



GOING FOR GOLD

Prairie Agriculture at the Crossroads: Time for a New Policy

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March 2009

GOING FOR GOLD

The Western Canadian Economy
in the International Arena

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Western Canada's economic prosperity is not only good for the West, but for Canada as a whole. But the West cannot rest on its laurels. Like the athletes training for the forthcoming Winter Olympics in Vancouver, western Canada needs to be at the top of its game if it is to continue to compete successfully in the international economic arena, especially as its competitors step up their games. If we are not successful, our standard of living will fall.

The GOING FOR GOLD Project is examining how best to position western Canada in the global economy through a series of research papers, consultations and a seminal economic conference in Vancouver in the fall of 2009.

The GOING FOR GOLD Project has been made possible with the support of:



Western Economic
Diversification Canada Diversification de l'économie
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Canada 

Additional funding has been provided by the Provinces of British Columbia (Economic Development), Alberta (Employment, Immigration and Industry), Saskatchewan (Enterprise and Innovation), and Manitoba (Competitiveness, Training and Trade).

This paper was prepared by Dr. Greg Mason of the Department of Economics, University of Manitoba and PRA Inc. The paper is part of the Canada West Foundation's GOING FOR GOLD Project Research Paper Series. Each paper examines a key issue related to improving western Canada's ability to compete and win in the global economy over the long-term.

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ISBN 1-897423-47-9

Graphic Design and Layout by Jason Azmier

Leading the Way: The GOING FOR GOLD Project Research Paper Series

The primary goal of the Canada West Foundation's GOING FOR GOLD Project is to ensure that Canadians make the right public policy decisions for improving the ability of the country and its regions to compete in the upper echelon of the global economy. The ultimate goal, however, is to ensure that Canada experiences the long-term economic prosperity that underpins a high quality of life and an inclusive and caring society in which all citizens can participate and thrive.

The GOING FOR GOLD Project's Research Paper Series helps achieve these goals by providing thoughtful and timely information combined with practical options for improving public policy's role in fostering Canada's economic competitiveness. The diversity of topics covered by the series is intentional and highlights the many facets of public policy that will need to be working in concert if western Canada—and by extension Canada—are to succeed in the global economy in the decades ahead.

We cannot rest on our laurels and we cannot be reactive. We must take proactive steps today to ensure a prosperous tomorrow. The countries that fumble the public policy ball will fall behind in the global economy and see the opportunities available to their citizens shrink. Much of what must be done is beyond the scope of public policy; it is just one factor, but it is a critical factor. Bad economic policy will hamstring us just as good public policy will propel us forward.

It is important to note that winning in the global economy does not mean that other regions and other countries must lose. Even though only one competitor can rank first, healthy competition can bring out the best in all countries. There is much that Canadians can achieve by working with international partners. This, in turn, will improve economic outcomes both at home and abroad. There is also much that Canada can learn from the experiences of other jurisdictions and this is a key element of the research papers.

There is much to discuss and there is much to be done. Ask any Olympic athlete if their training is ever complete and they will say that they are always training, preparing, and searching for the competitive edge. The same is true of public policy aimed at improving our economic competitiveness—it will always be a work in progress.

The authors of the papers were given the freedom to explore key topics as they saw fit. As a result, the series does not provide a complete set of policy recommendations or a master plan for global economic dominance. Nor does it represent the "top 10" things that must be done to make western Canada more competitive. Rather, it provides a set of useful *examples* of what can and should be done combined with provocative recommendations across a broad range of relevant policy files.

For more information about the GOING FOR GOLD Project, please do not hesitate to contact me at roach@cwf.ca.



Robert Roach
Director of Research

Executive Summary

Agriculture operates in both a domestic and global context. Over the last several decades, global forces seem to have dominated domestic policy as Canada grappled with massive farm subsidies offered by European and American governments; trade embargos on beef and pork; drought; and disease threats for beef, potatoes and chickens. Recent increases in fuel costs have increased farm operating costs. Consumers are wary of chemical use, genetically modified foods have faced scrutiny and doubt, and the demand for organic produce continues to rise, forcing traditional producers to change.

On the one hand, these “threats” point to a continuation of challenges for farmers. On the other hand, increased food prices, widely predicted to remain strong as growth in India and China propel the demand for food, offer prairie farmers a more optimistic future for the first time in several decades. In 2008, many farmers were looking forward to large crops and good prices, a rare combination in Canadian agriculture.

The central argument here is that Canadian agriculture in general, and prairie agriculture in particular, must benefit from a policy that escapes its “depression era” focus. Policy must evolve from an income support system that resembles social assistance to a business support model. I argue that recent agricultural policy in Canada, especially on the Prairies, while making important steps in the right direction, has offered contradictory incentives, combining elements of a social safety net for families with industrial policy. This contradiction reflects the dichotomy within most Canadian farms that combine features of a family operation with business management common to corporations. The goals of income support (safety nets), risk management (production insurance), environmental responsibility, food safety, and promoting capital investment for expansion are supported by myriad subsidies, penalties, regulations, and moral suasion that present an incoherent context for meeting international competition and sustaining domestic economic prosperity.

I do not argue for extreme or rapid policy transformation; rather I maintain that appropriate policy should focus on the growth of farms as businesses that do not require chronic

subsidization, thereby creating a sustainable agricultural sector. Current policy certainly pays lip service to this, but many other actions undermine fulfilment of this goal.

The past three decades have witnessed steady changes in the structure of the farm economy in the developed world. These trends include the aging of farm operators, fewer people involved in farming, increasing concentration (fewer, but larger farms), increased concentration of revenue among larger operations, and convergence in family incomes for agricultural and non-agricultural households

New Zealand and Australia offer insights on the transition to a deregulated farm sector. In both countries, deregulation has improved the viability of the farm sector, but at the cost of hastening the exit of many long-time farmers with unviable operations. This social cost would seem to be an inevitable price in the transformation of agriculture and a major impediment to the enactment of a business-focused agricultural policy. However, drawing policy lessons from New Zealand and Australia requires care, especially because these countries are on isolated continents and islands. The scale and scope of agriculture in New Zealand is smaller than in Canada, and a macro-economic crisis forced the government’s hand—extreme crises required extreme action.

Canadian and prairie agriculture face key challenges in four areas. However, the challenges in each of these areas also offer important opportunities for agriculture to flourish in the next decade.

- Environment—farmers are facing challenges in meeting increasingly stringent environmental regulations.
- Realignment of global competition—new competitors for prairie grains will require farmers to extract efficiencies and innovate.
- Food safety, food quality concerns—farmers must meet new handling standards, especially in livestock; at the same time, consumers are demanding organics and local food, thereby creating the opportunity for smaller niche farms that can compete profitably.

- Restructuring and succession—the imminent retirement of many farmers creates challenges in financing succession, but also will allow farms to exploit economies of scale.

Policy that would benefit prairie agriculture consists of four initiatives:

- rationalization of all income support into a single program;
- an injection of cash to accelerate the restructuring of farms and farm ownership;
- deregulation for competitiveness; and
- reinvigoration of support for basic research and extension services.

It is tempting to think that the varied and complex problems encountered by the farm sector in prairie Canada necessitate varied and complex policy. However, the core of any agricultural policy must be a program to reinvigorate the farm as a self-sustaining business. The increasing patchwork of programs creates myriad cross-cutting incentives that obscures the stated intent of having the market drive the welfare of the farmer. The priority for agricultural policy for prairie Canada must be to create viable farms than can compete globally and meet new consumer demands. The emerging era of strong prices and opportunities in organics, local consumption, and the certain retirement induced restructuring, presents a unique window of opportunity for governments to forge such a new policy.

Abstract

Over the last several decades, global forces seem to have dominated domestic policy as Canada grappled with massive farm subsidies offered by European and American governments; trade embargos on beef and pork; drought; and disease threats for beef, potatoes and chickens. Recent increases in fuel costs have increased farm operating costs. The central argument of this paper is that Canadian agriculture in general, and prairie agriculture in particular, must benefit from a policy that escapes its “depression era” focus. Policy must evolve from an income support system that resembles social assistance to a business support model.

Canadian and prairie agriculture face key challenges in four areas: environment; realignment of global competition; food safety and food quality concerns; and restructuring and succession. The imminent retirement of many farmers creates challenges in financing succession as the older generation retires. Policy that would benefit prairie agriculture consists of rationalization of all income support into a single program, an injection of cash to accelerate the restructuring of farms and farm ownership, deregulation for competitiveness, and the reinvigoration of support for basic research and extension services.

1. Introduction

An experience I had over 15 years ago shows the two dimensions of prairie agriculture in Canada that have stymied effective policy development for this sector. The federal government had announced the closure of the training airbase in Portage la Prairie as part of its fiscal retrenchment of the armed forces. Since this facility comprised a significant element of the local economy, studies were commissioned to examine the adjustment process and recommend policies. Part of the work we completed involved examining the impact of the base closure on the surrounding farm economy by interviewing farmers.

Two interviews stand out. The first one involved five young farmers in their early thirties; I interviewed them in the quintessential setting: around the kitchen table. For each of them, the base closure was a calamity that threatened their ability to maintain their agricultural activities. The connection between training air force pilots and farming was not immediately apparent to me until they explained that winter snow clearing contracts and summer grass cutting formed an important element of their household income. Each of

these farms was less than 1,000 acres, ran a full complement of equipment, and according to each, could never survive solely on selling farm outputs. The spouses of all five farmers also had at least part-time employment. This group clung tenaciously to traditional farming, insisted on owning their major equipment, and refused to consolidate or share equipment. This illustrates the predominant view that agriculture is a chronically failing enterprise, requiring off-farm activity and public subsidization to remain afloat.

The second interview was with a man in his sixties who had proved very difficult to schedule. After five broken appointments, I was finally able to meet with this farmer. He apologised for the most recent cancellation, explaining that he had received a fax at 4 a.m. confirming a sale of navy beans to Japan and had driven to North Dakota that day to make the delivery. The interview took place in his office, which included two computers, walls papered with charts of prices, and soil samples ready to dispatch for testing. During the interview he reported that he travelled to Europe twice a year to meet buyers for his mustard and was leasing more property to expand his operation. He also used currency hedging to manage financial risks of cross-border selling.

Both pictures of contemporary agriculture in Canada have validity. However, this dual face of agriculture presents an acute dilemma: policies that support the first type of farmer often work at cross-purposes for the second type of farmer and vice versa. In this paper, I argue that, in 2009, policy must focus on the second farmer, while helping the first to make an orderly retreat from the industry.

2. Overview

Agriculture operates in both a domestic and global context. Over the last several decades, global forces seem to have dominated domestic policy as Canada grappled with massive farm subsidies offered by European and American governments; trade embargos on beef and pork; drought; and disease threats for beef, potatoes and chickens. In addition, recent increases in fuel costs have increased farm operating costs; consumers are wary of chemical use; genetically modified foods have

faced scrutiny and doubt; and the demand for organic produce continues to rise, forcing traditional producers to change.

On the one hand, these “threats” point to a continuation of challenges for farmers. On the other hand, increased food prices, which are widely predicted to remain strong as growth in India and China propel the demand for food, offer prairie farmers in Canada a more optimistic future for the first time in several decades.¹ In 2008, many farmers were looking forward to large crops and good prices, a rare combination in Canadian agriculture.²

It makes sense to examine agricultural policy options from a Canadian prairie perspective for two reasons. First, the three provinces—Alberta, Saskatchewan, and Manitoba—share common geography and climate (the Great Plains region of North America). These prairie provinces are a coherent agricultural unit of analysis, which have a common position with respect to international markets. Second, as this paper will demonstrate, the prairie provinces can assume greater leadership in agriculture; it is time to shake off the final vestiges of the National Policy introduced by the MacDonald government over a century ago.

The central argument here is that Canadian agriculture in general, and prairie agriculture in particular, must benefit from a policy that escapes its “depression era” focus. Policy must evolve from an income support system that resembles social assistance to a business support model. I argue that recent agricultural policy in Canada, especially on the Prairies, while making important steps in the right direction, has offered contradictory incentives, combining elements of a social safety net for families with industrial policy. This contradiction reflects the dichotomy within most Canadian farms that combine features of a family operation with business management common to corporations. The goals of income support (safety nets), risk management (production insurance), environmental responsibility, food safety, and promoting capital investment for expansion are supported by myriad subsidies, penalties, regulations, and moral suasion that present an incoherent context for meeting international competition and sustaining domestic economic prosperity.

I do not argue for extreme or rapid policy transformation; I maintain that appropriate policy should focus on the growth of farms as *businesses* that do not require chronic subsidization, thereby creating a sustainable agricultural sector. Current policy certainly pays lip service to this, but many other actions undermine fulfilment of this goal.

It is useful to begin by summarizing current changes in the structure of agriculture both in the developed world and on the Canadian Prairies. The trends affecting Canadian and prairie farms reflect common patterns throughout the developed world.

3. Agricultural Transformation is Accelerating Worldwide

The past three decades have witnessed steady changes in the structure of the farm economy in the developed world. These trends include the aging of farm operators, fewer people involved in farming, increasing concentration (fewer, but larger farms), increased concentration of revenue among larger operations, and convergence in family incomes for agricultural and non-agricultural households.

Increasing age of farm operators.³ In 2000, over half of the farm operators in the European Union (EU) were over 55, and 30% were 65 or older. Similar trends exist in the United States, where 27% of farm operators are 65 or older. Figure 1 shows

Figure 1: Age of Farm Operators

	1991	1996	2001	2006
	<i>Average Age</i>			
Alberta	47.3	48.2	49.9	52.2
Saskatchewan	48.2	49.0	50.5	52.6
Manitoba	47.4	47.7	49.0	51.2
Canada	47.5	48.4	49.9	52.0
	<i>Percent over 55</i>			
Alberta	31.8	32.3	35.3	41.1
Saskatchewan	35.4	35.3	36.7	42.1
Manitoba	32.5	31.1	32.8	38.4
Canada	32.1	32.2	34.9	40.7

Source: *Characteristics of farm operators*, Statistics Canada <http://www.statcan.ca/english/freepub/95-632-XIE/2007000/tables/table6.2-en.htm> (accessed Aug 10, 2008).

the age progression for prairie provinces. The average age and percentage over 55 are increasing.

Because of the entrance of younger operators is less than the projected exit of older farmers, substantial structural changes in succession and ownership should be expected over the next ten years. This will most likely accelerate the consolidation of farms and reduce the numbers in the industry.

The number of people involved in farming is falling. Hill (2006) and MacDonald, Hoppe, and Banker (2006) show the persistent decline in farm operators and labour in both the EU and US. Figure 2 shows comparable data for Canada and the Prairies.

Figure 2: Number of Farm Operators

	1991	1996	2001	2006
	<i>Number of operator</i>			
Alberta	81,415	82,469	76,195	71,660
Saskatchewan	78,025	72,926	66,275	59,190
Manitoba	34,780	33,255	28,790	26,625
Canada	390,875	385,610	346,195	327,060
	<i>Percent women</i>			
Alberta	26.7	26.5	28.4	30.0
Saskatchewan	20.1	20.0	22.4	23.8
Manitoba	22.4	21.3	22.6	24.1
Canada	25.6	25.2	26.3	27.8

Source: *Characteristics of farm operators*, Statistics Canada <http://www.statcan.ca/english/freepub/95-632-XIE/2007000/tables/table6.1-en.htm> (accessed Aug 10, 2008)

The percentage of female farm operators has remained stable, with a high proportion married to a male operator. Many female farm operators manage the business aspects of the farm, as opposed to working directly in farm operations. The slight increase in percentages may reflect a limited number of new entrants, but more likely represents farm widows who are maintaining farm operations. It is likely that the absolute number of female farm operators will fall soon as many retire with their husbands; however, the percentage will probably remain stable or could even rise as daughters return to assume farm management/ownership roles.⁴

Figure 3: Prairie Agriculture at a Glance

	Alberta		Saskatchewan		Manitoba		Canada	
	Change 2001/06 %	2006						
Farms	- 8%	49,431	-12%	44,329	-10%	19,054	-7%	229,373
Average Size (acres)	9%	1,055	13%	1450	12%	1,001	8%	728

Source: Statistics Canada, Census of Agriculture (2001, 2006).

The number of farms is decreasing throughout the OECD while average size is increasing.

MacDonald et al. (2006) note that the trend of increased farm size and fewer farmers in the US. However, while production and total revenue share continue to shift toward larger farm units, they also note the growth of small operations that augment farming with off-farm work.

In Canada, the emergence of small niche operations owned and operated by urban professionals is a recent trend that also sees 25% of farm operations in Canada headquartered in a Census Metropolitan Area. Increasing numbers of farmers commute out from urban settings to their farm operations—a trend that is pronounced in the regions around Canada's three largest cities, but also exists to a growing extent on the Prairies near the large cities and in the Calgary–Edmonton corridor. Figure 3 shows the recent trends in numbers of farms and their average size on the Prairies and in Canada.

Farming is becoming big business. Fewer and larger farms earn the bulk of farm income.⁵ The Canadian data in Figure 4 show the last five years of a trend that started over two decades ago.

Figure 4: Farm Revenue, 2000 and 2005

	Alberta		Saskatchewan		Manitoba		Canada	
	2000	2005	2000	2005	2000	2005	2000	2005
Total Revenue (\$b)	-	\$9.9	-	\$6.3	-	\$4.1	\$38.5	\$42.2
Program payments (\$b)	-	\$1.1	-	\$1.2	-	\$0.7	2.6	4.8
% of total revenue	7%	11%	12%	20%	7.6%	17%	7%	12%
# earning more than \$250k	7,006	7,497	6,348	5,340	3,164	3,645	34,139	38,980
% of farms	13%	15%	11%	14%	15%	19%	14%	17%

Source: Statistics Canada, Farm Financial Survey (2000, 2005).

Farm families earn similar incomes as families in general.

If one only counts the net revenue from farming, then the average incomes for many farms, especially smaller operations, have been miserable in the last two decades. Almost half of farm operators had off-farm income in 2006, up from 37% in 1991.⁶

This trend has several interpretations. Many see this as a sign of desperation as farmers seek to buttress poor farm earnings with income from other work. Although truth exists in this view, especially for the smaller operators, other factors may be at work. A farm spouse or other relative may perform some farm duties and may be a joint owner while earning income in a profession off the farm. Another trend is the participation of family members who no longer reside on the farm but still have a financial interest in it and return to support specific operations during peak periods such as seeding, calving, and harvest.⁷ A final variation of the theme is that farming is becoming increasingly technological with new practices freeing farm operators to participate more widely in other activities. Unfortunately, little data exist to trace these important emerging trends, and much of the insight remains scattered across diverse unpublished studies and evaluations.

These structural changes reflect the agricultural sector responding to a broad spectrum of challenges. Before examining these challenges in detail, the next section offers a brief tour of agricultural policy in Canada.

4. A Synopsis of the History of Agricultural Policy in Canada

Canadian agricultural support policy can be divided into four eras:

- Initially, agricultural policy supported nation building through immigration (1870–1935).
- Agricultural policy became integrated with social and economic policy (1935–1960).
- Price instability led to broader policies to support the farm sector (1960–2000).
- Chronic farm deficits prompted governments to try to create a self-sustaining farm sector (2000 to present).

Agricultural policy and nation building

Agricultural policy in Canada has its roots in the founding of the nation. The National Policy of the first government under MacDonald was bold and encompassed a vision that divided Canada into the industrial East and the resource base West. During the first 60 years of Confederation—up to 1930—agricultural policy used subsidies to promote the development of western Canada. One prescient program was the creation of agricultural field stations to teach new immigrants from European cities how to farm. This program initiated a long history of agricultural extension that formed a significant part of the bedrock of farm productivity over the last century, especially in prairie Canada.

Integration with social and economic policy

In the twentieth century, agricultural policy evolved in step with the Keynesian Revolution, which changed how economists viewed intervention in free markets. Increased government involvement in agricultural markets matched increased government involvement in the economy and the creation of important social policies. Public pensions, the Canadian Wheat Board (CWB), the Canadian Broadcasting Corporation, and the Central Mortgage and Housing Corporation (now Canada Mortgage and Housing Corporation) all date from this era. This period marked the start of active government that assumed

the obligation of offering a social and economic safety net for Canadians. Many of the theories and techniques that form the foundation of modern agricultural policy, such as moral hazard, adverse selection, risk management, and the mitigation of externalities, all emerged from social and economic theory that supported policy development during this period.⁸

Agriculture and environment are two areas of explicit shared jurisdiction between the federal and provincial governments. The provinces initially rejected the recommendations of the Rowell-Sirois Commission of 1939 which advocated for increased federal involvement through cost sharing. The provinces wanted greater taxation authority. However, many of the Commission's recommendations were enacted over the next two decades and have shaped the nature of federal-provincial-territorial cooperation in all areas of public life. In essence, the federal government has compensated for the weaker taxation powers of the provinces through a process of federal-provincial cost sharing of public sector interventions. Both orders of government share responsibility for agriculture, and for the most part this has worked tolerably well. Certainly, the federal treasury has been a mainstay of safety net program mining in the last two decades.

By 1959, significant legislation supported agricultural policy, including the CWB Act, the Prairie Grain Advance Payments Act, the Agricultural Products Board (APB) Act, the Agricultural Stabilization Act (ASA), and the Crop Insurance Act. This legislation allowed for significant financial support for agriculture over which the federal government retained important discretion. For example, the federal government set (and continues to set) initial prices for the CWB so as to minimize the risk of deficit to be covered by the government. The APB operations remained discretionary, and the ASA supported only nine commodities. Finally, provincially managed insurance programs relied on the financing of the federal government to subsidize rates and encourage the participation of farmers.

Price instability leads to broader policies to support the farm sector

The current agricultural safety net programming has its roots in the price and revenue instability of the 1980s. For example, the international grain embargo against the Soviet Union for its invasion of Afghanistan effectively eliminated key markets for

Canadian grains; rising inflation and interest rates squeezed farm margins; and US farm policy prompted inventory fluctuations that led to gyrations in grain prices. Farmers increasingly turned to government for financial support to manage these external threats.

Key domestic and global agricultural initiatives that emerged during this era included the following:

- Government actively used ad hoc payments to manage program deficits triggered by extraordinary events. Such emergency programs were often rolled out rapidly with poor targeting and increased the financial pressures on all orders of government.
- On the global policy front, the World Trade Organization (WTO) negotiations targeted commodity-specific domestic support such as using a tariff on imported milk/cheese to protect a national cheese industry. Slowly the ideas of “whole farm support” emerged, which decoupled farm support payments from specific commodities. No longer could a farmer receive compensation for losses in one commodity area while enjoying good returns in another; the entire farm operation needed to be included in any agricultural support payment calculations. This created important constraints on Canadian agricultural policies. For example, Canada’s continued protection of dairy, eggs, and poultry through supply management, as well as the protected marketing operations of the CWB are continuing subjects of these negotiations.
- Federal deficit reduction through the 1980s increased pressure on Canadian agriculture. This affected safety net programs, and governments initiated the search for a comprehensive program through which producers and governments could share in agricultural risks. The principle of using public funding to support weather-related risks had become established through a system of crop insurance that protected specific commodities.⁹ The idea of a jointly-funded system to support market risks started with the Western Grain Stabilization Act, which set the framework for subsequent safety net programs. It did this by defining support payments based on net cash income (margins), a historical reference period to benchmark margins, and joint contributions by the producer and government to build a fund to support payments in “down” years.

Deficits and policy complexity and the search for a self-sustaining farm sector

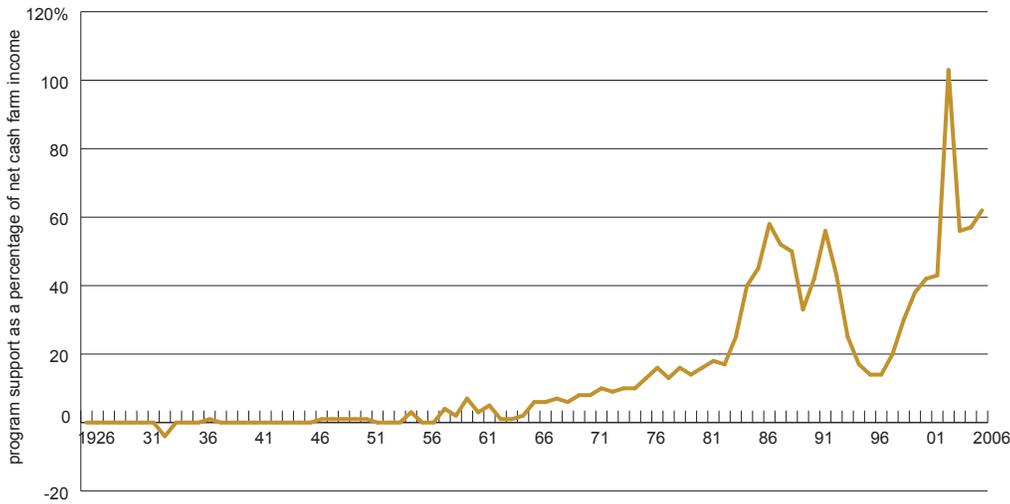
By 1990, agricultural support programming had become both complex and roiled by increasing political pressures to respond to serial disasters such as drought and increased agricultural subsidization of domestic farm sectors in the US and EU. Government industry consultations in 1989 led to the Farm Income Protection Act (FIPA) that defined two new approaches: the Gross Revenue Insurance Program (GRIP)¹⁰ and the creation of Net Income Stabilization Accounts (NISA).¹¹ These programs were enacted under the FIPA, and reflected an approach that stressed the following principles:

- Market signals (prices) should direct farmers’ decisions.
- Fairness and balance, especially with respect to regional variation in agriculture and provincial fiscal capacity, must form an essential plank of policy.
- Long-term sustainability of rural families and communities should become a formal goal of agricultural policy.
- Policy should align with international obligations.
- Economic and environmental sustainability goals should align, reflecting a growing concern over the impact of farm operations on the environment.

The public sector as farm partner

Through the 1990s and into the new millennium, farm support became increasingly expensive and complex. One of the most important facts to emerge was that government subsidization exceeded net farm incomes. Figure 5 shows the percentage of net income comprising program (public sector) payments and clearly demonstrates the extent to which farm operations are heavily subsidized by public programs—a trend that started in the mid-1960s. This support jumped in the mid-1980s and peaked in 2003 due to the BSE crisis. It has now stabilized to the point where about 60% of a farm’s net cash income is derived from government programs. What is truly remarkable is the turnaround that has occurred in the last two years where all forecasts show sharp drops in the need to subsidize agriculture. This offers an important window of opportunity within which to reform agricultural policy.

Figure 5: Program (Public) Support as a Percentage of Net Cash Farm Income in Canada, 1926-2006



Source: Agriculture and Agri-Food Canada and Statistics Canada, Farm Financial Survey, various years

Public support for agriculture has continued at all revenue levels; even the largest farms received substantial payments. Figure 6 shows that farms with annual revenues in excess of \$250,000 continue received public payments that amount to between 40% and 50% of their net income. Concretely, the average total revenue of farms in this largest class was \$750,000 in 2006, of which \$695,000 comprised farm sales and \$52,000 comprised program payments. After deducting all expenses, net cash income was \$110,000 of which \$53,000, almost 50%, came from the government. At the lower end, farm operations with gross sales of \$31,000 received program payments of \$4,500 on average, but still had a negative net cash income of about \$1,500.¹²

Although these data are for Canada, the situation is quite similar for each of the three prairie provinces.

Figure 6: Program Support as a Percentage of Net Income by Revenue Class (Canada)

	All farms	\$10,000 – 25,000*	\$25,000 – 50,000*	\$50,000– 100,000	\$100,000– 250,000	>\$250,000
2004	56%	-	-	210%	80%	39%
2005	57%	-	-	181%	79%	42%
2006	62%	-	-	156%	85%	47%

* Farms in this category generate net cash losses, so percentages are meaningless.
Source: Statistics Canada, Farm Financial Survey

The Agricultural Policy Framework

Aside from high program expenditures, several specific events triggered the search for an alternative:

- Alberta withdrew from NISA in 2001, citing both cost and their belief that the program encouraged farmers to treat it as a pension planning process rather than a farm safety net. Farmers were reportedly reluctant to withdraw their savings from their NISA accounts in times of need, and the farm

advocacy groups pressured government to introduce ad hoc programs to meet crises.

- A collapse of hog prices in 1999 to 2001 showed that the existing programs were unable to manage the risks posed by market forces.
- An aging farm population, their need to extract value from their farm operation to retire, and the financial barriers to entry for the younger generation made succession an increasingly pressing problem.
- Finally, subsidies to the domestic farm sectors in the EU and the US created oversupply, lowered prices, and triggered many of the margin problems in Canadian agriculture.¹³

At the turn of the millennium, the farm safety net system was fractured, resulting in the need for increasing levels of

ad hoc financial assistance. The Agricultural Policy Framework (APF) 2003, with the farm support system (relabelled as “business risk management”), defined three programs: the Canadian Agricultural Income Stabilization program (CAIS); Production Insurance to maintain crop insurance programming; and

provincial companion programs, designed to respond to regional issues. The goal of the APF was to manage a transition from a pure income support program to one that also encouraged long-run viability of Canadian agriculture based on market outcomes. It rested on five pillars:¹⁴

- Business risk management is the comprehensive safety net with income stabilization and disaster relief offered by CAIS,¹⁵ production (crop) insurance,¹⁶ and provincial/territorial programming designed to complement income stabilization and research and development.
- The Canadian Food Safety and Quality Program is designed to assist the industry (from farm gate to table) to develop food safety and traceability.¹⁷
- Science and innovation programming is designed to accelerate technology transfer and commercialization of sustainable production systems, bio-products/processes and science/innovation programming.
- Environment programming seeks methods to reduce the environmental impact of farming and agricultural processing. A major element of the programming offers financial and technical assistance to farmers for implementing beneficial management practices that mitigate environmental hazards.
- Renewal is a diverse suite of programs that tries to improve farmers' management skills by offering financial support for producers to acquire business advice.

Three features of the APF farm safety net led to its revision and the emergence of a new initiative: Growing Forward. First, the administration of the central program, CAIS, was complex. Farmers argued that qualifying for CAIS was arduous and that the basis of payment on a production margin referenced to a historical average was too complex for to understand. Second, federal and provincial ministers wished to increase the emphasis on the other pillars, especially those that sought to increase farm viability in the context of a market economy. Third, and most important, ad hoc payments increased in direct opposition to goals of the APF.¹⁸ To be sure, the BSE crisis which hit the livestock industry in May 2003 was unprecedented; however, the agricultural sector still lobbied for cash bailouts for every new adverse development in agriculture.¹⁹ Between 2003 and 2008, the total federal and provincial government support for

agriculture amounted to about \$4 billion a year, or just under \$16,000 per farm.

Growing Forward

In 2005, a review panel considered options for revising the APF on its scheduled expiration in 2008. The key recommendation was to de-emphasize the business risk management pillar and increase support for programming that would encourage the development of farm viability based on the capacity to participate in a market-based agricultural economy. Four components comprise the new suite of programming under the title Growing Forward:

- *AgriInvest* will attempt to fix a widely perceived defect in the APF in that small losses could compromise CAIS support. The new programs will also allow producers to accumulate investment pools to manage risk and increase income from market sources.
- *AgriStability* is a revision of CAIS to manage larger income losses.
- *AgriInsurance* combines the existing production insurance and expands the commodities covered.
- *AgriRecovery* is a disaster relief program that offers financial assistance not covered elsewhere.

The component programs are still being designed. CAIS remains largely intact, but appears to be rebranded under *AgriRecovery*. A modified form of NISA, emerging under *AgriStability*, will be announced shortly, in response to extreme industry pressure to restore this program. Many elements of the APF continue, including key agri-environmental programming, support for improved business practices offered under the APF renewal pillar, and the on-farm elements of the Canadian Food Product and Safety Program. It is safe to say that, at this point, Growing Forward is a significant re-branding and adjustment of the APF, but it is far from a fundamental reworking of policy as occurred in New Zealand and Australia.

5. Lessons From Other Countries—What New Zealand and Australia Tell us About Building a Competitive Farm Sector

It is always tempting to look to other countries for policy instruction; however, the EU and the US offer few insights for Canadian agriculture. In many ways, the farm policies in those two regions, particularly the massive farm subsidies, have posed serious problems for agriculture in Canada. The farm sector has captured Congress, and no President would benefit from dismantling the current subsidy structure. In Europe, farmers retain a strong lock on policy formation, and little new thinking has emerged in the last two decades. Australia and New Zealand offer better insights into policy reform for agriculture and illustrate two possible variations on the deregulation process. Australia offers deregulatory lessons resting on gradualism, while New Zealand introduced very sharp adjustments, almost in the form of a natural experiment, induced by a general macroeconomic crisis.

Australia

Australia's reform focused on progressive changes within specific industries. These reforms included liberalizing trade (reduction of tariff protection), changing marketing arrangements (such as removing the buying monopoly of the Australian Wheat Board), and deregulating price supports to increase industry competitiveness. Changes were gradual, with implementation dates announced well in advance. Significant changes have now been introduced in most sectors, with the adjustments to dairy and wheat being among the most important for this discussion.

Prior dairy sector regulations had artificially separated the prices for fluid milk and milk products. The six state governments had regulated fluid milk prices as a subsidy to consumers, effectively creating six separate markets, while the federal government had created a national price support system. Reform began in 1986 to remove price support for exports, which allowed producers to raise prices. Support for manufacturing milk (used in cheese and other products) was gradually withdrawn, with the result that consumers paid higher prices; however, as government

support for production fell, many producers were forced to leave the industry. The states of New South Wales and Queensland experienced serious adjustment problems, with net revenues initially falling before recovering in 2002–2003. In contrast, for various structural reasons, the deregulation was beneficial for Victoria dairy farmers from the start.²⁰

The Australian Wheat Board (AWB), which was formed in 1930 and served as the model for the Canadian Wheat Board, enjoyed a monopoly on marketing wheat exports until 1999 when the government abruptly extended rights to two other companies to market grain for export. The AWB became a private company, owned by growers, with shares sold on the Australian stock market. A scandal that erupted in 2005 has clouded a clear answer to the question of whether the elimination of the single desk system has worked to benefit of wheat farmers. The AWB was accused of paying kickbacks to Iraq in exchange for buying Australian wheat. The Volcker Inquiry into the U.N.'s Oil for Food Program identified Australia as a major source of kickbacks to the Iraq government. The findings of a domestic enquiry have resulted in resignations of senior management and a loss of confidence in the organization. This scandal may well result in the eventual dismantling of the organization.²¹

New Zealand

A national fiscal crisis triggered dramatic agricultural reform in New Zealand. During the 1960s, government support for agriculture had increased to raise production and financial returns in the face of recurring balance of payments crises. By the early 1980s, the macro-economy was in free fall as the government drew down its foreign exchange to protect the value of its currency. To manage this problem, in 1984 the government introduced dramatic changes in all aspects of public sector activity, including the rapid withdrawal of support for the agricultural sector. The government allowed currency to float, reduced subsidies, and removed tariff protection. Parallel to this, the government reduced its scope and outsourced many previous public sector activities, deregulated the labour market, and increased power for the central bank to operate independently to manage inflation. The fact that retrenchment was economy-wide made the substantial elimination of farm support more palatable to the farm community.

The New Zealand reforms are widely seen as having increased the financial performance across all sectors. Incomes and productivity have risen consistently, and farms are financially viable. The social consequence has been the reduction of the number of farm operators and structural adjustment costs that have fallen particularly on smaller farms. Younger farmers in particular have faced increased barriers to entry. The government attempted to mitigate these adjustments through a “bridge financing” program and a social assistance benefit similar to the unemployment program. Finally, farmers whose operations could not be viable under the new scheme were eligible for an exit grant.²²

Lessons learned from Australia and New Zealand

New Zealand and Australia offer insights into the transition to a deregulated farm sector. In both countries, deregulation has improved the viability of the farm sector, but at the cost of hastening the exit of many long-time farmers with unviable operations.²³ This social cost would seem to be an inevitable price in the transformation of agriculture and a major impediment to the enactment of a business-focused agricultural policy.

Drawing deregulation lessons from New Zealand and Australia requires care, especially because these countries are on isolated continents and islands. The scale and scope of agriculture in New Zealand is smaller than in Canada, and the macro-economic crisis forced the government’s hand—extreme crises required extreme action. The gradualism in Australia is probably a better model for Canada; however it is unfortunate that the experience of deregulating the AWB will offer little guidance on the net benefits of such a policy, at least until the kick-back scandal dies completely.

6. Challenges and Opportunities Facing Prairie Agriculture

Canadian and Prairie agriculture face key challenges in four areas. However, the challenges in each of these areas also offer important opportunities for agriculture to flourish in the next decade.

■ Environment

- Realignment of global competition
- Food safety and food quality
- Restructuring and succession

Environment

Agriculture is the oldest form of environmental degradation. The purposeful cultivation of plants and the elimination of undesired species (weeds) to reduce uncertainty in harvest was the start of the human transformation of natural landscapes. The “Green Revolution” of the 1960s, comprising the application of fertilizers, pesticides, and herbicides intensified the pressure of agriculture on land, air, and water quality. The application of mono-culture to wide areas has had an adverse effect on biodiversity by reducing nesting areas and ground cover as well as the capacity of the soil to retain water.

The OECD has judged Canada’s agri-environmental performance as “mixed.” Rapid increases in nutrient balances,²⁴ pesticide application, and the consumption of water and energy in Canada have risen above OECD norms.

Although the situation in western Canada has not reached the same state as southern Ontario where strict regulations on waste from livestock operations have been implemented,²⁵ flashpoints are emerging. For example, Lake Winnipeg has for many years been subject to increased nitrogen and phosphorous loading from industry, urban residences, and agriculture. The commercial fishery and recreational uses are threatened by these practices, so government faces increased pressure to impose strong regulations on all chemicals applied to the land. Recently Manitoba placed a moratorium on hog operations in response to concerns about odour and waste run-off into water systems. This has created substantial hardship for farmers in this sector.

The prairie provinces have some important opportunities to meet the environmental challenges of the next decade. Aside from the greater separation of town and country in prairie Canada where conflict over competing land uses can be better mitigated than in southern Ontario and Quebec or the Fraser valley, prairie agriculture also has a tradition of innovation. Two examples of innovation that have been largely driven by prairie farmers and have produced important environmental payoffs

without substantial public sector support are genetically modified crops and zero till, which have turned out to be complementary technologies.

- Cross-breeding has been practiced for centuries to improve the quality of crops as well as to increase resistance to drought and disease. This is a slow and uncertain process. Genetic modification (GM), using recombinant DNA techniques, is the insertion of beneficial genes into plant structures that create desirable attributes. One of the better known successes is the insertion of the natural pesticide bacillus thuringiensis, or “BT”, gene into corn to increase its resistance to a range of pests. More important for prairie agriculture was the creation of canola resistant to glyphosate, a broad spectrum herbicide. Using Roundup Ready²⁶ seeds allows a farmer to plant and then apply glyphosate to eliminate weeds. The crops remain untouched and the herbicide breaks down after six to eight weeks, leaving little trace. Western farmers have been quick to embrace GM crops since costs fall and yields rise. The initial consumer resistance to genetic modification that threatened markets appears to be lessening, with acceptance based on the full explanation of benefits.²⁷ The fact that GM crops reduce the need for herbicide application may be a significant element in consumer acceptance and environmental harm.
- Traditional agricultural practices involve tilling the soil to incorporate the organic residue (stubble) from the previous crop and control weed growth. Zero till avoids the tillage operation and uses a herbicide to “burn down” weed growth and a special “drill” that punches the seed directly into the soil. The minimization of tillage reduces water and soil erosion and saves time and fuel costs.²⁸ Retaining the stubble over the prairie winter retains snow and increases soil moisture in the spring. Prairie farmers have embraced zero till, especially in Saskatchewan, where over 50% of producers practice zero till. A downside of zero till is that weed control requires the application of herbicides, and repeated use of herbicides increases the tolerance of the target weeds. However, zero till combined with GM crops offers farmers important cost savings in the form of reduced fuel and herbicide use.

Using GM crops and zero till are only two of many techniques that farmers can use to lower the impact of their operations on the environment. Agriculture and Agri-Food Canada, along with its provincial counterparts, has identified dozens of beneficial management practices (BMPs) applicable to the reduction of adverse environmental impact. The challenge facing the farm community is the increasing pressure on government to take action in agricultural and non-agricultural land uses and the temptation to apply draconian measures to an industry with limited fiscal capacity to respond. Another challenge is the gulf between farmers and the ever-encroaching urban and exurban residential development.²⁹

Global shifts in competition

The recent collapse of the Doha Development Round of WTO trade negotiations reflects the complexity in managing international trade. For many years, economists promoted free trade as an obvious measure for increasing the income and wealth of trading nations. The laws of absolute and comparative advantage are the staples of all first-year economics texts. However, it is apparent that while most countries verbally endorse the ideas of free trade, the strong farm lobbies in North America and Europe maintain a lock on policy.

The form of allowable government support for domestic industry was established a decade ago. Commodity-specific supports that compensated for yield and price deficiencies were no longer acceptable.³⁰ Support had to be whole farm and decoupled from the market for any specific commodity.

The most recent failure in the negotiations has been represented as a conflict between the vision of free trade of the US on the one hand and managed competition favoured by India and China on the other. In narrow terms, the specifics of the recent failure relate to a technical issue—the special safeguard mechanisms that allow a country to raise import tariffs in the face of an “emergency.” In general, these safeguard tariffs are thought to be acceptable retaliation to deal with dumping (selling a product cheaper abroad than domestically). Members in the WTO agreed to follow certain investigative and adjudication procedures prior to taking actions to limit imports. The specific sticking point relates to the conditions under which such emergency safeguards can be employed.

The insistence by India and China that developing countries should be allowed greater discretion in their use can be interpreted as an antipathy on their part to free trade and a desire to maintain tight governmental control. However, the fact that many developing countries supported their position reflects a deep mistrust that the developed countries are genuine about reducing subsidies to their domestic agricultural sectors. Flooding the world with subsidized food has long been viewed as a serious barrier to the emergence of viable agricultural sectors in developing countries.

The collapse of these negotiations illustrates that access to international markets can never be assumed. As the BSE crisis illustrates, Canadian agriculture must have access to international markets. The collapse of the Doha Round reveals that maintaining the level playing field in international food trade is a full-time job.³¹

Equally challenging for the Prairie farmer is the rise of agricultural suppliers elsewhere in the world. Australia, Brazil, and Argentina have all emerged in the last decade as serious competitors, the current drought in Australia notwithstanding. New challenges are bound to emerge, such as the rapid growth of grain production in the Ukraine, the former breadbasket of the world (before the Soviet Union collectivized farming and destroyed productivity).³² As this supplier re-emerges, Canadian wheat will face a formidable competitor.

It can be difficult to find opportunities within these global challenges. However, the continuing subsidization of agriculture by the US and EU is not sustainable. The current financial crisis and budget deficit in the US will increase pressure on Congress to jettison expensive farm supports, especially as food prices continue to rise and farmers do well. Also, the strategy of growing high quality hard wheat (suitable to pastas) has been Canada's marketing edge. Coupled with a focus on food safety and quality, the positioning of Canadian food as safe and high quality is a critically important collateral policy to support global marketing.

Food safety and quality

Canada has experienced a number of food safety challenges. Listeriosis has, for example, claimed a dozen lives and counting. In addition to BSE (whose risk to human health in Canada

remains theoretical), recent years have seen salmonella in strawberries and tomatoes, e-coli contamination of organic spinach, listeriosis and avian flu in turkeys—all of which underscore the fragility of the food safety system.

Food safety is certainly important, but another, potentially more transformative process is at work and offers important opportunities for farmers. Consumers are increasingly attentive to both quality issues and the conditions of food production. One current fad is the call to reduce our energy footprint by consuming food produced within 100 miles rather than importing food from other countries. This is driven partly because of concerns with how food transportation contributes to greenhouse gases. At the same time, the price of imported foods is also rising, reflecting increased transportation costs due to rising oil prices; this creates a substitution incentive to consume locally.

We also see health issues emerging in the calls for reducing red meat consumption and the increased demand and availability of organic food purchases. In the prairie provinces, for example, between 4 and 6% of farms producing hay and field crops are organic. This total is rising.³³ Increased concern is being expressed over red meat consumption as science establishes tighter links with various cancers.³⁴

Any change in consumption patterns for any sector poses both challenges for those tied to tradition and opportunities for those prepared to meet new demands. The demand for organic food will likely continue to grow, while the consumption of red meat will likely decrease. Furthermore, commensurate with concerns over the environmental impact of food production, increased attention will be paid to food quality and content. Farmers who are prepared to adjust to consumer demand will thrive.

Restructuring and succession

The inevitability of restructuring is apparent from Figure 1. In a matter of 10 to 15 years, half the farmers presently active will have retired or died. Existing producers have an interest in retiring with a pension, while new and presumably younger entrants often lack the capital to acquire land and equipment. On the face of it, the number of operators and owners will plummet, with no assurance of sufficient replacement, even with the number of enterprises falling.

The Senate Standing Committee on Agriculture (2008) framed the issue this way:

Younger generations of Canadians who want to farm and carry on the family business are now thinking twice before entering the profession of their parents. This is a huge concern since many farmers today are close to a retirement age and therefore not only is the family farm structure in jeopardy but there is a new reality of depopulation of small and medium towns in agricultural areas. Some communities are already facing social problems that are linked to rising poverty levels.

Whether this represents a real issue or one that will be “cured” by the market remains the subject of some debate. If the number of enterprises falls and average size increases, then assuming everything else remains constant (unit prices and costs, access to markets, etc.), the normal market response will be for rates of return to increase, attracting new entrants. Other responses are possible: with too few buyers, prices of land and equipment will fall, again attracting entrants at the margin. However, the likelihood is that food prices will remain strong, and the transition from the older to the younger generation might prove uneventful.

Like many policy issues, it is difficult to predict market responses. Not every problem (perhaps not even most) requires a public sector response. As it transpires, federal policy has a fairly robust set of supports to encourage succession; these include a rollover exemption that postpones capital gains on the transfer of land if it occurs within the family; generous lifetime capital gains exemptions and capital gains reserves on farm property; and loans programs to facilitate the seller taking back the mortgage. With this support, it is doubtful that financing succession is the issue.

The opportunity presented by restructuring lies in encouraging the emergence of a more viable farm sector. Two trends are likely. First, consolidation will continue as some farm operations seek profitability by expanding and exploiting economies of scale. This is the traditional route to viability. Second, it is also likely that smaller, niche operations will emerge with part-time operators catering to emerging consumer demand for organic and locally-grown food.

Policy challenges

Agricultural policy in Canada has been reflexive and reactive for so long that identifying creative responses to support growth represents a foreign way of thinking. As a prelude to presenting a proposed strategy, it is worth reviewing (and disposing of) some of the common rationales for agricultural policy. Policy has been justified to offer short-term assistance to meet a variety of crises and external market threats. These ad hoc supports, always intended to be temporary, have persisted for two decades—their justification is wearing thin and this rationale for support has less merit with each year.

7. Rationales for Public Sector Intervention in Agriculture

Public support for agriculture is drawn from three distinct economic principles. First, a strong sentiment persists, even in urban Canada, that rural Canada contains important core values that embody the essence of being Canadian. The preservation of the farm family is seen as an essential element of the rural social values that underpin Canadian culture. Second, an economic rationale for public intervention to support agriculture rests on the existence of market failure and externality. Third, public support for basic research is well accepted—knowledge, especially advances in basic research, has strong element of public good.

Preserving the rural way of life: a social rationale for income support for farm families

The rationale for supporting rural lifestyles reflects a political choice validated by a democratic process. The recent Senate report on rural poverty takes it as a given that special policy prescriptions are needed to support rural Canada, and it starts with an examination of support for farm families.³⁵ It argues for a continuation for the Canadian Farm Families Options Program, essentially a form of guaranteed annual income for low income farm families. This program operates in addition to the support programs available under Growing Forward, but it is not a recipe for transforming agriculture—rather, it seeks to staunch the exit of rural residents. The program effectively

subsidizes rural placeholders rather than functional elements of a vibrant economy. It is difficult to justify the \$550 million earmarked (but not fully spent) for this program, directed to only a fraction of rural residents.

The inevitable fact is that policies that do not focus on economic viability are bound to maintain rural residents in perpetual dependency. For farmers, who repeatedly avow independence and self-reliance, social welfare policies seem anachronistic.³⁶ In recent years, agricultural safety net policies have identified a need to ensure that support payments do not obscure market signals. This is one reason for decoupling payments from specific crops and moving to a whole farm concept based on gross and net revenue (margin). The other factor for decoupling and moving to a whole farm revenue insurance approach from farm safety nets is the need to avoid countervailing tariffs by importing countries that seek to protect their domestic agriculture.

Equity arguments rest on the idea that uneven distributions of income and wealth are morally wrong, and, at some extreme level, are economically and socially disruptive. Canada has a well-developed social safety net comprising social assistance programming, old age security, and Employment Insurance as the major pillars. In the first two cases, government is a co-payer with the taxpayer, while in the last case the worker and employer are co-payers. In the case of the farmer, however, no employer exists as a co-payer. Further, their self-employment statuses typically exclude them from the Canada Pension Plan, although they can participate in Registered Retirement Savings Plans. Thus, an income transfer from government (non-farm families and businesses) to farm families and businesses has always been socially and politically accepted.

Economic analysis of agricultural support programs—market failure and externality

Leaving aside the undoubted political support that the farm sector enjoys, the economic rationale for intervention by the government into agriculture rests on specific economic, social, and strategic principles. These include market failure in the form of

- moral hazard and asymmetrical information; and
- externality.

The subsidization of crop insurance (now termed production insurance because it extends to farm outputs beyond crops) rests on the prediction/observation that farmers alter their behaviour once they purchase insurance (moral hazard) and/or present hidden risks that the insurer cannot detect (asymmetrical information). Further, farmers tend to not purchase insurance. They have been successful in petitioning for ad hoc assistance in the event of adverse events. Government has elected to subsidize production insurance in an attempt to increase coverage and reduce the potential demands for disaster aid. Many economists accept the arguments in favour of subsidization (e.g., Just, Hueth, and Schmitz, 2004); however, others such as Goodwin and Smith (1995) argue that the extent of moral hazard and asymmetry of information in agriculture are overstated and that the private sector is fully capable of underwriting risk in agriculture as it does in many areas of business risk. Further, farmers can implement many risk management strategies besides the purchase of insurance; these include product diversification, effective farm management, and spatial dispersion of land, not to mention hedging.³⁷

Farms produce many external effects; most often, it is the harms such as pollution to water and land as well as odour that attract attention with consequent calls for regulation. Meeting increasing pollution control standards raises costs and stresses an already fragile sector.

In recent years, the concept of multifunctionality has emerged. Articulated first in Europe in response to the growing tension between farm and city with respect to conflict over land use and environmental harm, the idea has evolved to become a re-conceptualization of the role that agriculture can play in managing greenhouse gases and promoting the environment. The term “ecological goods and services” (EGS) captures the social benefits provided by environmentally-responsible farming. These benefits are not reflected in the prices received by the farmer, who then has little incentive to make adjustments to farm practice. Payment for producing ecological goods and services can be a method of compensating farmers for producing social benefits and covering the costs of changing established practices (see Smithers and Furman 2003 and Robinson 2006).

The challenge is to measure these ecological benefits. Increasing numbers of farmers are participating in the preparation of environmental farm plans which use a peer process to assess the environmental condition of the operation and develop

a remediation process to shift operations to become more environmentally-friendly. These plans are confidential to the farmer, reflecting concern and a degree of paranoia that farms with significant pollution issues might be seen as a target for increased regulatory oversight or may pose a liability for lenders if regulations compromise the economic viability of the operation.

The core issue is who should pay for these EGS. These are social benefits, which strongly suggests that government is the appropriate payer. Measuring unit of EGS, let alone pricing it, remains a theoretical exercise.³⁸

Public policy for new product development

The role of government in supporting basic research is well established. The positive externalities from any discovery cannot be recaptured by the inventor, who often must pay significant costs with no assurance of any benefit. Two models support basic science. The first relies on direct government support for scientists to define and execute a program of research. This model often uses government labs or university researchers. The second is the “pharmaceutical model,” where a private sector firm receives a patent that confers a property right in the form of a monopoly. This monopoly allows the developer to enjoy profits that sufficiently compensate for the development costs, including the costs of developing the failures.

The development of canola, based on research at the University of Manitoba and government labs, is an example of the first model. An example of the second is Monsanto’s development of Roundup Ready canola. Growers who use Roundup Ready seed agree not to save seed for replanting and to pay a technical use fee for the right to use the seed.

The policy choice—social security versus business development for farmers

The policy choice is clear: governments must choose between offering income support to farmers or developing the framework for building viable farm businesses. CAIS, NISA, and the host of other ad hoc cash bailout programs have come to resemble the safety net offered to individuals and families under social assistance programs.³⁹ This is no way to run a business.

Government has become an income guarantor, and despite the stated intentions of these support programs, they mask market signals through a sector-wide exercise in moral hazard. The defence for these policies is invariably that they are needed in the face of the massive subsidies offered in the US and the EU. Some merit existed in this argument a decade ago but only in the short-term; the billions spent over the last two decades have not visibly advanced the economic foundation of farming.

Policy that would benefit prairie agriculture consists of four initiatives:

- rationalization of all income support into a single program;
- an injection of cash to accelerate the restructuring of farms and farm ownership;
- deregulation for competitiveness; and
- reinvigoration of support for basic research and extension services.

Rationalization of income support

Rationalization of all cash support into a simplified CAIS-type model would simplify the income support system that grows more byzantine with each policy iteration. Under a revised CAIS-type model, the essential income protection feature remains: farmers would contribute fees (with substantial government participation) and purchase protection against net income fluctuation referenced to a historical margin. As with the present system, farmers could purchase varying levels of protection.

This policy must include elimination of the subsidies to production insurance under the argument that businesses need to manage the risks that are internal to their own operation. The producer is in the best position to decide what risks to bear and has important control over those mitigating those risks. Also, providing income support through a CAIS-type program and subsidizing crop insurance duplicates the protection offered by government. The fact that participation in CAIS requires enrolment in the applicable production insurance program as way to reduce the governments’ liabilities under

CAIS illustrates the nature of the duplication. This approach represents a reversal of the current trend, which has been to extend production insurance to a wider range of commodities and, with it, increase public sector involvement in farm risk management. To make CAIS more flexible and responsive to immediate losses, one could offer an option for an average over the last three years or the current Olympic average where the worst and best in the last five years are removed to find the “normal” operating margin.

The goal of income support within a single CAIS-type program is to create a voluntary safety net program that applies to all farms. This would meet WTO requirements. To help control demands for ad hoc disaster assistance, the government could require farmers to formally signify if they elected not to participate in the program. Over time, this model would withdraw support from farms that incurred chronic losses, while supporting those businesses that experience periodic losses and unusual years.⁴⁰ The other key element is that government should not respond with ad hoc income support with every crisis. This will be a difficult test for government, which still reacts to the agricultural lobby. However, the point of subsidizing the insurance system is that farm businesses should be able to survive adverse times, by combining the right amount of risk management, self-insurance and purchased insurance.

Cash infusion to accelerate restructuring

Despite rapid change in the structure of farm ownership, many farmers in their late fifties and sixties face bleak prospects of retiring. This is especially the case for many livestock farmers who have been savaged by the BSE crisis and the collapse in hog prices. It is also difficult for new entrants to take up farming. Despite the safety net programming of the last decade, some farms have exhausted their equity (borrowing against the land) and continue operations in the faint hope that prices will recover, enabling them to repay their debts and be able to sell their land. That is unlikely.

In addition to the capital gains relief mentioned above, the current programming under the “renewal” needs to include buy-out programs to allow orderly retirement, mortgage and loan support to allow new entrants into farming, and, most important, loan guarantee partnerships with financial institutions to support acquisition by young farmers to assemble land in sufficient scale to have viable operations.⁴¹

Deregulation to build competitiveness

Deregulation of the supply management arrangement grows overdue with each passing year. This is not the place to review all the arguments and counter-arguments for removing the single desk monopoly of the Canadian Wheat Board; however, supporters of the CWB need to answer two questions. First, if the model is so good, why not extend it to all crops—canola, soy, corn, etc? Most farmers would vigorously oppose this. Second, why are wheat growers east of Manitoba free to sell to anyone, while those in the West are not?⁴²

Most significantly, under CWB rules, farmers cannot sell to themselves. Prairie Pasta was a company formed in 1998 by wheat farmers in Manitoba and Saskatchewan to manufacture pasta from wheat grown on the Prairies. The CWB refused to consider any option for farmers to sell directly to this new farmer-owned company and required the company to purchase its wheat only from the Board. Dakota Growers was incorporated in North Dakota as a way to allow Canadian shareholders/farmers to participate in a value-added venture by selling their wheat across the border, but the Board quashed that idea as well.⁴³ Recently Dakota Growers has announced increasing income and profits based on wheat grown in the northern plains states. It has also sponsored successful research into new fusarium-resistant varieties of durum wheat for the exclusive use of their shareholders. Dakota Growers sells pasta products throughout North America—a value-added success story that should have occurred in prairie Canada where the idea originated.

The Australian Wheat Board offers a useful direction for Canada. It is important not to abolish the CWB, but to transform it into a farmer-owned grain marketing company. Canada has a strong reputation for high quality wheat, and the CWB has extensive contacts. Freed of other responsibilities that can easily be transferred, the CWB could focus on marketing and supporting value-added production in prairie Canada and position itself as one of the world’s premiere grain marketing companies.

The supply management of dairy, eggs, and poultry is a regular target of other countries in WTO negotiations.⁴⁴ The US and EU are hardly on the moral high ground, with their massive subsidies to the farm sector; however, the failure of the Doha Round, while representing a setback in trade liberalization in agriculture, also reveals a changing world order with India and China becoming more dominant players. Domestic politics (votes in Ontario

and Quebec) have always precluded the elimination of supply management in Canada. Advocates typically point to supply management supporting the quality and security of supply, as well as the incomes for farmers that have the quotas. The question that needs to be asked is the same as for the CWB: why not extend the model to all farm products? Aside from the consumer uproar that would ensue as prices rose, such an extension would be met with very strong opposition from the WTO and probably some retaliation. Finally, a small point not often identified by supporters of supply management: farmers under supply management tend to have higher incomes than the average Canadian family. This implies that these arrangements involve a transfer of income from poorer to richer families.

The fundamental issue is that these supply arrangements distort the market signals, which is diametrically in opposition to the federal government's stated goal of building a stronger business foundation for agriculture that responds to market signals.

Reinvigoration of support for basic research and extension services

The final policy recommendation is a plea for a return to the roots of agricultural policy in Canada. Basic research into crops and production as well as agricultural extension has supported Canadian agriculture from the inception of the country. While the trend in research and development is to either joint venture with private companies or the pharmaceutical model, which can result in important developments, over reliance on private sector research will not ensure developments that align closely with the interests of farmers. Governments can usefully countervail private interests by sufficient investment in R&D, the results of which lie unambiguously in the public domain.

Recent discussions have raised the possibility of co-locating grains research and development in Winnipeg as a measure to increase critical mass. Alberta has made important investments in animal health in response to the BSE crisis. These developments are examples of the support needed to create a foundation for development of new products and increased productivity.⁴⁵

Since climate change is a fact, developing the basic knowledge of new crops, livestock management, and improved techniques

to deal with a drier, hotter climate seems like an obvious investment in the future of prairie agriculture. Equally important is a robust extension program to assist a new generation of farmers to be successful. If government is expecting farmers to create stronger business, government can usefully parallel investments in basic research and the provision of technical advice. These are key public goods, which the private sector will undersupply without government support.

8. Conclusion

It is tempting to think that the varied and complex problems encountered by the farm sector in prairie Canada necessitate varied and complex policy. However, at the root of any agricultural policy must be a program to reinvigorate the farm as a self-sustaining business. The increasing patchwork of programs creates cross-cutting incentives that obscure the stated intent of having the market drive the welfare of the farmer. The priority for agricultural policy for prairie Canada must be to create viable farms that can compete globally and meet new consumer demands. The emerging era of strong prices and opportunities in organics, local consumption, and the certain retirement induced restructuring, presents a unique window of opportunity for governments to forge such a new policy. □

Endnotes

1 Good and Irwin (2008) argue that we are entering a two-decade period of sustained food price inflation that will see increasing earnings for farmers.

2 Global warming may be both a threat (increased drought) and an opportunity (longer growing seasons).

3 A farm operator typically has a management role in the farm. He or she is not an “employee” (although they may be classed as such for tax purposes). Statistics Canada definitions allow up to three operators per farm. The census question defines a *farm operator* as a “person responsible for the management decisions made for this agricultural operation.”

4 The percentage of farm operators as a percentage of the total population has declined from 1.4% in 1991 to 1% in 2006; in Saskatchewan, the province with the highest proportion of farm operators, the percentage has fallen from 7.8% to 6%. These trends will persist, if not accelerate, in the next decade.

5 The issue of economies of scale remains in dispute. The relationship between profitability and economies of scale is unclear. Some large farms incur major losses and some modest operations are very profitable. However, the general tendency is for larger operations to have access to financing and to be able to manage risk more effectively.

6 Alberta has the highest proportion of farm operators that have off-farm income.

7 These individuals would be counted as farm operators.

8 A casual reading of the Keynesian revolution is that during a recession, government needs to spend to prime the economic pump. A deeper understanding reads Keynes as advocating public sector spending to reduce uncertainty and manage risk.

9 Crop insurance, or production insurance as it is now known, is not subject the WTO sanctions.

10 The GRIP operates like any insurance program. Rather than insuring yields, as is the case with conventional crop insurance, the farmer pays a premium to insure revenue. Farmers could sign up for crop insurance, revenue insurance, or both.

11 The NISA program used farmer savings deposited in a special account with a financial institution and matched (according to specified rules) by government (cost shared 60:40 between the federal and provincial governments). These accounts were intended to build up in the good times and be drawn down during periods of revenue deficiency.

12 For the most part, these are grants, not repayable loans. It is also important to note that some payments are incentives to adopt better management practices, including upgrades for environmental purposes.

13 These subsidies are also the source of many of the complaints that developing work levels against US and EU farm

policies. By subsidizing farmers, prices are below the true cost of production.

14 <http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1173969168670&lang=e> (accessed September 1, 2008).

15 Canadian Agricultural Income Stabilization: As a whole farm income protection program providing producers with both income stabilization and disaster protection features, CAIS makes compensatory payments in “loss” years based on some fraction of producers’ production margin relative to a historical reference. It is also decoupled and meets WTO guidelines since it is open to all producers involved in the production of primary agricultural commodities with reported income or losses from farming. To receive payments in any one year, producers needed to have experienced positive margins in previous years; by implication, farmers with a record of losses would not receive payments and would cease operation. This form of income support rewards producers with positive margins that suffer temporary losses, and penalizes those who are unable to post positive margins.

16 The traditional crop insurance program was replaced by an insurance program that covers a wide range of farm products.

17 Traceability is the capacity to track food back from the table to its origins. The BSE crisis and, most recently, the Maple Leaf Foods recall illustrate the need for traceability in the food production system.

18 During the APF, federal and provincial governments had spent \$6 billion on ad hoc programs alone.

19 BSE crisis: Bovine spongiform encephalopathy (BSE) is a neurodegenerative disease in cattle with an incubation period of four years. BSE is also believed to cause Creutzfeldt-Jakob-Stortz disease in humans. In the UK, some 4.4 million cattle were slaughtered between 1990 and 2006 to control the disease in that country, devastating the livestock sector. BSE is believed to be caused by feeding cattle, normally herbivores, the remains of other animals in an attempt to promote growth by raising the protein content of the feed. Exports dominate beef production in Canada, with 20,000 head moving across the border each week. Once the US and Japan announced the embargo on Canadian beef, farmers, feedlots, and processors were left holding rapidly increasing inventories of cattle, that had plunged in market value, yet still needed to be fed. Between 2003 and 2007, the federal and provincial governments spent almost \$2 billion in direct aid to assist farmers and meat processors to manage the crisis. A key objective of this policy was to avoid the mass cull used in Britain. By that standard, the BSE policies in Canada have been successful. However, the aftermath of the crisis continues to affect the industry.

20 Edwards (2003) presents an analysis of deregulation in the dairy industry.

21 See Cockfield and Botterill (2007).

22 Scrimgeour and Pasour (1996) and OECD (2008a) present useful summaries.

23 Federated Farmers of New Zealand, Inc. (2002).

24 Nutrient balance refers generically to the effects of fertilizer run-off (phosphorus and nitrogen) into watersheds and the discharge of effluent from livestock operations and certain food processing such as the production of French fries.

25 The Nutrient Management Act in Ontario imposed strict regulation on livestock operations, requiring producers to make significant capital investments in more environmentally compatible ways of managing waste (“nutrients”). The Nutrient Management Financial Assistance Program provided financial assistance to producers above 300 units (head) to make these changes.

26 Roundup Ready is the Monsanto brand name of a crop treated to resist glyphosate. Monsanto and its genetically modified crop program have not been without controversy. Farmers do not like the fact that they cannot reserve seed for subsequent planting and must pay a technical use fee. Aside from issues of toxicity, which are now believed to be low, environmentalists and many farmers argued that genetically modified crops cannot be separated from regular crops—wind or any accident could result in comingling of GM seed with conventional seed. This issue came to the fore several years ago when many European countries limited the importation of GM crops and Monsanto sued a Saskatchewan farmer for patent infringement when Roundup Ready canola was found in his fields. The Supreme Court found in favour of the farmer, and an out-of-court settlement has been concluded.

27 See Knight, Mather, Holdsworth, and Ermen (2007) who find that acceptance is based on lower prices and the absence of sprays (organic and inorganic) associated with GM fruits.

28 See Huggins and Reganold (2008).

29 Two incidents related to the author illustrate this misunderstanding. In one case, an exurban resident who purchased and built on an acreage (ostensibly for its pastoral setting) attempted to use zoning regulations to limit harvesting next door because it disturbed his quiet enjoyment of having a drink on his porch. In another case, cattle farmers who wintered cattle outside, instead of in confined shelters (barns), have been subject to complaints to the humane society from well-meaning, non-farming neighbours who believed that this constituted ill-treatment of the animals. Wintering cattle on pastures, even in the coldest periods, is becoming increasingly common because it reduces the concentration of manure, spreading it in evenly on field and thereby promoting feed growth in the following year. It also reduces fuel use, increases farmers’ free time, and is purported to have benefits on animal health through disease control, reducing the need for antibiotics.

30 Subsidized crop insurance is not seen as a violation of WTO rules.

31 Although animal and human health considerations existed in the BSE embargo by the US, it rapidly transformed into a complex political issue that extended the border closure well beyond what was prudent from a food safety perspective.

32 The Ukraine agriculture ministry has announced substantial increases in grain production. Wheat and barley exports from the Ukraine are projected to quadruple over the next

year, which means the Ukraine would overtake Canada as a world wheat exporter.

33 As of June 2006, Alberta had 2,629 organic farms (5.3%), Saskatchewan had 2,197 (4.2%), and Manitoba had 809 (5.6%).

34 See World Cancer Research Fund (2008).

35 Senate of Canada (2008). The basic premise of the study is that rural areas generate significant shares of Canada’s wealth and that we ignore these areas at our peril.

36 The 2008 Senate report presents extensive evidence on this point from respondents who testified before its hearings.

37 The classic need for crop insurance is hail, drought, or flood. Farmers can reduce risks by farming over a more extensive area, growing drought resistant crops, using zero till, implementing drainage management, etc.

38 A vast literature exists on the valuation of intangible environmental benefits. See Farber, Costanza, and Wilson (2002).

39 Welfare reform no longer offers unconditional support and requires recipients to work or train for work. Exceptions are for custodial parents with children under six and persons with severe disabilities. Persons with milder forms of disability can receive support to train and find employment.

40 Farmers in supply-managed sectors would not be eligible for these programs.

41 Some evidence exists that profitability and size are not necessarily related (see Sparling, 2006). It is useful to note that speciality farms that service niche and local markets are also emerging as viable operations, especially when located close to large urban markets. Often these are owned by professionals who pursue farming as an additional source of income.

42 Wheat and barley producers in western Canada can only sell to the CWB.

43 The CWB has vigorously prosecuted farmers who sell directly to buyers in the US.

44 Supply management confers the right to produce and sell to those farmers that have purchased/inherited production quotas. Economists have long concluded that this raises consumer prices and confers little benefit except for the farmers.

45 This initiative echoes the widely advocated prescription for using technology clusters to promote growth (Porter 2000).

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