agricultural sector and, in particular, sheep farming (which was the most heavily subsidized) were hit extremely hard by the changes made to the general economic policy and by the agricultural policy review. Beginning in 1990, Ministry of Agriculture and Fisheries (MAF) expenditures were slashed to barely 2 percent of gross agricultural product. At the structural level, the abolition of transfer payments did not noticeably alter the trends already apparent at that time. The decline of sheep farming, which had been shrinking since 1982, accelerated in the late 1980s, following only a few years after the drastic cuts to subsidies in the sector. This situation led to growth in other areas of pastoral agriculture, notably beef cattle and dairy production. In addition, the diversification of New Zealand's agricultural sector, begun in the 1970s, carried over into the horticultural sector and deer production.

In the years following the agricultural policy review, the total value of agricultural production in real terms fell to the level of the 1960s. However, this decline in the value of production was due more to changes in the prices of products than to a sharp decline in total volumes produced. The value of exports tumbled in real terms in 1986 and stayed at essentially the same level for the next 15 years. This decline was due more to a slide in export prices than to a sharp decline in export volumes. However, while pastoral agriculture export volumes were growing over the long term, they leveled off in the years following the agricultural policy reform. The production of higher volumes in the dairy and beef cattle industries made up for the decline in sheep production, although not to the point of spurring an immediate return to export growth. Nonetheless, export volumes once began to post grow in the early 1990s.

Analysis of the economic and financial performance of sheep farms has showed that, at first, Farm Family Income (FFI) fell dramatically in 1986. However, this decline in real term FFI occurred within a long-term trend initiated in the mid-1970s, when transfer payments in the sector were on the rise. Thus, 1986 merely accentuated, to a degree, a decline in incomes that had begun much earlier. Next, sheep producers adopted a global strategy for adapting to the changing economic environment, a strategy that helped halt the decline in their incomes. Farm productivity increased with respect to fertilizer use in the short term and to labour use in the long term. The portion of incomes from beef cattle production

increased at the expense of sheep production. Any expenditure that could be cut, was cut. Farm families turned to sources of income outside of agricultural operations to maintain their standard of living.

In the dairy industry, analysis of farms' economic performance shows that the agricultural policy review had little effect. Over time, farm-gate milk prices have generally increased, causing farm family income to rise as well.

Analysis of New Zealand's agricultural policy review shows that the agricultural sector was able to maintain its level of economic activity despite a massive reduction in government intervention. Knowing this, do the particular characteristics of New Zealand agriculture continue to warrant targeting the sector for specific government action? In New Zealand, it seems the answer is no. However, the case of New Zealand is sufficiently particular and can not automatically be generalized to the agricultural sector of other developed countries.

New Zealand does show that the farm sector has the capacity to adjust. While few resources moved out of the sector, producers quickly and successfully adjusted to the new economic environment by modifying the use of their resources in order to halt the slide in their income and maintain their standard of living. As well, the general trends that were already observable among production structures and agricultural incomes were not dramatically altered, in spite of the scale of the policy reform and the economic crisis affecting the sector.

## **Brazil**

Brazil has become a leading exporter of a wide range of agricultural products. The transformation of agricultural production capacity has occurred in a relatively short time period since the 1980s with the development of modern varieties, practices suitable to tropical conditions, input industries (fertilizers, farm equipment, agrochemicals) and a national research system. Brazil's geography, climate and natural resources were transformed into an agricultural production powerhouse only through technological development and an institutional environment that promoted investment.

The agribusiness system in Brazil has also become quite complex in terms of the variety of products with a complete chain of production from input supply to food processing capabilities. A wide range of crops (soybeans, sugar, coffee, orange juice, corn and fruit) and livestock products (chicken, swine and red meat) are produced and exported in both raw and processed form. This diversification guarantees some stability for the agricultural industry as a whole, given the price variation in commodities markets.

Brazil has developed an impressive amount of inexpensive land. Until the mid 1980s, the Center-West region with a vegetation known as "cerrado" was considered to be unsuitable for modern agricultural production. A key development in Brazil was the no tillage planting system, particularly in transforming the cerrado area. With new production techniques, this region with low weather risk has become the most dynamic in terms of agricultural production growth. The modern production system of the cerrado allows for large farms that profit from economies of scale, and lower weather risk. Total cropland in Brazil is now 60 million hectares but studies estimate 100 to 200 million additional hectares are

available. There is also an additional 180 million hectares of pasture land that is characterized by low productivity but is now becoming integrated into crop production.

Given this room for expansion in cropland, favorable international commodity prices can only generate more supply. Technological development together with productivity gains due to learning by doing has reduced unit costs of production. Data shows that Brazil is the lowest cost producer of many crop and livestock products.

Reform of agricultural and trade policies and the creation of a national research system generated the realized significant gains in productivity. Removing import tariffs on agricultural inputs, export taxes and price controls on agricultural products, credit subsidies and overvalued exchange rates spurred an increase in investment. The emergence of multi-nationals in providing credit and inputs and selling output has also greatly enhanced Brazil's competitiveness.

Policy reforms, macroeconomic stability and rising world prices provided the impetus for farmers to intensify production, raising productivity and lowering unit cost of production. Openness to trade helped multinationals expand its participation by not only providing credit and inputs but also assure a pattern of quality and worldwide access to markets that makes Brazilian agricultural products feasible to reach any country in the world for a variety of products.

The Brazilian research system has evolved, led by the federal government doing research for different weather conditions and farm products over the entire country. There are some Brazilian state research systems, especially in São Paulo. As well, many private research foundations were created by farmers to study plant nutrition, new genetic material and new techniques of mechanization. Human capital has also improved immensely, with several schools of agronomy, veterinary and biology created in the last two decades.

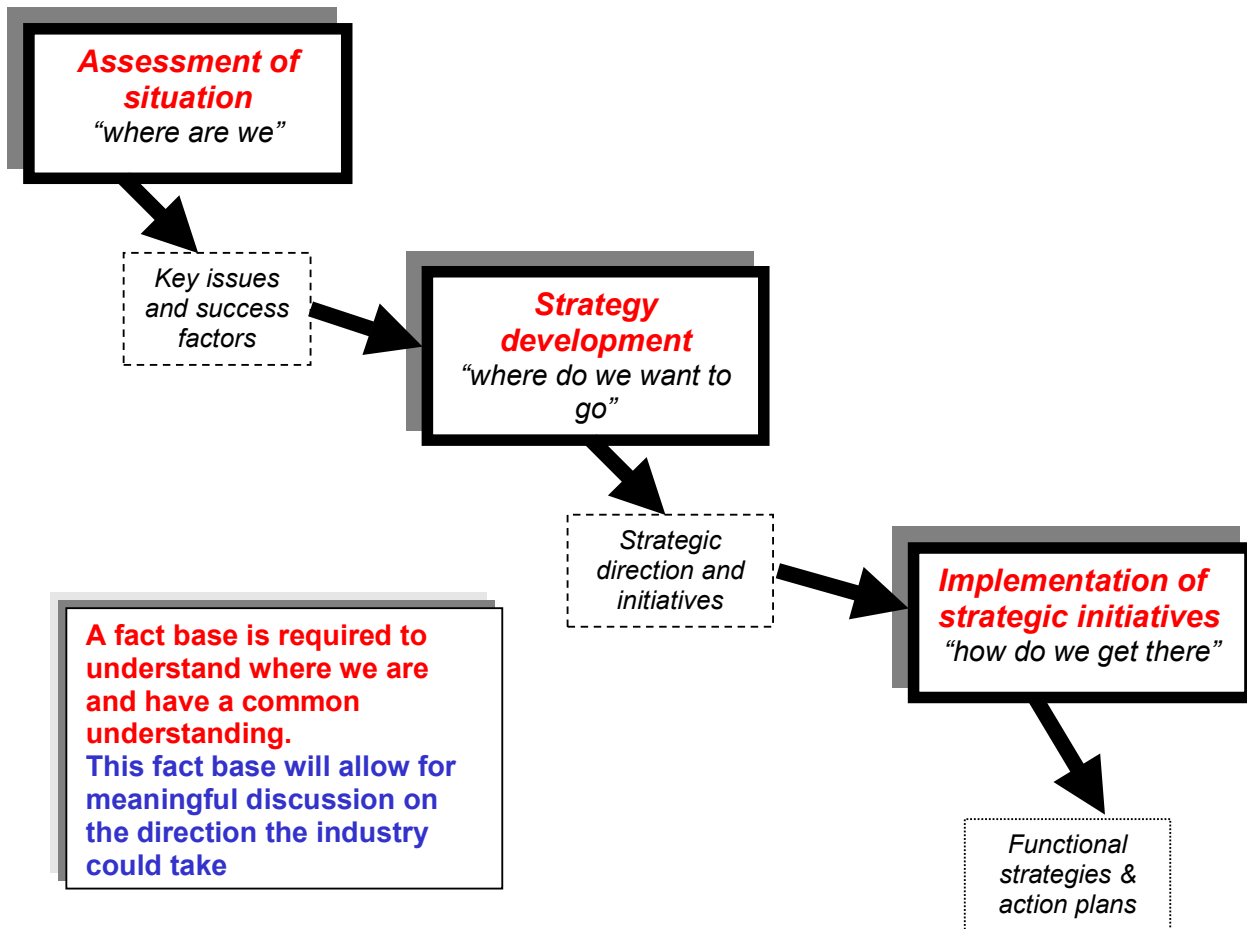
During the last decades, the quality and control of production and processes has improved systematically. This movement was a consequence of the increasing quality requirements of processing industries, the sophistication of the super-markets, the increasing consumer demand for quality, and the introduction of information technology. These developments suggest that traceability and certification for the majority of Brazilian commodities and products will be achieved in the near future, as can be seen in the diversity of products available today. The significant presence of the large agribusiness multinationals in Brazil provides a strong advantage to the Brazilian agri-food sector. The multinational focus on quality guarantees access to most international markets with a variety of product quality standards in place. This aspect is extremely relevant for international trade.

Countries such as Brazil can continue to increase production and exports, which will place downward pressure on world prices for commodities. This has direct implications for farm incomes in Canada, particularly for those farmers producing competing products.

## 7.0 Key Issues, Success Factors And Farm Income

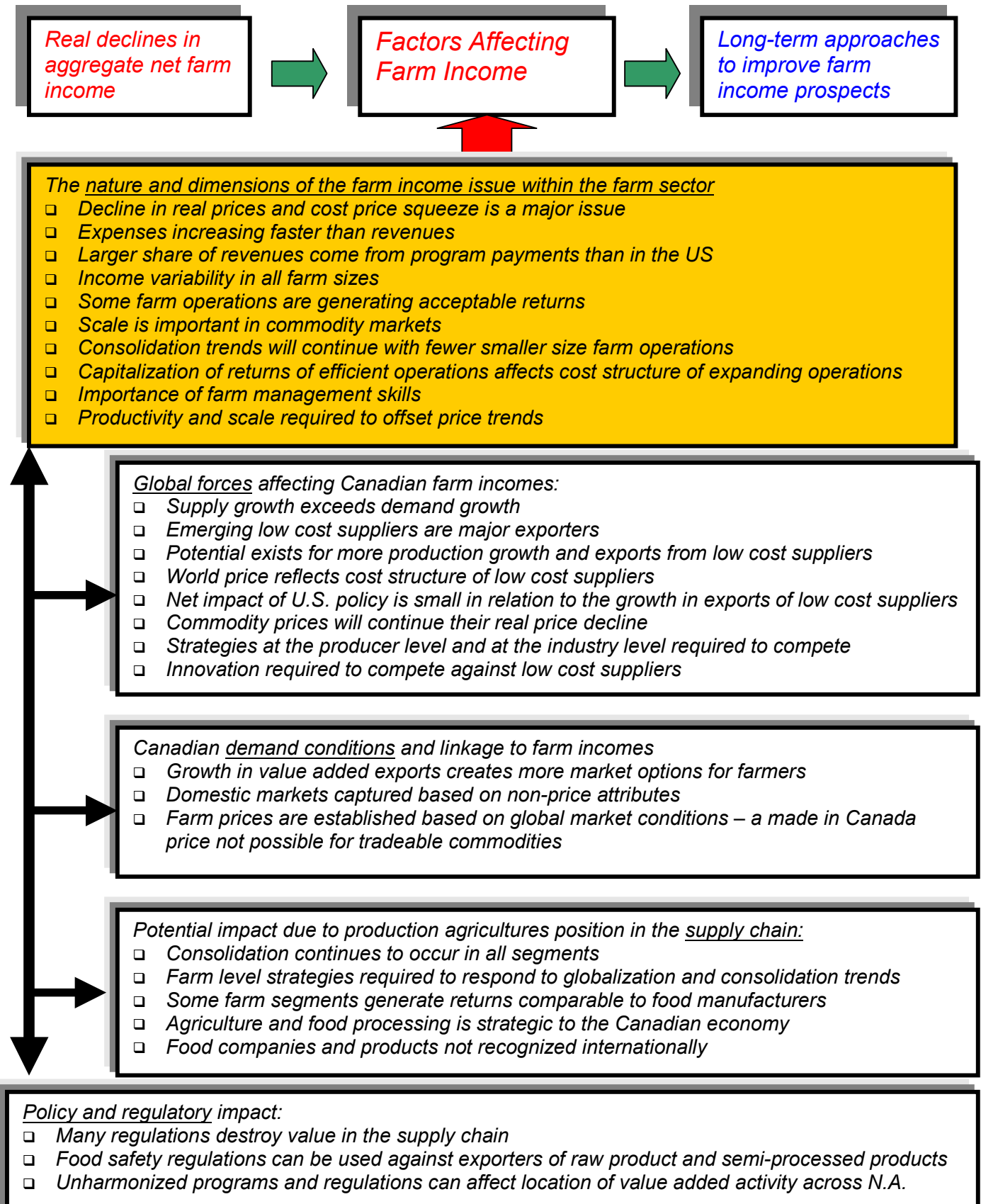
The prior sections of this report provided a situational analysis of the Canadian farm sector and assessed factors that impact on farm income prospects. In a strategic context, the issue becomes one of what are the key issues and success factors that impact on farm income prospects. These key issues and success factors can then be considered in the next phase, which is strategy development. In strategy development the major focus is on what direction does the farm sector want to go. This is shown below, which is a reproduction of Figure 1.2.

**Figure 7.1 CAPI Farm Income Project in A Strategic Context**



A summary of the many factors affecting farm income that have been discussed and identified are illustrated in summary form in Figure 7.2. From these many factors identified in the situational analysis, a set of key findings emerges.

**Figure 7.2 Factors Affecting Farm Income**





## 7.1 Key Issues Affecting Farm Income Prospects

From these factors a number of key issues and success factors emerge. While many factors affect farm income prospects, the key issues for farm income prospects are categorized by the following areas:

### Global Forces:

1. The fundamental driver of farm income trends is the long-term decline in real commodity prices; for most commodities this is driven by global exportable supply increasing faster than demand;
2. Large increases in exportable supply from emerging low cost exporters such as Brazil and China are a fundamental force shaping the global agricultural sector today; growth in exports of major commodities comes from non-North American countries;
3. Prices for many commodities observed today can be considered equilibrium prices, reflecting the lower cost structure of emerging suppliers;
4. Many parts of Canadian agriculture are providing commodities into mature markets; competing in mature markets requires cost leadership and providing the needed critical mass for the marketplace;

### Government Programs and Regulations:

5. U.S. subsidy levels are considerable in grains and oilseeds; however, the net price impact of U.S. programs can be minimal due to the impact of acreage removal programs; when US subsidy rates are low the net effect on prices is negligible; with higher subsidy rates as observed in 2000-01 the net effect is an increase in production and somewhat lower prices; at the same time, with U.S. producers receiving larger direct subsidies than Canadian producers, the impact on Canadian farmers can include the effect of U.S. subsidies on Canadian input costs;
6. Across all commodities, Canadian producers receive a higher percentage of gross income from direct program payments when compared to the U.S.;
7. The U.S. spends significantly more on general services and support to agriculture, such as in agricultural education, research, infrastructure, and marketing;
8. Longstanding regulatory issues continue to remove value from the Canadian agri-food supply chain;

### Aggregate Farm Income:

9. Growth in expenses exceeding market revenue growth negatively affects farm income;
10. Aggregate net farm income is not a measure of profitability for business focused farms;

### Farm Level Context:

11. Canada has many top-notch farm operators, who know how to operate their business and make a profit using necessary business skills;
12. Business management capability is a fundamental driver of success at the farm level;
13. There are two general types of farm enterprises, those with a business focus and those that farm for other reasons; while overall farm number are declining; the number of very large business-focused farms is growing, with many of these successful;

**The Agri-Food Supply Chain:**

14. A viable non-farm sector that processes and distributes farm products into food, feed, bio-processing and bio-medical markets, and supplies farmers with inputs, is essential for long term success of the farm sector;
15. Some opportunities for additional market power can be earned by being responsive to market requirements including offering competitively priced products and delivering on buyer requirements such as freshness, quality, reliability, logistics requirements, etc.; market power is also available through organizing to achieve efficiencies associated with group buying to lower input costs;
16. The agri-food sector is influenced by some overarching factors that are not specific to agriculture and food (e.g., environmental policy, bilateral and multilateral trade agreements, regulatory approaches) and that are not controlled within the sector;

**Innovation and Continued Success:**

17. Innovation, productivity, and management capability are essential to provide for continued efficiency gains to compete on costs in mature markets; and
18. Innovation is fundamental to allow the sector to supply new and differentiated products into new growth markets (whether food, feed, bio-processing, or bio-medical).

Forum participants in their comments also identified these key issues. Comments taken from the proceedings are highlighted below by key issue area:

**Global Forces:**

1. *The fundamental driver of farm income trends is the long-term decline in real commodity prices; for most commodities this is driven by global exportable supply increasing faster than demand;*

First take away, declining commodity prices are here to stay. All public policies and programs must be developed with this in mind. So too should business decisions on the farm.

Farm level prices are falling over the long run because global commodity supplies are increasing faster than increases in global demand.

We need to think beyond the "commodity mentality"- the last century of agriculture -- to be a viable 21<sup>st</sup> century industry for Canada and our producers.

2. *Large increases in exportable supply from emerging low cost exporters such as Brazil and China are a fundamental force shaping the global agricultural sector today; growth in exports of farm products is due to the supply increases from non-North American countries;*

Subsidization in other countries "does not" have the same impact on global prices as it once did. Increasing cheap production in developing countries is the main driver of supply, and will continue to drive retail prices down.

Canadian producers are continuing to experience great difficulty in competing. The U.S. is just one challenge; China, Brazil, and many others exist and will grow. We are innovators and are efficient. More of the food dollar needs to get back to the farm(er).

First take away, declining commodity prices are here to stay. All public policies and programs must be developed with this in mind. So too should business decisions on the farm.

3. *Prices for many commodities observed today can be considered equilibrium prices, reflecting the lower cost structure of emerging suppliers;*

Watch out for Brazil, China and India. Canadian consumers will be buying their product because it will be cheaper.

4. *Many parts of Canadian agriculture are providing commodities into mature markets; competing in mature markets requires cost leadership and providing the needed critical mass for the marketplace;*

Canada is a price taker. Therefore, costs have to be reduced – a straightforward simple exercise.

Mature market syndrome for agricultural commodities should drive innovation (value adding) for export as well as local products.

Can we really expect grain farmers in Western Canada to survive with increasing import-export costs (no significant value added opportunity) and competing with countries like Brazil, E. Europe, India, and China? Their production costs less and is closer to consumers.

#### **Government Programs and Regulations:**

5. *U.S. subsidy levels are considerable in grains and oilseeds; however, the net price impact of U.S. programs can be minimal due to the impact of acreage removal programs; when US subsidy rates are low the net effect on prices is negligible; with higher subsidy rates as observed in 2000-01 the net effect is an increase in production and somewhat lower prices; at the same time, with U.S. producers receiving larger direct subsidies than Canadian producers, the impact on Canadian farmers can include the effect of U.S. subsidies on Canadian input costs;*

Brazil is emerging as a more important force on Canadian farm income than U.S. subsidies. Under current U.S. policy, U.S. programs have virtually no impact on world price and hence on price received by Canadian farms. This result occurs even though the so-called “decoupled” subsidies affect production.

6. *Across all commodities, Canadian producers receive a higher percentage of gross income from program payments when compared to the U.S.;*

Canada may be too focused on the U.S. and their programs versus the rest of the world.

7. *The U.S. spends significantly more on general services and support to agriculture, such as in agricultural education, research, infrastructure, and marketing;*

Policy needs to be refocused on innovation facilitating change and providing market support such as research, market intelligence, promotion, etc.

The importance of government expenditures on R&D, marketing, infrastructure in determining income.

Canada is lagging behind the U.S. in expenditures on research and infrastructure. Since R&D and infrastructure are critical in determining cost competition, this lag in expenditures is likely important in determining Canada’s cost competitiveness.

**8. Longstanding regulatory issues continue to remove value from the Canadian agri-food supply chain;**

Global trading requires a “level playing field” therefore, harmonization of regulation is imperative. Currently horticulture is treated unfairly by our own PMRA. Competitiveness needs to be looked at by government when reviewing or establishing regulations (i.e. government needs to create policy that allows all producers to be successful not create policy that impedes their success). Canada’s regulations/standards undermine domestic farm competition -- PMRA, health and nutrition claims. Standards are inappropriate and timelines make us less competitive/innovative. Some regulations create value and some destroy value. Regulations both help and hurt farm income. If anything, we should continue to strengthen output regulations and ease input regulations. Data is quite clear that this will create the most value. Implementation of “smart regulations” in a meaningful way is critical to improving farm income and value adding the industry – timely implementation of change.

**Aggregate Farm Income:**

**9. Growth in expenses exceeding market revenue growth negatively affects farm income;**

Farm income is decreasing on an aggregate basis.

**10. Aggregate net farm income is not a measure of profitability for business focused farms**

Canada lacks data on agriculture. Our statistical capacity is pitiful. We keep mixing up “income” and profitability. We do not make an appropriate distinction. Greater granularity by commodity sector; perhaps by region to accurately assess “winners” (profitable) versus those under serious income pressure. This might assist in analysis of various policy issues that could be different within the agricultural sector.

**Farm Level Context:**

**11. Canada has many top-notch farm operators, who know how to operate their business and make a profit using necessary business skills;**

Management matters- farms of any size can be profitable with good management. There is no formula for a successful/profitable farm; rather management skills indicate the level of success. Again, however, there is no formula for good management skills either. So, how do we encourage producers to change their mindset to include a more business-like attitude?

**12. Business management capability is a fundamental driver of success at the farm level;**

The need to model profit and promote successful farm business, irrespective of size category. Long term competitiveness and profitability focus must be on “farm” management. (too bad the provinces got out of it – at least it was green and not trade distorting). Farmers are clearly not homogeneous - they differ considerably in size and in management ability. However, it is critical to determine what makes up management – why are some farmers better managers? Management skills and mind-set are significant factors in generating a satisfactory level of farm income.

13. *There are two general types of farm enterprises, those with a business focus and those that farm for other reasons; while overall farm number are declining; the number of very large business-focused farms is growing, with many of these successful;*

Transition of farms from a way of life to a business that needs to be managed.  
Farms and farmers are heterogeneous. Policy needs to recognize/target different segments of farmers and farms.

### **The Agri-Food Supply Chain:**

14. *A viable non-farm sector that processes and distributes farm products into food, feed, bio-processing and bio-medical markets, and supplies farmers with inputs, is essential for long term success of the farm sector;*

Focus on farm income is important but not enough discussion on the key component that helps drive income – the manufacturing end.  
Agriculture sees itself as an industry unto itself rather than a life science or a renewable industry.

15. *Some opportunities for additional market power can be earned by being responsive to market requirements including offering competitively priced products and delivering on buyer requirements such as freshness, quality, reliability, logistics requirements, etc.; market power is also available through organizing to achieve efficiencies associated with group buying to lower input costs;*

Re-define the demand curve by being more imaginative and in-tune with consumer/market demand (i.e. specialize in finding/anticipating a new market, and then gear the infrastructure to it). It appears there is money in the marketplace but producers are not getting their fair share and lack empowerment in the market. The key issue is to determine how to do this.  
There is “money” in the value chain, but farmers (lack of knowledge/organization, bargaining power) are not able to get at it.

16. *The agri-food sector is influenced by some overarching factors that are not specific to agriculture and food (e.g., environmental policy, bilateral and multilateral trade agreements, regulatory approaches) and that are not controlled within the sector.*

More coordinated policy and regulatory systems; they are reducing competitiveness of Canadian industry (notably Health Canada and PMRA) and in export trade (dispute resolution) in SPS; international rules are not bad.  
That we are competing in a global economy and it appears that Canadian consumers are not willing to protect its food source (the Canadian farmer), but put itself at the mercy of our global competition. Agriculture policy cannot continue to be developed (fixed) in the traditional vacuum with traditional people with traditional “sense”. Must look to and work with sectors such as energy, environment, etc.

**Innovation and Continued Success:**

*17. Innovation, productivity, and management capability are essential to provide for continued efficiency gains to compete on costs in mature markets;*

Innovation within Canada is key to increasing farm profitability: other countries have done it – Brazil. Impacts of traditional enemies – E.C., U.S., subsidies are really small on Canadian domestic prices and farm profitability.

Two business models for the future: 1) gain more control over prices through product differentiation/niche (usually short lived); 2) in commodity markets, with no impact on price, increase efficiency/productivity/ keep costs low.

Lack of R & D is limiting our ability to be competitive. Need to examine policies and ways of expanding R & D.

*18. Innovation is fundamental to allow the sector to supply new differentiated products into new growth markets (whether food, feed, bio-processing, or bio-medical).*

Brazil and other newly emerging competitors will continue to depress commodity prices of grains and oilseeds, which grow in a warm climate. Therefore, standing still is not an option we must get on with the survival strategies such as: focus on R&D on temperate climate agriculture, support value added processing, support new crops, health, fiber, etc.

Success in agriculture belongs to those who innovate. The continuation of safety nets, while important is not the solution to Canada's agricultural problems. Innovation. Satisfying consumer needs is more important.

In any strategy, being an "early adaptor" is fundamental to achieving average income. The question is how to offset the risk (role of government?)? How to provide incentive?

**7.2 Major Themes Associated with Key Findings**

There are three major themes that emerge from these key findings. These are:

1. Farm incomes in Canada are shaped by global forces, particularly prices for commodities that are determined in the global market place and are reflective of exportable supplies of low-cost exporters; these long-run market forces are beyond the control of farmers and Canadian government policy;
2. The farm sector has commercial business focused farms and many non-business focused entities; business management capability is necessary for business success; government policy has tended to take a one-size fits all approach versus recognition of the large number of smaller non-business focused farm operations; and
3. Government policy has focused on supporting incomes versus policies that support the business of farming; levels of government support and spending on R&D, innovation, and marketing and promotion, and regulations that affect the availability of essential inputs are not conducive to a business focused commercial agriculture.

### **7.3 Implications of Key Issues**

There are a number of implications of these key issues and findings. These include the policy implications that are logical extensions of these findings. CAPI is engaged in a project to assess the policy implications of what has been learned in this project.

Another implication of what CAPI has learned is that strategies (or policies) can be developed to support the implementation of a new strategic direction for the agri-food industry. This new strategic direction would be based on the findings of this current CAPI project. CAPI is planning to begin a project that will use these key issues and the associated policy implications as input into developing a number of possible strategic direction for the Canadian agri-food sector. These potential strategic directions will be based on scenarios that flow from possible outcomes on the key issue areas.

Farm level, industry wide, and government driven responses are required for Canada to have a competitive and sustainable position in the global market place. By doing so, the sector will continue to provide a significant contribution to the Canadian economy, whether in the aggregate or sub-regions of the country.

Addressing these key issues through a strategic planning and policy development process is critical to creating and maintaining a dynamic sector, which will attract our next generation of successful primary producers.

## 8.0 Summary

In the aggregate, Canadian net farm income has been decreasing in real terms for many decades. For the last decade or two, nominal (not adjusted for inflation) aggregate net income has been flat or a slight decrease, depending on the exact time period chosen. Gross income has been increasing, however expenses have been increasing faster resulting in a decline in aggregate farm income. This is a classic sign of a mature industry or an industry in trouble that requires repositioning.

The farm sector has had to deal with three significant events that have affected farm incomes; (1) the drought on the prairies that affected cash receipts for 2002 and 2003, (2) the BSE crisis that started in late May 2003, and (3) the appreciation of the Canadian dollar by 28 percent since 2003. These factors were the major contributors to expenses exceeding income from the market since 2002, with government payments contributing to a positive net farm income. While important, these three events need to be placed in the context of longer-term trends. From 1990 to 2002, the Canadian dollar depreciated to \$(US)0.62, which directly increased input costs, while not all farm product prices rose by the same amount.

At the farm level, some farm operations are following the aggregate trend, while other farm operations are increasing profitability. Average income per farm is improving when the reduction in the number of commercial farms is greater than the reduction in aggregate net income. While scale of farm operations is important when competing in global commodity markets, farms in all size categories show profitability. Analysis shows that there is more variability in farm level performance within any sales category than between sales categories. Furthermore, the farm level characteristics of profitability seem to be rather consistent when comparing farms specializing in certain commodities between provinces, and when comparing between farms with different commodity specialization. For example, grain and oilseed farms can have better performance than farms with a supply management operation, when measured using concepts such as return on assets (using EBITDA). Appropriate farm management skills appear to be the common thread through profitable operations.

Many factors contribute to the performance of the farm sector. Some of these include;

- ❑ Factors within the farm sector, such as the number of farms that are lifestyle and retirement farms that complicate a firm understanding of farm level issues and trends,
- ❑ Factors that are global in nature, ranging from the supply impact of emerging low cost exporters and continuation of the long term trend of decreasing real commodity prices,
- ❑ The reality of how prices are established, and that farmers are price takers of commodity prices established in global markets,
- ❑ Demand factors, such as the fact that consumers are not willing to pay more for a made in Canada food product; rather consumers are willing to purchase competitively priced products based on attributes which are important in their buying decisions,
- ❑ The fact that the majority of agriculture's production competes in mature markets, which are characterized by continuous margin pressure,
- ❑ The importance of innovation and productivity to facilitate competing with lower cost suppliers,



- ❑ Factors in the agri-food supply chain, such as the consolidation that has been occurring due to globalization, and the need for the farm sector to respond to globalization challenges and opportunities with actions that enhance their market power,
- ❑ Policy and regulations that affect farm income, as some regulations clearly destroy value in the supply chain, and application of food safety regulations in other countries can work against Canadian exports of primary and semi-processed products.

While many factors affect farm income prospects, the key issues and success factors for farm income prospects identified in this project are:

**Global Forces:**

- ❑ The fundamental driver of farm income trends is the long-term decline in real commodity prices; for most commodities this is driven by global exportable supply increasing faster than demand;
- ❑ Large increases in exportable supply from emerging low cost exporters such as Brazil and China are a fundamental force shaping the global agricultural sector today; growth in exports of major commodities comes from non-North American countries;
- ❑ Prices for many commodities observed today can be considered equilibrium prices, reflecting the lower cost structure of emerging suppliers;
- ❑ Many parts of Canadian agriculture are providing commodities into mature markets; competing in mature markets requires cost leadership and providing the needed critical mass for the marketplace;

**Government Programs and Regulations:**

- ❑ U.S. subsidy levels are considerable in grains and oilseeds; however, the net price impact of U.S. programs can be minimal due to the impact of acreage removal programs; when US subsidy rates are low the net effect on prices is negligible; with higher subsidy rates as observed in 2000-01 the net effect is an increase in production and somewhat lower prices; at the same time, with U.S. producers receiving larger direct subsidies than Canadian producers, the impact on Canadian farmers can include the effect of U.S. subsidies on Canadian input costs;
- ❑ Across all commodities, Canadian producers receive a higher percentage of gross income from direct program payments when compared to the U.S.;
- ❑ The U.S. spends significantly more on general services and support to agriculture, such as in agricultural education, research, infrastructure, and marketing;
- ❑ Longstanding regulatory issues continue to remove value from the Canadian agri-food supply chain;

**Aggregate Farm Income:**

- ❑ Growth in expenses exceeding market revenue growth negatively affects farm income;
- ❑ Aggregate net farm income is not a measure of profitability for business focused farms;

**Farm Level Context:**

- ❑ Canada has many top-notch farm operators, who know how to operate their business and make a profit using necessary business skills;
- ❑ Business management capability is a fundamental driver of success at the farm level;
- ❑ There are two general types of farm enterprises, those with a business focus and those that farm for other reasons; while overall farm number are declining; the number of very large business-focused farms is growing, with many of these successful;

**The Agri-Food Supply Chain:**

- ❑ A viable non-farm sector that processes and distributes farm products into food, feed, bio-processing and bio-medical markets, and supplies farmers with inputs, is essential for long term success of the farm sector;

- Some opportunities for additional market power can be earned by being responsive to market requirements including offering competitively priced products and delivering on buyer requirements such as freshness, quality, reliability, logistics requirements, etc.; market power is also available through organizing to achieve efficiencies associated with group buying to lower input costs;
- The agri-food sector is influenced by some overarching factors that are not specific to agriculture and food (e.g., environmental policy, bilateral and multilateral trade agreements, regulatory approaches) and that are not controlled within the sector;

**Innovation and Continued Success:**

- Innovation, productivity, and management capability are essential to provide for continued efficiency gains to compete on costs in mature markets; and
- Innovation is fundamental to allow the sector to supply new and differentiated products into new growth markets (whether food, feed, bio-processing, or bio-medical).

There are three major themes that emerge from these key findings. These are:

1. Farm incomes in Canada are shaped by global forces, particularly prices for commodities that are determined in the global market place and are reflective of exportable supplies of low-cost exporters; these long-run market forces are beyond the control of farmers and government policy;
2. The farm sector has commercial business focused farms and many non-business focused entities; business management capability is necessary for business success; government policy has tended to take a one-size fits all approach versus recognition of the large number of smaller non-business focused farm operations; and
3. Government policy has focused on supporting incomes versus policies that support the business of farming; levels of government support and spending on R&D, innovation, and marketing and promotion, and regulations that affect the availability of essential inputs are not conducive to a business focused commercial agriculture.

The Canadian agri-food sector has an opportunity to respond to these challenges and key issues. Farm level, industry wide, and government driven responses are required for Canada to have a competitive and sustainable position in the global market place. By doing so, the sector will continue to provide a significant contribution to the Canadian economy, whether in the aggregate or sub-regions of the country.

Part of this response is to highlight the implications of these key issues and findings. These include the policy implications that are logical extensions of these findings. CAPI is assessing the policy implications of what has been learned in this project.

Another response is the implication of these findings on possible new strategic directions for the agri-food industry. CAPI is starting a project that will take these key issues and the associated policy implications as input into developing a number of possible strategic directions for the Canadian agri-food sector. A new strategic direction supported by industry and government can lead to initiatives that support a viable and competitive agri-food sector.

Addressing these key issues through a strategic planning and policy development process is critical to creating and maintaining a dynamic sector, which will attract our next generation of successful primary producers.

## Annex I - Summaries of Commissioned Papers

As part of the project, CAPI commissioned papers in the areas of:

- ❑ The nature and dimensions of the farm income issue at the farm level,
- ❑ Global forces affecting Canadian farm incomes,
- ❑ Canadian demand conditions and linkage to farm incomes,
- ❑ Any differential impacts due to production agriculture's position in the supply chain,
- ❑ Factors within the agriculture sector that can affect farm income, and
- ❑ The policy and regulatory environment within which the sector operates.

These papers are listed below along with a brief highlight of the papers findings and/or implications regarding longer-term farm income prospects.

### ***The nature and dimensions of the farm income issue***

*Testing the Structure of Canadian Farm Income\**, by Al Mussell et al. This paper looks at the farm income issue at a disaggregated level. It shows that there can be more variability of farm profitability within a specific sales class, than there is between sales classes. While farm income in the aggregate has not been increasing, there are farm operations that are increasing their profitability, and size is not the only means to profitability. Farm management skills seem to be an underlying necessity for achieving farm level profitability.

*Income from the Market and Government Payments: A Canada – U.S. Comparison*, by Eric Grenon and George Brinkman. This paper concludes that the approach and concepts used to measure returns, expenses and net farm income in the two countries are essentially comparable, but with slight differences. Canadian farmers receive a higher percent of farm cash receipts from government payments than do U.S. farmers. However, overall expenditures in US agriculture, in relation to the value of production, is higher than in Canada due to the U.S. providing much more support in areas such as research, marketing, and general infrastructure.

*Comparison of Government Support to Agriculture Across Selected Countries* by Carina Lindberg This report uses OECD data and measures the support provided to agriculture in selected OECD countries. When only budgetary expenditures are considered, the EU and the U.S. provide more budgetary dollars than Canada in relation to the value of production. U.S. expenditures are higher than in Canada due to funds spent on general support, such as research and marketing. Total support to agriculture is much less in countries such as New Zealand, Australia, Russia, the Ukraine and emerging exporters such as Brazil, and China.

### ***Global forces affecting Canadian farm incomes***

*Brazil – Yesterday, Today and Tomorrow - a Case Study of an Emerging Exporter*, by Alexandre de Barros and Erika Kliauga. This paper demonstrates the emergence of new exporters that Canadian producers compete with in the global market place. Brazil is a low cost supplier in many products, and has used this advantage to capture a competitive position in export markets. Multinational investment has assisted in the rapid export

expansion by Brazil, and a large supply potential can further increase the competitive position of a low cost suppliers such as Brazil.

*The Impact of U.S. Crop Subsidies on Livestock Production\**, by Harry de Gorter and John Cranfield. This paper shows that to fully assess the impact of U.S. farm programs, the effect of subsidies that expands production and lowers price must be considered in the context of the acreage reduction programs. The latter is shown to reduce production by at least 4 percent and can more than offsets the effects of subsidies that lead to more production. The net impact of U.S. programs is based on the size of the subsidies (that encourage more production) and whether or not they dominate the effect of acreage removal programs. In a much larger context, it can be shown that exportable supplies of grain and oilseeds from South America has increased significantly, while U.S. exportable supplies have been relatively constant over the last number of years; further suggesting that supplies from emerging exporters is a major factor affecting the farm price of grains and oilseeds in Canada.

*Farmers as Price Takers; How Farm Returns are Established* by Murray Fulton. The farm price for traded products has been decreasing in real terms. This paper reviews this concept and indicates that when supply growth increases faster than demand growth, then the inflation-adjusted price for farm products decreases, as has been happening over the last 50 to 70 years. The emergence of new exporters, such as Brazil, Argentina, India, and China, continue the trend of supply increasing faster than demand. The world price observed today can be considered the equilibrium price for grains and oilseeds. Strategies are required to offset this impact in higher cost countries, such as Canada.

### ***Demand conditions and linkage to farm incomes***

*Canadian Exports of Agri-food Products*. This paper shows that Canada's exports of agri-food products has been increasing over the last number of years, with exports of processed food and consumer ready foods fueling the growth in exports. The US accounts for 60 percent of Canada's agri-food exports, with most of this consumer ready product. Bulk exports of primary products have been relatively flat over the last 10 years. An increase in the share of processed food products provides more marketing opportunities for Canadian farm products.

*Consumer attitudes on foods and farming* by Shelley Thompson. This paper examined a number of hypothesis regarding consumer attitudes on farms and farming based on published studies of consumer market research. The findings reinforce the need for food products to be competitively priced and use non-price attributes (e.g., quality, environmental) for positioning. Food safety systems are a part of doing business and consumers are not willing to pay extra for.

*Establishment of Farm Prices and Degree of Linkage with Consumer Prices* Jean Philippe Gervais and Bruno Larue (page 19). This paper reviews the phenomena of price spreads, such as the retail to farm price spread, and what this measurement captures. The evidence suggests that in some cases the wholesale to farm price spread has been decreasing while the retail to wholesale price spread has increased. For farm commodities that are traded in global markets, the global supply demand balance is the major determinant of the farm price.

***Potential impacts due to production agricultures position in the supply chain***

*Performance Measures of the Canadian Agri-food Supply Chain*. By Louis Theriault and Michael Burt. This paper compares the various profitability and financial performance measures of farmers, food manufacturers and food retailers. While livestock and poultry farmers have higher profit margins; however after considering the fact that farmers cannot turn over their assets as quickly as retailers and food manufacturers, the net return to assets and equity is higher for food retailers. Livestock and poultry farmers have higher ROEs than food manufacturers, which are in turn higher than realized by crop farmers.

*Consolidation in the Canadian Agri-food Sector* by Dave Sparling and Erna van Duren. Consolidation is a global phenomenon, which has been occurring in each stage of the agri-food supply chain, including the farm sector. Addressing Canadian farm income is not a matter of addressing consolidation but rather understanding how it impacts farm businesses and developing business strategies to respond to consolidation, globalization and changing market trends. Farm income improvement depends on farmers managing their farms as a productive asset in an overall business strategy. Achieving that will involve educating many farmers in business management and assisting them in making changes.

*Food Processing - a Strategic Canadian Industry* by Robert Hyde. The food-processing sector is an important manufacturing sector and is an important part of the Canadian economy. Moreover, the sector should be considered a strategic sector, as it has a demand-pull for raw agricultural product and provides more marketing options, it provides food security to the nation, and has considerable economic impact through investment and employment across the country. While strategic, the food-processing sector has some challenges, including market access and power to grow based on international market success.

***Factors within the agriculture sector that can affect farm income***

*Causes and Consequences of Capitalization in Canadian Agriculture* by Rick Barichello and Kurt Klein. Capitalization results from free entry into agriculture and profitable operations bidding up the price of scarce inputs, such as land and production quotas. While the farm incomes in the aggregate have not been increasing, the value of scarce assets employed in agriculture have increased. This can be explained by the more efficient and more profitable (lower cost) producer establishing the price of these assets.

*Case Studies of Profitable Farm Operations* by Terry Betker. There are profitable farm businesses in all sectors and in all regions. There are constraints or limitations to growth, primarily associated with management practices, and they impact on profitability. The implication of this dynamic in terms of farm income prospects in Canada is that farmers must firstly identify their constraints to growth from a management perspective and then actively work to resolve and/or advance their management practices.

*Trends in the Demographic Profile of Canadian Farmers* by Gale West. This paper examines a number of socio-demographic trends of Canadian farmers. These trends must

be considered in light of consolidation and the result of fewer, but larger, commercial farm operations.

### ***Affect of policies and regulations on farming and farm income***

*Regulatory Impact Assessment of Farm Income in the Canadian Horticulture Sector* by Carol Culhane. This paper used the horticulture sector to determine if regulations, or the lack thereof, created value or destroyed value in the farm sector. The vast majority of identified issues were regulations that destroyed value (farm incomes). Pesticide regulations were a major regulatory concern, and cross-border harmonization issues are taking decades to address. This paper identifies the built in resistance to change by the regulatory process, which is only at the expense of farmers.

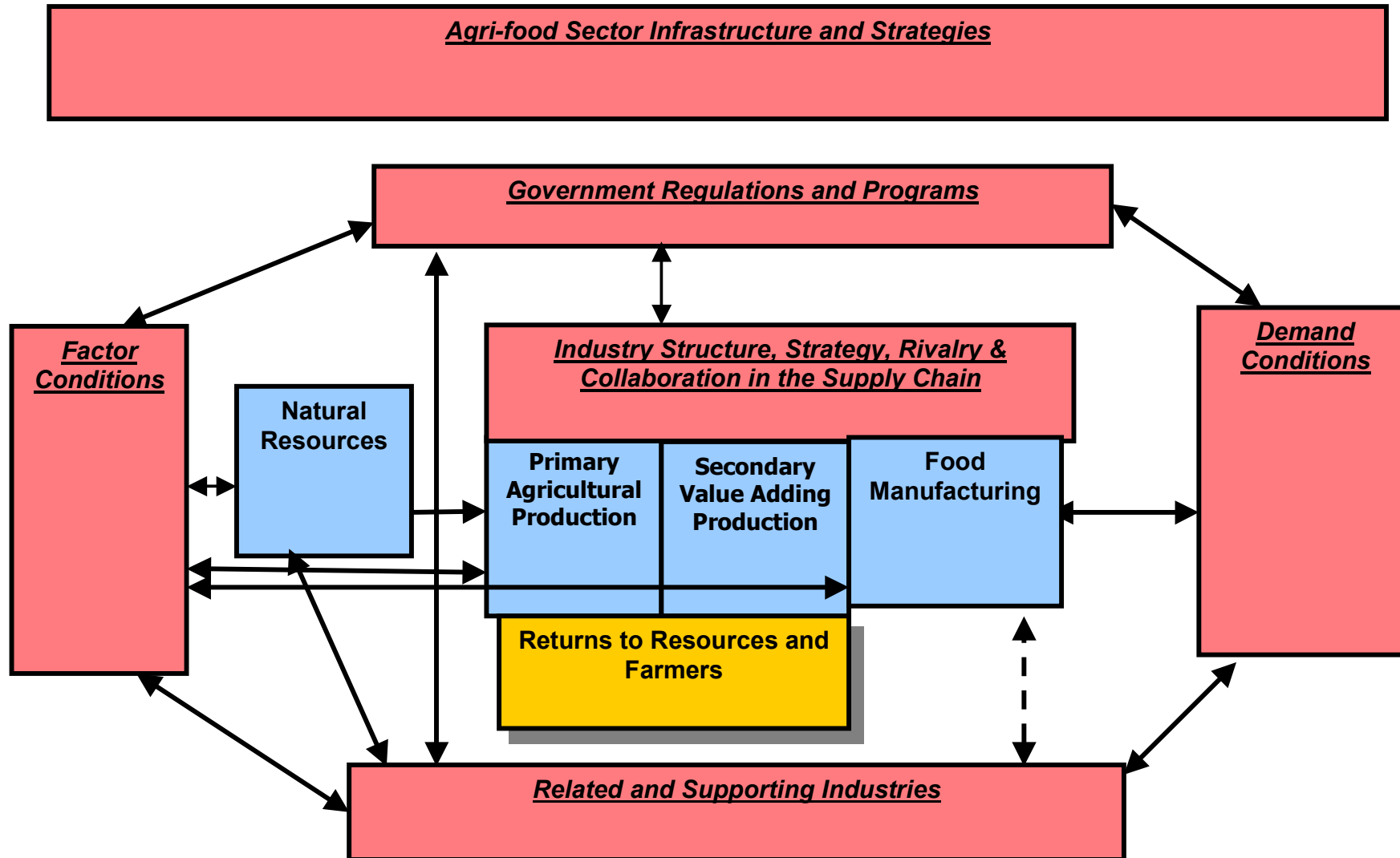
*Impact of Regulations and Programs on Valued Adding Activities by Farmers; the Case of Western Canadian and US Feed and Hog Industries* by Simon Weseen and Shon Ferguson. The differing Canadian and U.S. approach to income stabilization can impact the value-added industry in each country in different ways. The weaner and finishing hog industries in Western Canada and the United States are potential examples of value added industries that have been impacted by differing agriculture policies between the two countries.

*The Economic Impact of Agriculture in Canada* by Atif Kubursi. This paper uses input output analysis to illustrate the economic importance of agriculture at the national level, at the provincial level for selected provinces and for three counties in Ontario, Manitoba and Alberta.

*Agricultural Sector Adjustment Following Removal of Government Subsidies in New Zealand* by Daniel-Mercier Gouin. New Zealand is an example of where subsidies to agriculture were substantially reduced, if not eliminated. Producers quickly and successfully adjusted to the new economic environment by changing resource use to halt the slide in their income. As a result, the general trends in the farm sector were not dramatically altered by the policy reform.

*Food Safety –A Level Playing Field with Competitors* by Ron Doering. The analysis of food safety regulations is structured around three basic questions: Do other countries use their food safety standards or other methods to create unfair barriers to Canadian export products? Does Canada have domestic regulatory standards that inappropriately undermine the ability of Canadian producers to compete with trading partners who may not have such standards or standards that are rigorously enforced? Do Canadian food regulators enforce Canadian regulations more vigorously on domestic producers than they do on imported products?

**Annex II Integrating Framework**



## Annex III – CAPI Forum on Farm Income Prospects

### Background

The Canadian Agri-food Policy Institute (CAPI) undertook a major study entitled “*Understanding the Factors Affecting Current and Future Farm Income Prospects in Canada.*” Twenty studies related to various aspects of farm income and factors affecting farm income were commissioned by CAPI. The researchers were asked to analyse specific factors and trends and the manner in which they affect farm income in Canada.

The preliminary findings from these studies were presented to a select group of agri-food industry stakeholders at a CAPI Forum held on June 13-14, 2005. The objectives of the CAPI Forum were:

1. To share preliminary findings from the commissioned papers with a diverse group of stakeholders representing the Canadian agri-food industry;
2. To solicit responses from the stakeholders, as well as additional information for consideration as part of the project;
3. To facilitate a dialogue among stakeholders aimed at increasing the collective understanding of farm income, factors affecting it, and, future prospects;
4. To lay the foundation for further discussion and future action by stakeholders and policy makers related to farm income; and
5. To provide CAPI with perspectives on farm income related issues as presented by the various stakeholders.

A summary of the information gathered from the Forum was developed and distributed to all participants. (Upon completion of the CAPI Farm Income Project, all the studies will be published and made available on CAPI’s website, [www.capi-icpa.ca](http://www.capi-icpa.ca)).

Findings from the June 13-14 Forum were incorporated in a CAPI presentation on farm income prospects made to deputy ministers at the annual Federal-Provincial-Territorial Agriculture Ministers’ meeting held in Kananaskis, Alberta, on July 5, 2005.

### Forum Logistics

#### **Day 1**

Gaëtan Lussier, CAPI Chair, welcomed participants, and reviewed the agenda and objectives for the Forum.

John Groenewegen, JRG Consulting Group, outlined the process for the sessions and introduced the Session Chairs.

The Forum was divided into four Blocks, each addressing one of the main areas of focus on the study. Authors of eleven of the 20 commissioned studies were asked to present a summary of their findings to-date to the Forum attendees.

- ❑ Block I – Farm Income and Profitability
- ❑ Block II – Global Forces and Farm Incomes



- Block III – Domestic Forces and Farm Incomes
- Block IV – Agriculture and the Agri-Food Supply Chain

After each presentation, participants were invited to ask questions pertaining to the subject matter discussed.

At the end of the day, participants were asked; “what three key “takeaways” they garnered from the presentations?” The comments were summarized and tabulated and presented for review with participants as part of the agenda for Day 2 of the Forum.

## **Day 2**

John Groenewegen reviewed key takeaways from Day 1 based on the feedback provided by participants. He also provided an overview of the other nine papers commissioned as part of the CAPI study, which were not presented.

Participants discussed the findings of individual papers, identified conclusions, and shared their thoughts related to implications for future policy development.

Participants were also asked to respond to three questions:

- 1) Do we have the right data? What is missing from the papers presented?;
- 2) What are the key findings from the papers presented in this section? How would you rank these findings?; and
- 3) What are your suggestions for moving forward? Responses to these questions were incorporated in the Forum proceedings.