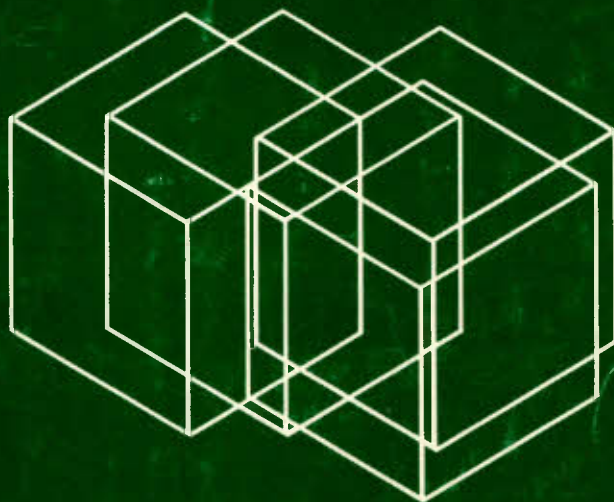


Farm Incomes in Canada

George L. Brinkman



A study prepared for the
Economic Council of Canada, and
The Institute for Research on Public Policy



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and
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The findings of this Study are the personal responsibility of the author and, as such, have not been endorsed by Members of the Economic Council of Canada and the Board of Directors of The Institute for Research on Public Policy.

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Contents

Acknowledgments	vii
Preface	ix
1 The Rationale for Public Concern	1
Levels of Income and Rates of Return	1
Instability	2
The Need for Evidence	3
2 Identification of the Different Types of Farmers	5
Different Types of Farms	8
3 Levels and Components of the Income of Farmers	11
Farm Net Operating Income and Income in Kind	11
Nonfarm Income for Farmers	13
Poverty in Agriculture	17
Capital Appreciation	19
Supply Management Quota Values	26
Taxation Benefits	28
An Overview of Farm Income	33
4 Relative Rates of Return	37
The Nature of the Study	37
The Findings on Relative Returns to Commercial Agriculture in Ontario	39
Variations between Farm Groups	40
Variations within Farm Groups	41
Sensitivity Adjustments	41
Applicability of the Ontario Study to All of Canada	43
5 Income Instability over Time	45
Measures of Income Instability for Individual Farmers	46
Instability in Relative Rates of Return	47
Additional Data on Instability over Time, by Commodity	49
6 Government Expenditures	51
7 Conclusions and Policy Implications	57
Appendix	63

Notes	71
List of Tables and Figures	75
Bibliography	79

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Preface

Public policies pertaining to the food and agricultural sector have a large number of diverse objectives. There can be little doubt, however, that one of the principal purposes of economic intervention in the sector has been to improve farmers' incomes. Farm income policy in Canada, as elsewhere, has had three major aims:

- 1/ to ensure that farmers have an adequate standard of living;
- 2/ to ensure that, on average and over time, the rate of return to resources devoted to primary agricultural production is equal to the rate earned by comparable resources in other occupations; and
- 3/ to reduce the variation in the returns to farmer-provided resources from one year to another.

In other words, farm income policy is concerned with income adequacy, comparable rates of return, and instability.

This study provides an in-depth analysis of these three farm income considerations. The study begins with a brief examination of the rationale for public concern about agriculture and then establishes that we should examine farm income by farm size rather than base conclusions on the average income for the total sector. Next, the report studies the components of the income – operating farm income, nonfarm income, farm income in kind, capital appreciation, and taxation considerations – that should be measured to generate a complete picture of income for farmers. In addition, this section analyses the conceptual and measurement issues involved with these components and provides numerical estimates of income components for farms of different economic-size ranges. Rates of returns are then analysed by comparing Ontario's commercial farmers with both a/ nonfarm, self-employed, small businessmen and b/ wage-earning and salaried workers. The incidence and problems of income instability are then discussed and illustrated by the changes in annual income levels and prices for specific commodities. Finally, the policy implications of current income levels, rates of return, and instability are studied, as well as the impact of government programs.

1 The Rationale for Public Concern

Of widespread concern to farmers and the public officials dealing with agriculture is the belief that farmers typically earn less than their nonfarm counterparts. This concern is very important because it touches upon the equity issue of achieving comparable income-earning opportunities for farmers, as well as upon the efficiency of resource use. Levels of income and rates of return are the two main measures used to address this concern.

Levels of Income and Rates of Return

Income levels and rates of return are highly inter-related in that higher rates of return for a given quantity of resources mean higher incomes and that, given constant resources, higher incomes indicate higher rates of return. Absolute income levels, however, measure the total level of earnings and address the question of whether farmers are "poor"; rates of return, on the other hand, represent the return per unit of resource and address the question of whether farmers are "underpaid." Some large farms may have low rates of return and yet generate considerable income because they have many resources. Many small farms, on the other hand, may have too few resources to generate a decent level of income, even if resources were utilized optimally and were earning moderate or high returns.

The relationships between minimum welfare incomes and comparable rates of return are illustrated for both full- and part-time farmers in a diagram developed by Professor T. K. Warley of the University of Guelph (Figure 1-1). The upper and lower halves of the diagram distinguish between farmers earning incomes above or below some societal welfare minimum; the left and right halves distinguish between a/ farmers obtaining returns that could be earned on similar resources in other occupations, and b/ farmers whose resources earn less than similar resources. Farmers located in the upper left corner of the diagram have both adequate income levels and comparable rates of return; thus they pose no income or resource-return problem for society.

The remaining categories, however, receive inadequate returns to their resources, inadequate incomes, or both.

Figure 1-1

The Interface between Farm Welfare and Resource Returns

		Returns per Resource Unit			
		≥ Comparable to nonfarm returns		≤ Comparable to nonfarm returns	
		Full-time	Part-time	Full-time	Part-time
Welfare	≥ Minimum level				
	< Minimum level				

SOURCE Developed by Professor T. K. Warley, University of Guelph.

As a result of the low resource returns and/or incomes for some agricultural producers, public policies have often been developed to transfer income to farmers to enable them to earn "fair returns to their resources" and a minimum standard of living. These transfers are motivated by a number of considerations, including assertions and beliefs about the rates at which resources in farming are rewarded, the need to correct for market failures, the desire to preserve the family farm and the rural environment, and the notions of distributive justice and minimum welfare "rights" for all Canadians.

The theoretical explanation of why returns to resources in agriculture might be expected to be lower than in other occupations has several components. First, low income elasticities of demand for raw farm products tend to restrict the growth in aggregate food consumption below the growth in aggregate income, thereby causing a relative decline in aggregate agricultural income compared with that of other sectors. Furthermore, low price elasticities of

demand result in declining prices for farm products, declining gross sales revenue, and declining rates of return if supply increases faster than demand. In recent decades, innovations and technological advances in farming from research, extension, and institutional improvements have enabled large increases in output per acre and per man-hour, so that the capacity for increases in supply has considerably exceeded domestic growth in demand. Rates of return could be maintained if the total resources used in agriculture were reduced fast enough, but many agricultural resources are specialized and tend to become "fixed" in farming, with much lower "salvage" values in nonfarm use. As a result, this analysis suggests that problems of structural rigidity in agriculture could lead to long-run problems in income levels and rates of return.

Other features of agricultural markets are also thought to create disparities between the farm and nonfarm sectors. For instance, disparities in bargaining power between the small, competitive farm producers and the highly concentrated industries supplying production inputs and buying farm products are alleged to hold down the returns to farmers from their resources. Farmers are also said to lose even more during periods of inflation by having to pay for farm inputs at prices set high enough by large companies to cover their costs, while the farmers may have to sell their products competitively at prices too low to recover their rising input costs.

Support for public policies that bolster returns to resources in agriculture above market-determined levels is justified by the belief that market prices do not always reflect the full social value of agricultural production or the role of the farmer in society. Farm fundamentalists argue that the farmer is the backbone of the rural community and that family farms constitute the most efficient and desirable form of agricultural production. By assuring farmers an adequate level of income (sometimes above market-determined levels), society can help to keep rural communities viable, to preserve the family farm, and to assure Canadians of as ample and secure a supply of food from Canadian production as possible. Complementary arguments propose that market prices do not reflect the full social value of the growth in the total economy resulting from primary food production or the true value of maintaining land to provide open space and food production for future generations. These proponents argue that public assistance to agriculture can help to lessen the "excessive" reduction in farm numbers and thereby help to maintain these wider benefits.

Finally, Canadians as a society appear to be genuinely concerned with helping people with inadequate incomes to attain a decent, minimum standard of living. Small agricultural producers, who typically earn lower rates of return than those on larger, more efficient farms and who often have limited human, capital, and land resources, frequently earn low incomes. Policies that transfer income to farmers are in part aimed at alleviating this problem. It is unclear, however, whether the intent is to raise the income levels of poor farmers to at least some acceptable figure or to attain the more ambitious goal of raising the average level of income for the total farm sector to the average level of all other Canadians. Frequently, the objective is stated as that of "ensuring adequate levels of income for the operators of small family farms."

While concerns about income and rates of return in agriculture are often used persuasively in support of agricultural interests in political decision making, their overall validity and impact for the agricultural sector and on agricultural policy is by no means clear. Structural and market conditions can contribute to depressed prices and incomes under a variety of conditions; but, by themselves, they do not necessarily guarantee low returns and incomes. Furthermore, their overall effect may vary considerably from one time period to another and between producers of different commodities and on different-sized farms. Many of the arguments are also based on value judgments, which can change or take on different priorities as conditions change. Some of the issues, while receiving general support, may even become directed away from agricultural ministries to other agencies of government. In recent years, for example, it would appear that an increasing share of the responsibility for dealing with the low-income "welfare" problem has been directed to those agencies with the same responsibility for the nonfarm sector, while considerably more of the assistance provided through agricultural ministries has been directed towards achieving "fair" rates of return and income levels for commercial farmers.

Instability

The third important consideration of farm income policy involves the instability of farm income levels and resource returns from one year to the next. A well-known characteristic of farm product markets is that prices fluctuate rather sharply in the short and medium term and that farm production can vary considerably from one year to another because of weather, disease, and even government programs. Annual variations in both supply and demand, combined with low domestic supply and demand

price elasticities, can yield wide fluctuations in farm gate prices, in gross and net farm incomes, and in rates of return to farm resources. Consumers are also affected by changing food prices, although fluctuations at the farm level usually exceed significantly those at the retail level.¹ In recent years public policy has focused increasingly more attention on enhancing the stability of the food and agricultural sector, for both farmers and consumers.

Public programs directed at reducing the instability in farm prices and incomes are often justified on several grounds. First, it is argued that stability of the economic system is a desirable end in itself, for both farmers and consumers, and that more stable food production and costs help to create stability and to avoid short-run income redistributions throughout the entire economy. It is also suggested that because of uncertainties about the fluctuating prices and incomes, both farmers and consumers could derive greater utility and well-being from secure, stable prices and real incomes than from those that fluctuate widely but have the same average level. Finally, it is claimed that with greater price and income certainty, farmers could plan their operations better and thereby achieve more efficient use of resources. Some instability is often considered beneficial, however, in that it facilitates the natural "weeding out" of the most inefficient resource users.

The Need for Evidence

Because of the wealth of information about the farming industry and the extent to which the industry's income performance has been subject to comment, study, and public programs, it might be anticipated that detailed evidence would be readily available about the income and resource returns of farmers. Unfortunately, this is often not the case. An excellent study of Canada's farm population [Shaw, 1979] provides detailed measurements of the farm and nonfarm income of farmers for the 1970 income year; but similar or more recent studies are not readily available. Furthermore, studies examining other aspects of income, such as capital appreciation, taxation benefits, and relative rates of return, are very limited. It is particularly important that studies based on 1970 or 1971 income data be updated because they pertain more to the 1960s than the 1970s with regard to farm income, market conditions, and agricultural policies.

Because of the lack of current data on many aspects of farm income, policies have been implemented in recent years to deal with farm incomes without good indication of the overall income conditions of farmers. Good evidence, for example, has been lacking on the distribution and characteristics of the farmers falling in the two cells in the upper left-hand corner of Figure 1-1 – i.e. those farmers with neither problems of inadequate incomes nor problems of low rates of return – or of the farmers in the other cells of the diagram, who have problems of low incomes, low relative rates of return, or both. Furthermore, we lack the evidence to test whether the concerns about public involvement in agriculture are fully valid, in fact, and/or justified, or whether they are supported only by the value judgments of their proponents. This lack of evidence is especially restrictive for present policies because the improvement in agricultural opportunities since 1973 has invalidated some of the conclusions about agriculture in earlier time periods and has made up-to-date information a prerequisite for the evaluation of current conditions.

The remaining sections of this study attempt to compile recent data and expand the evidence, particularly for recent years. Because of the lack of data in many crucial areas, the study does not provide precise numbers for the farmers in the various cells in Figure 1-1; however, the general distribution of farmers in these cells is indicated, especially the commercial operators for whom most current policies are designed. Furthermore, because of our limited time and budget, the study simply could not cover many areas that should be analysed. It has not been designed as a census monograph, providing numerous series of tables for different regions, census subdivisions, and so on. Instead, emphasis has been placed on presenting information for selected years, and under varying circumstances, to illustrate and document the overall conditions in agriculture. Whenever possible, data from the post-1973 period have been used, although some pre-1973 time series data and individual studies are presented to show historical perspectives. Hopefully the study will provide a helpful basis for evaluating the performance of farmers and the policies designed to assist them.

2 Identification of the Different Types of Farmers

Generally claims of low earnings in agriculture have been based on average net farm operating incomes, which typically have been quite low. For example, this income amounted to only \$4,224 per farm tax filer in 1979. In addressing questions of income adequacy, comparable rates of return, and income instability, however, it is important to first identify different kinds of farmers with different income characteristics. A useful way to classify farmers is by their gross sales,

which are a measure of economic farm size.¹ In Table 2-1, data from farm tax filers are broken down by gross farm sales from 1971 to 1979 to illustrate the considerable differences between farmers. Some farmers are poor, but many with low farm incomes have nonfarm jobs or are farming as a hobby; they are not really serious farmers at all. Large-farm operators, on the other hand, seem on average to have reasonably good incomes.

Table 2-1

Average Net Income of Farm Tax Filers, by Size of Farm (Gross Sales), Canada, 1971-79

	Year	Number of farm tax filers	Average net income		
			Farm income	Off-farm income	Total
(Dollars)					
Gross farm sales (\$):					
Less than 2,500	1971	95,752	-592	5,868	5,276
	1972	89,373	-529	6,703	6,174
	1973	80,315	-640	8,004	7,364
	1974	81,649	-901	9,878	8,971
	1975	83,693	-950	11,760	10,810
	1976	84,062	-1,167	13,505	12,338
	1977	84,525	-1,104	14,320	13,217
	1978	81,235	-1,149	15,273	14,124
	1979	76,090	-1,504	17,478	15,974
2,500 - 4,999	1971	56,241	-6	3,663	3,657
	1972	50,922	184	4,605	4,789
	1973	45,193	177	5,874	6,051
	1974	42,959	-162	7,638	7,476
	1975	42,644	-273	9,357	9,084
	1976	42,895	-615	10,775	10,160
	1977	43,330	-745	11,832	11,085
	1978	41,950	-771	13,131	12,361
	1979	40,305	-957	14,816	13,859
5,000 - 9,999	1971	75,526	1,084	2,276	3,360
	1972	70,978	1,325	3,007	4,332
	1973	61,895	1,428	4,332	5,760
	1974	55,456	1,229	5,937	7,166
	1975	54,525	1,028	7,351	8,379
	1976	53,646	546	8,521	9,067
	1977	53,335	318	9,673	9,991
	1978	51,725	225	11,246	11,472
	1979	50,595	141	13,070	13,211

Table 2-1 (concl'd)

	Year	Number of farm tax filers	Average net income		
			Farm income	Off-farm income	Total
					(Dollars)
10,000 - 24,999	1971	94,605	2,539	1,468	4,007
	1972	107,625	3,228	1,761	4,989
	1973	107,829	4,108	2,485	6,593
	1974	97,891	3,794	4,172	7,966
	1975	92,884	3,997	4,808	8,805
	1976	91,175	3,190	5,625	8,515
	1977	88,660	2,750	6,435	9,185
	1978	85,130	2,680	7,868	10,549
	1979	80,890	2,516	9,984	12,500
25,000 - 49,999	1971	30,796	4,141	1,471	5,612
	1972	43,142	5,222	1,510	6,732
	1973	60,955	7,860	1,851	9,711
	1974	70,222	9,076	2,833	11,909
	1975	73,711	9,051	3,303	12,354
	1976	73,165	7,589	3,764	11,353
	1977	73,115	6,617	4,213	10,830
	1978	75,140	6,445	4,909	11,354
	1979	74,665	6,768	6,272	13,040
50,000 and over	1971	13,367	4,516	2,148	6,664
	1972	19,289	6,024	2,146	8,170
	1973	33,042	10,807	2,552	13,359
	1974	47,102	15,424	3,516	18,940
	1975	58,828	16,105	3,841	19,946
	1976	61,620	13,148	3,988	17,136
	1977	62,815	11,163	4,258	15,421
	1978	81,545	10,954	4,352	15,311
	1979	105,165	11,826	4,953	16,779
Total, all sales classes	1971	366,288	1,237	3,147	4,384
	1972	381,330	1,954	3,522	5,476
	1973	389,229	3,402	4,217	7,619
	1974	395,279	4,452	5,565	10,017
	1975	406,285	4,801	6,649	11,450
	1976	406,563	3,839	7,603	11,442
	1977	405,790	3,253	8,342	11,595
	1978	416,730	3,581	9,039	12,620
	1979	427,720	4,224	10,253	14,477

SOURCE Data for 1972-74 are from E. S. Boyko, "Farm Income Situation and Outlook," a paper presented at the Canadian Agricultural Outlook Conference, December 1976; those data for 1971 and 1975-79 are from unpublished Statistics Canada tabulations derived from the self-employed income files.

In Canada there are many different types of farmers. For simplicity, this study identifies three general types. These are 1/ commercial operators, 2/ limited-resource farmers, and 3/ a group of very-small-volume farm operators, consisting mostly of hobby farmers (Table 2-2). Commercial farmers operate the largest farms, and typically they are oriented mainly towards the commercial production of food. Although it is difficult to establish precise gross sales levels for these farmers over time because of inflation, they were considered commercial farmers

if their gross sales attained \$25,000 or more in 1975, \$30,000 in 1976, and about \$40,000 in 1979. These farmers account for approximately 30 per cent of all farm operators, but they produce about 80 per cent of the total production. Over time, both the absolute number of commercial farmers and their share of total production have increased; there was a particularly large increase in 1978 and 1979 in the number of farm tax filers with gross sales of \$50,000 or more (having increased from 62,815 in 1977 to 105,165 in 1979).²

Table 2-2
Distribution of Farm Tax Filers, by Type of Farmer
and Gross Farm Sales, Canada, 1976

Type of farmer (based on 1976 gross sales):	Number of farm tax filers	Proportion of all farmers	Proportion of all gross farm sales
Predominantly hobby (< \$5,000)	126,957	31.2	1.8
Limited-resource (\$5,000 - \$29,999)	164,875	40.6	18.9
Commercial (\$30,000 and over)	114,731	28.2	79.3
Total	406,563	100.0	100.0

SOURCE Unpublished Statistics Canada data on farm tax filers.

Commercial farmers typically earn the majority of their income from farm sources, and their farm and total incomes generally are adequate. Farm tax filers with gross sales of between \$25,000 and \$49,999 earned net operating incomes from farming of about \$9,000 in 1974 and 1975, and around \$6,600 from 1977 to 1979.³ Those with gross sales of over \$50,000 had average net operating incomes ranging from about \$11,000 to \$16,000 between 1973 and 1979. With nonfarm incomes, the average total operating incomes of these farmers, from cash sources alone, ranged from \$11,000 to \$13,000 and from \$15,000 to \$20,000, respectively, between 1974 and 1979. Although the incomes of these farmers, on average, tend to be higher than those of other farmers, some may also experience periodic low or negative incomes. Young commercial farmers with large debts and those caught with cyclical low prices (like the beef producers in 1977 and 1981, and the pork producers in 1979 and 1980-81) have experienced difficulties in recent years.

The second group of farmers can be called limited-resource farmers. These farmers depend on agriculture as an important source of income, but they lack the physical and human resources to produce on the scale of commercial farmers. Limited-resource farmers typically have small farms with low output, producing over \$5,000 in gross sales but less than the amount (\$25,000 in 1975 and \$40,000 in 1979) of commercial operators. These farmers represent roughly 40 per cent of all tax filers, but they account for only about 18 per cent of all gross sales. Farm net operating incomes ranged downward from \$1,428 to \$141 between 1973 and 1979 for those with gross sales of \$5,000 to \$9,999, and from \$4,108 to \$2,516 (also downward) for those with gross sales of \$10,000 to \$24,999. At least half of those farmers,

however, have part-time, off-farm jobs to help provide reasonably adequate family incomes. On average, total operating incomes per farmer increased from \$5,760 to \$13,211 between 1973 and 1979 for the first group, and from \$6,593 to \$12,500 for the second group.

While limited-resource farmers with good nonfarm jobs may have reasonable total operating incomes, those without nonfarm jobs (approximately half of the category and roughly 20 per cent of the total farm population) often have low incomes and constitute the most serious poverty problem in agriculture.⁴ Some are traditional farmers, farming as their fathers did 30 years ago. Generally these farmers are poor but not underpaid for their skills. They lack management skill, and their chance of success would be slim in either farm or nonfarm employment. In reality, the problems of many of these farmers should be treated as social welfare problems rather than problems of agriculture, under the responsibility of ministries of agriculture.

Other farm-oriented, limited-resource farmers may be over 55 years of age and are just maintaining their present operation until they retire. Still others are retired and are operating their farms more as a way of keeping active than as a major source of income. Some small farmers, however, are struggling to make ends meet, and they face serious problems; these are the ones who in turn pose serious problems for agriculture.

The final group of farmers are those with gross sales under \$5,000, most of whom can be considered hobby farmers. These farmers represent about 30 per cent of the farm tax filers, but they accounted for only about 2 per cent or less of all sales in 1975-79. In 1979 there were 76,090 "farmers" who had sales of less than \$2,500 (the equivalent of a good-sized 4-H project, with four or five calves) and another 40,305 who had sales of only \$2,500 to \$4,999. These "farmers" reported net operating losses of \$1,504 and \$957 in 1979 from farming, but their nonfarm incomes averaged \$17,478 and \$14,816, respectively. Typically these farmers "farm" as a hobby because of the monetary and nonmonetary benefits of country living or for tax write-off purposes, but they are not seriously dependent on agriculture for their incomes. Some farmers with less than \$5,000 in gross sales, such as farmers just beginning, very small operators with little off-farm income, or retirement-age farmers may be serious farmers, but they do not appear to represent a large proportion of this category. Combining the hobby farmers with more serious farmers greatly distorts the overall picture of farm income and gives a much lower average income per tax filer for the agriculture sector.

Different Types of Farms

The distribution of farms in Canada (as opposed to farmers) is presented in Table 2-3, by type of business organization and gross farm sales. By far the most common form of farm business organization continues to be the unincorporated private-proprietorship (including informal partnerships) type of family farm operation. Farms of this type represented 92 per cent of all farms in 1976, 82 per cent of the acreage, and 83 per cent of the value of land and buildings. This form of business organization was common even among farms with gross sales of \$50,000 or more. Formal-partnership farms represented about 3.5 per cent of all farms in 1976, about 5 per cent of the acreage, and 6 per cent of the value

of land and buildings. Corporate farms, despite vocal concern by some farm groups, only represented about 4 per cent of the farms and controlled about 10 per cent of the total assets in 1976. In addition, over 85 per cent of Canadian corporate farms were family corporations run as family farms. Nonfamily farm corporations represented only 0.6 per cent of the total farms and held only 1.6 per cent of the farm land and building assets. Half of the nonfamily corporate farms even produced less than \$25,000 in sales. With the extremely small share of farm assets controlled by nonfamily corporations, the concern about a take-over by corporation farming would seem to be greatly exaggerated. Institutional (such as agricultural research stations) and "other" business organizational farms, together, represented only

Table 2-3

Distribution of Farms, Acreage, and Value of Land and Buildings, by Size of Farm (Gross Sales) and Type of Farm Business Organization, Canada, 1976

	Proprietorship	Partnership	Institution	Family corporation	Nonfamily corporation	Other	Total
Gross farm sales (\$):							
\$0 - \$2,499							
Number of farms	66,962	1,049	326	1,313	275	84	70,009
Total acreage	8,746,393	177,527	2,399,459	250,775	58,136	32,657	11,664,947
Value of land and buildings							
Total	3,735,595,385	76,246,215	109,381,277	94,634,041	23,175,050	5,016,895	4,044,048,863
Per acre	427	429	45	377	398	153	346
\$2,500 - \$4,999							
Number of farms	36,088	746	90	870	144	23	37,961
Total acreage	8,493,627	213,427	616,197	256,519	46,457	11,093	9,637,320
Value of land and buildings							
Total	2,474,051,584	68,559,616	30,249,024	71,034,576	17,665,792	2,567,500	2,664,127,744
Per acre	291	321	49	277	380	231	276
\$5,000 - \$9,999							
Number of farms	43,379	1,061	77	1,120	209	20	45,861
Total acreage	13,975,204	411,771	644,169	418,542	97,327	39,680	15,586,693
Value of land and buildings							
Total	3,396,435,968	109,489,552	35,420,288	112,293,184	21,864,384	2,915,000	3,678,417,664
Per acre	243	266	55	268	225	73	236
\$10,000 - \$24,999							
Number of farms	76,694	2,332	85	2,074	369	23	81,577
Total acreage	37,019,785	1,310,311	562,943	1,147,345	279,663	42,783	40,362,730
Value of land and buildings							
Total	7,972,222,596	320,216,392	41,010,211	258,600,746	57,747,109	5,080,650	8,654,877,704
Per acre	215	244	72	225	206	118	214
\$25,000 - \$49,999							
Number of farms	54,748	2,501	86	1,805	228	27	59,395
Total acreage	37,306,692	1,921,008	1,193,683	1,792,732	200,560	43,564	42,458,239
Value of land and buildings							
Total	8,617,157,903	498,365,139	60,143,623	371,516,388	56,532,775	5,762,606	9,609,478,434
Per acre	231	259	50	207	281	132	226
\$50,000 and over							
Number of farms	33,755	4,144	106	4,766	767	226	43,764
Total acreage	32,386,056	4,000,931	1,020,355	8,705,439	1,721,039	1,540,413	49,374,233
Value of land and buildings							
Total	9,791,964,356	1,528,234,150	122,850,668	2,636,826,598	506,050,695	314,998,758	14,900,925,225
Per acre	302	381	120	302	294	204	301

Table 2-3 (concl'd)

	Proprietorship	Partnership	Institution	Family corporation	Nonfamily corporation	Other	Total
Total							
Number of farms	311,631	11,833	771	11,948	1,992	403	338,578
Total acreage	137,930,383	8,034,875	6,436,841	12,571,352	2,403,182	1,710,190	169,086,823
Value of land and buildings							
Total	35,991,907,457	2,601,112,014	399,062,622	3,544,906,360	683,035,828	336,341,409	43,556,365,690
Per acre	260	323	61	281	284	196	258
Distribution (per cent)							
Number of farms	92.1	3.5	0.2	3.5	0.6	0.1	100.0
Value of land and buildings	82.6	6.0	0.9	8.1	1.6	0.8	100.0
Total acreage	81.6	4.8	3.8	7.4	1.4	1.0	100.0

SOURCE Statistics Canada, *Census of Agriculture*, Cat. 96-800, 1976.

0.3 per cent of the total number of farms but held about 5 per cent of the acreage.

Generally the distribution of farms by gross farm sales is similar to the distribution of tax filers. The tax filer data, however, represent only proprietorships and partnerships, and they exclude farm corporations. Furthermore, there is a slight difference between the distribution of farms and farm tax filers, by different gross sales categories, because larger farms support relatively more tax filers per farm than

smaller farms. Typically, commercial-sized proprietorship and informal-partnership farms support around 1.3 to 1.9 tax filers per farm, while smaller farms support around 1.2. Each partner in a formal-partnership farm is also counted as an individual tax filer, and more of the larger farms tend to be operated as formal partnerships than smaller farms. Farms in 1976 with 1975 gross sales of \$25,000 or more (according to the Census) represented 30.5 per cent of the total farms, compared with 33 per cent of the 1976 tax filers.

3 Levels and Components of the Income of Farmers

In addition to identifying different types of farmers in an analysis of farm income, it is also essential that all relevant components of farmers' income be identified. Typically most discussions of farm income centre on the level of net farm income, but rarely are the components of this income carefully specified. As a result, different measurements of net farm income are often used interchangeably without clarification of the differences. In addition to income from the sale of their agriculture products, farmers also derive substantial benefits through income in kind from the food produced and consumed on their farms and from the rental value of living on their business properties. Furthermore, farmers earn substantial nonfarm income, have experienced tremendous appreciation in the value of many of their assets in recent years, and have access to special taxation benefits unavailable or less accessible to many other Canadian workers. As a consequence, a careful analysis of the income of farmers requires an examination of:

- Farm net operating income
- Farm income in kind
- Nonfarm income
- Capital appreciation
- Special taxation advantages

Farm Net Operating Income and Income in Kind

Net farm and nonfarm incomes for farmers with different levels of gross farm sales are shown in Table 2-1, and both types were discussed in the previous section. The figures are from tax records and are reported as farm tax filer data, one of the two main sources of annual time series farm income data from across Canada. The other main source is the Statistics Canada aggregate farm income series derived from income surveys and census data. Both series report net farm income, but the income in the two series is calculated somewhat differently.

A major difference between the two calculations is the exclusion from tax filer data of income from corporations. In the tax filer data, net farm income is

also calculated by most farmers as the difference between cash receipts and expenditures (including depreciation). As a consequence, this measure reports the cash flow aspect of net income and ignores the changes in the value of inventory. For example, a farmer could earn \$100,000 in receipts over expenses but buy \$97,000 of new livestock inventory and then report a net taxable income of only \$3,000. The farmer would have to report the value of inventory as income receipts when it was sold (at its selling price), but he could either underestimate or overestimate his income on an accrual basis, depending on his changes in inventory values. In addition, the income reported by farmers for taxation purposes typically underestimates income in kind – namely, the food produced and consumed on the farm and the net rental value of living “rent-free” on their business properties. Since the expenses for producing the food and many of those for operating the house (all the interest and taxes, and part of the repairs and operating expenses) are typically subtracted as legal deductions from farm income for tax purposes,¹ the omission of this income often represents a sizeable underestimation of total income benefits.

Net farm income from the Statistics Canada aggregate farm income series is computed as receipts minus expenses (including depreciation), with adjustments for inventory changes and income in kind from the food produced and consumed on the farm. Up until 1978, the farm income series also included income in kind in the form of net house rent. The series has been revised back to 1926, with both the net house rent (as income) and the operating, tax, and interest expenses associated with the nonfarm use of the house (as expenses) being excluded. Because of these differences, it is very difficult to mix tax filer and farm income series data, or the revised and unrevised (pre-1978) farm income series. Tax filer data provide useful measures of income per farmer on a yearly basis since 1967 (for proprietorships and partnerships), while the aggregate farm income series provides income measurements for the total sector.

The rationale for excluding the net house rent values from net income calculations in the aggregate farm income series was based in part on the difficulties with the net house rent data and the distortions in farm income, where some farmers were basically "net house renters," earning most of their "farm" income from that source. Furthermore, it is argued that net house rent is not income from agricultural production and therefore should be excluded from farm income, even though it is a legitimate component of total income² (like other rental income). In actual practice, however, farmers typically treat their home as part of their farm business by including the purchase price as part of their farm business cost and deducting house mortgage interest and taxes and a proportion of their home repairs and operating costs as business expenses in the calculation of their taxable income, instead of treating them as consumption expenses, as is done by nearly all other Canadians. Consequently, net house rent will be treated in this study as

a component of net farm income. When using tax filer data for measuring farm income, the argument for including net house rent in farm income is even stronger. Because the majority of farmers typically deduct the above-mentioned costs of home ownership from income *before* it is reported for tax purposes, the net house rental value should be included in income to show an accurate picture.

Table 3-1 provides an overview of Canadian net farm income since 1960, with and without income in kind. The first column essentially represents net farm income without income in kind (similar to tax filer data), while the next three columns provide estimates of income in kind from home-produced food and net house rent, as well as the combined total. The fifth column represents the Statistics Canada net farm income series, while the sixth column represents total net farm income, including all income in kind. These relationships are graphed in Figure 3-1.

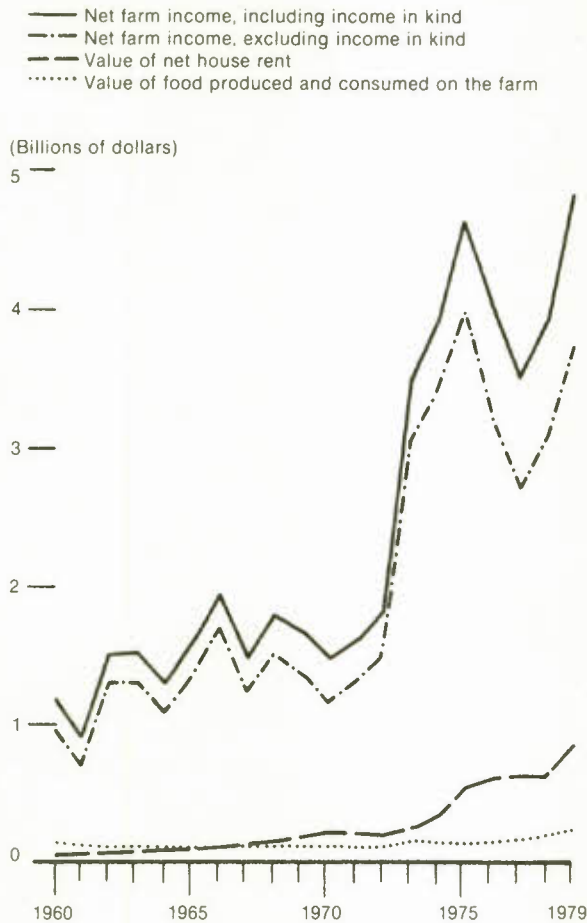
Table 3-1

Value of Income in Kind and Aggregate Net Farm Income, Canada, 1960-79

	(1)	(2)	(3)	(4)	(5)	(6)	Total income in kind as a proportion of all net farm income (4)÷(6)	Net house rent as a proportion of all net farm income (3)÷(6)
	Aggregate net farm income, excluding income in kind	Food produced and consumed on the farm	Net house rental value from living on business property ¹	Total (2)+(3)	Including food produced and consumed on the farm (1)+(2)	Including all income in kind (1)+(4)		
	(Thousands of dollars)						(Per cent)	
1960	979,303	146,675	60,969	207,644	1,125,978	1,186,947	17.5	5.1
1961	701,454	139,671	75,106	214,777	841,125	916,231	23.4	8.2
1962	1,313,615	134,910	75,951	210,861	1,448,525	1,524,476	13.8	5.0
1963	1,314,528	131,137	88,971	220,108	1,445,665	1,534,636	14.3	5.8
1964	1,078,853	126,602	95,417	222,019	1,205,455	1,300,872	17.1	7.3
1965	1,355,690	129,164	105,037	234,201	1,484,854	1,589,891	14.7	6.6
1966	1,715,388	126,039	117,202	243,241	1,841,427	1,958,629	12.4	6.0
1967	1,262,232	121,739	139,234	260,973	1,383,971	1,523,205	17.1	9.1
1968	1,529,204	120,576	149,804	270,380	1,649,780	1,799,584	15.0	8.3
1969	1,378,660	127,313	186,005	313,318	1,505,973	1,691,978	18.5	11.0
1970	1,156,348	119,287	216,868	336,155	1,275,635	1,492,503	22.5	14.5
1971	1,313,097	112,863	207,036	319,899	1,425,960	1,632,996	19.6	12.7
1972	1,507,972	125,975	205,132	331,107	1,633,947	1,839,079	18.0	11.2
1973	3,051,116	168,824	250,263	419,087	3,219,940	3,470,203	12.1	7.2
1974	3,422,680	157,513	335,661	493,174	3,580,193	3,915,854	12.6	8.6
1975	3,981,165	154,729	538,931	693,660	4,135,894	4,674,825	14.8	11.5
1976	3,216,422	160,459	605,615	766,074	3,376,881	3,982,496	19.2	15.2
1977	2,732,102	167,109	625,989	793,098	2,899,211	3,525,200	22.5	17.8
1978	3,072,907	193,267	615,731	808,998	3,266,174	3,881,905	20.8	15.9
1979	3,742,000	248,000	853,337	1,101,337	3,990,000	4,843,337	22.7	17.6

¹ Derived from the Statistics Canada "value of farm lands and buildings" series by calculating 85 per cent of the house value used for nonfarm uses multiplied by the first-year rate on Canada Savings Bonds issued in November of the previous year and earning interest in the year studied. This measure is used to estimate the opportunity-cost value of the portion of the house used for nonfarm purposes.

Figure 3-1

Net Farm Income and Value of Income in Kind,¹
Canada, 1960-79

¹ Total value of food produced and consumed on the farm and net house rent.

From Table 3-1 and Figure 3-1 several observations stand out. First, net farm income, both with and without income in kind, remained at a relatively constant rate until 1973. In that year it roughly doubled and has remained fairly constant at about twice the pre-1973 level since. Thus 1973 marked the beginning of an era with higher farm incomes and better opportunities for farmers than had been experienced in the past. Second, income in kind from both food and net house rent are important components of net farm income (up to 23 per cent) and should not be excluded from calculations of the welfare of farmers. Third, net house rent, because of rapidly rising house values and interest rates (used in calculating the opportunity cost rental value), has been increasing rapidly in recent years. Excluding net house rental values, therefore, underestimates net farm income in recent years by a large amount – 15 to 18 per cent per year from 1976-1979. Finally, with net house rent included, net farm income in nominal terms shows an upward trend since 1973 rather than a relatively stationary trend. Including net house rent, total farm income has been above the 1973 level in all subsequent years and reached its highest level in 1979.

Nonfarm Income for Farmers

For the farm sector as a whole, net operating income (excluding income in kind and capital appreciation) from nonfarm sources greatly exceeds the net operating income from farm sources. This is particularly true for small farmers. Table 3-2 breaks down nonfarm income components and provides average income levels, by components, per farm tax filer, for different levels of gross farm sales. In 1979, net operating income from nonfarm sources exceeded that from farm sources for all farm tax filer

Table 3-2

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Canada, 1979

Gross farm income (\$)	Number of farm tax filers	Average age	Gross farm income	Net farm income	Number of farm tax filers						
					reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other off-farm income	Total off-farm income	Total income
			(Dollars)		(Dollars)						
Nil (or no response)	16,255	43	0	-928	15,625	13,155	2,101	2,597	1,539	19,392	-18,464
1 - 2,499	59,835	48	1,173	-1,660	58,895	11,638	1,360	2,292	1,669	16,958	15,298
2,500 - 4,999	40,305	49	3,685	-957	39,085	9,846	1,168	2,248	1,553	14,816	13,859
5,000 - 7,499	28,685	49	6,180	-161	27,490	8,594	945	2,405	1,518	13,463	13,302
7,500 - 9,999	21,910	49	8,687	536	20,830	7,669	865	2,575	1,447	12,556	13,092
10,000 - 12,499	18,030	49	11,206	1,071	17,070	6,966	868	2,532	1,391	11,757	12,828
12,500 - 14,999	15,390	49	13,716	1,810	14,410	6,018	814	2,372	1,325	10,529	12,338
15,000 - 17,499	13,695	49	16,220	2,466	12,825	5,489	714	2,576	1,312	10,091	12,557

Table 3-2 (concl'd)

	Number of farm tax filers	Average age	Gross farm income	Net farm income	Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other off-farm income	Total off-farm income	Total income
			(Dollars)					(Dollars)			
Gross farm income (\$)											
17,500 - 19,999	12,485	49	18,722	2,955	11,635	5,192	623	2,411	1,242	9,468	12,422
20,000 - 22,499	11,075	49	21,225	3,614	10,230	4,584	585	2,285	1,188	8,642	12,256
22,500 - 24,999	10,215	48	23,736	4,474	9,485	3,959	576	2,371	1,073	7,979	12,453
25,000 - 29,999	18,590	48	27,436	4,940	17,260	3,573	534	2,165	1,034	7,307	12,246
30,000 - 34,999	16,590	47	32,473	6,182	15,340	3,035	516	2,208	986	6,745	12,927
35,000 - 39,999	14,550	47	37,449	7,083	13,435	2,440	488	2,108	912	5,947	13,030
40,000 - 44,999	13,100	46	42,468	7,822	12,085	2,311	310	2,073	920	5,614	13,436
45,000 - 49,999	11,835	46	47,431	8,910	10,905	1,863	385	2,021	841	5,110	14,020
50,000 and over	105,165	44	137,672	11,826	96,365	1,581	240	2,291	841	4,953	16,779
All gross farm income categories	427,720	47	44,707	4,224	402,960	5,943	763	2,319	1,228	10,253	14,477

SOURCE Statistics Canada data on farm tax filers.

groups with gross sales of less than \$35,000 and was less than that from farm sources for all groups with gross sales of \$35,000 or more. On average, the greatest source of nonfarm income was wages and salaries (averaging \$5,943), followed by rental and investment income (averaging \$2,319). Typically wages and salaries, and also business income, were much higher for farmers with low gross sales than for those with high gross sales, while rental and investment income was very similar for all gross sales categories of farmers.

Table 3-3 provides a breakdown of the components of net operating income for farm tax filers, by province, across Canada in 1979. The highest total net incomes, on average, were found in British

Columbia (\$17,028), Alberta (\$15,839), Saskatchewan (\$15,313), and Ontario (\$14,144). The highest average wages and salaries, as well as total off-farm incomes, were found in British Columbia and Alberta, while Saskatchewan had by far the highest average net farm income (\$8,053). The lowest net farm operating incomes were found in British Columbia (\$639), New Brunswick (\$748), and Newfoundland (\$1,264). Additional details on the components of 1979 net operating income, by level of gross farm sales, are provided, by province, in the Appendix. For information on 1970 income, by source, for the census divisions in each province, see Shaw, 1979.

On average, net farm operating income constituted only 29 per cent of total income in 1979 (Table 3-4),

Table 3-3

Average Net Income per Farm Tax Filer, by Source, Canada by Province, 1979

	Net farm income	Wages and salaries	Income from off-farm self-employment	Rental and investment income	Other income ¹	Total off-farm income	Total net income
	(Dollars)						
Newfoundland	1,264	6,426	1,135	712	1,538	9,811	11,075
Prince Edward Island	2,629	4,006	902	1,250	1,181	7,338	9,967
Nova Scotia	1,786	6,821	1,067	1,737	1,534	11,160	12,946
New Brunswick	748	6,878	775	1,449	1,455	10,557	11,305
Quebec	4,377	5,148	920	1,737	1,118	8,924	13,301
Ontario	2,631	6,815	913	2,560	1,226	11,513	14,144
Manitoba	4,118	4,108	453	1,675	1,093	7,330	11,447
Saskatchewan	8,053	3,390	441	2,230	1,199	7,260	15,313
Alberta	3,747	7,430	689	2,698	1,275	12,092	15,839
British Columbia	639	10,413	1,634	2,843	1,499	16,389	17,028
Canada	4,224	5,943	763	2,319	1,228	10,253	14,477

¹ Includes family allowances, alimony, unemployment insurance, pensions, income from roomers and boarders, and miscellaneous income.

SOURCE Statistics Canada data on farm tax filers.

down from the 42 to 44 per cent in the high farm income years of 1974 and 1975, and only slightly higher than the percentage in 1971. Throughout the 1970s, farm income accounted for a lower share of total income than in earlier decades, as evidenced by the 65 per cent share in 1958. On a provincial basis, farm income in recent years has constituted the highest percentage of total income in Saskatchewan and the lowest percentage in British Columbia.

Tables 3-5 to 3-8 provide some interesting comparisons between farmers and nonfarm individuals and between farm families and nonfarm families. Prior

to 1973, the net operating incomes of farmers and farm families typically were considerably below the incomes of their nonfarm counterparts. Since 1973 or 1974, however, farmers and farm families have often earned higher total net operating incomes, on average, than their nonfarm counterparts. It should be noted that the measures used in Tables 3-5 to 3-8 (as well as Tables 3-2, 3-3, and 3-4) were primarily derived from tax filer data, which typically exclude most income in kind. As a result, the farm income and total net income of farm tax filers, including income in kind, could be underestimated by \$1,000 to \$2,000.

Table 3-4

Farm Income as a Proportion of Total Net Income of Farm Tax Filers from All Sources, Canada by Region or Province, 1958, 1971, 1974 and 1979

	1958		1971		1974		1979	
	Total net income	Farm income as % of total	Total net income	Farm income as % of total	Total net income	Farm income as % of total	Total net income	Farm income as % of total
	(Dollars per farm)				(Dollars per farm tax filer)			
Atlantic provinces	2,507	40.9	3,416	17.4	7,032	26.0	11,607	14.2
Quebec	3,097	58.2	4,093	38.9	7,201	33.6	13,301	32.9
Ontario	4,229	59.9	5,278	19.0	9,923	29.3	14,144	18.6
Manitoba	3,538	75.1	3,154	28.9	8,838	53.4	11,447	36.0
Saskatchewan	3,270	77.1	3,811	50.9	11,607	69.5	15,313	52.6
Alberta	4,252	77.1	4,289	24.6	10,416	41.3	15,839	23.7
British Columbia	4,165	48.4	6,275	4.2	11,169	11.5	17,028	3.8
Canada	3,606	65.0	4,384	28.2	10,018	44.0	14,477	29.2

SOURCE Data for 1958 are from Statistics Canada, *Farm Expenditure Survey*, 1958; others are from Statistics Canada data on farm tax filers.

Table 3-5

Average Net Income from All Sources of Farm Families and Unattached Individuals Compared with That of All Tax Filers, Canada, 1965-76

	Farm families and unattached individuals				
	All families and unattached individuals	With one member who reports some net farm income	Who live on census farms	With one member who reports farming as principal occupation	With one member who reports net farm income as major income
	(Dollars)				
1965	5,779	4,302	4,209	4,301	4,134
1967	6,518	5,089	4,609	4,772	4,663
1969	7,686	6,794	6,151	5,878	6,199
1970	9,600		6,610		
1971	8,845	7,313	6,604	6,533	6,398
1972	9,525	8,293	7,423	7,305	7,145
1973	10,694	11,481	9,700	10,041	10,591
1974	12,437	14,577	13,120	12,537	13,092
1975	13,805	15,161	13,108	13,948	14,973
1976	16,095	18,018	15,862	16,767	16,160

SOURCE Table prepared by J. D. Forbes, based on Statistics Canada, *Income Distribution by Size in Canada*, Cat. 13-207, annually; Statistics Canada, 1971 Census of Canada, *Income of Families, Family Heads and Non-Family Persons*, Cat. 93-724, Table 31; Statistics Canada, Survey of Consumer Finances, various years; and W. Darcovich and M. Mouelhi, *Farm and Off-Farm Incomes of Farm Families, 1973*, Publication 7616 (Ottawa: Agriculture Canada, Economics Branch, June 1976), Table 8, p. 13.

Table 3-6

Average Net Income from All Sources of Individual Farmers Compared with That of All Individuals, Canada, 1965-76

	Individual farmers				
	All individuals	Who report some net farm income	Who live on census farms	Who report farming as principal occupation	Who report net farm income as major income
	(Dollars)				
1965	3,579	3,189	2,602	3,129	3,022
1967	4,223	3,951	2,924	3,381	3,561
1969	4,710	4,828	3,492	3,843	4,332
1970	..	..	..	..	..
1971	5,371	5,334	3,811	4,242	4,291
1972	5,828	6,078	4,455	4,900	5,114
1973	6,416	8,257	5,411	6,652	7,691
1974	7,416	10,864	7,021	8,684	10,148
1975	8,208	10,966	7,050	9,038	10,605
1976	9,265	13,260	8,512	10,079	11,325

.. figures not available; no Survey of Consumer Finances conducted in 1970.

SOURCE Same as for Table 3-5.

Table 3-7

Income of Farm Families and Unattached Individuals as a Proportion of the Income of All Families and Unattached Individuals, Canada, 1965-76¹

	Farm families and unattached individuals			
	With one member who reports some net farm income	Who live on census farms	With one member who reports farming as principal occupation	With one member who reports net farm income as major income
	(Per cent)			
1965	74.4	72.8	74.4	71.5
1967	78.1	70.7	73.2	71.5
1969	88.1	80.8	76.5	80.7
1970	..	68.9	..	..
1971	82.7	74.7	73.9	72.3
1972	87.1	77.9	76.7	75.0
1973	107.4	90.9	93.9	99.0
1974	117.2	105.5	100.8	105.3
1975	109.8	95.0	101.0	108.5
1976	111.9	98.6	104.2	100.4

¹ Computed from Table 3-5.

Table 3-8
Income of Individual Farmers as a Proportion of the Income of All Individuals, Canada, 1965-76¹

	Individual farmers			
	Who report some net farm income	Who live on census farms	Who report farming as principal occupation	Who report net farm income as major source of income
	(Per cent)			
1965	89.1	72.7	87.4	84.4
1967	93.6	69.2	80.1	84.3
1969	102.5	74.1	81.6	92.0
1970	..	..	..	..
1971	99.3	71.0	49.0	79.9
1972	104.3	76.4	84.1	87.7
1973	132.9	84.3	103.7	119.9
1974	146.5	94.7	117.1	136.8
1975	133.6	85.9	110.1	129.2
1976	143.1	91.9	108.8	122.2

1 Computed from Table 3-6.

Poverty in Agriculture

Poverty represents a condition in which individuals are judged by the majority of society to have a socially unacceptable standard of living. Data presented in this study, especially in Tables 3-5 to 3-8, indicate that since 1973-74 farm families and unattached individuals, on average, have generally received incomes from farm and nonfarm sources that have been as high or slightly higher than those of their nonfarm counterparts. These data, however, provide only averages and therefore do not specifically indicate how many of these farmers suffer from low income. Consequently, this section of the study examines those farmers who may not have kept up with the general growth in the economy and may now be facing hardships and difficult living conditions.

Measurements of poverty are often expressed in terms of minimum levels of income, to indicate purchasing power and access to goods and services. In properly identifying income for poverty purposes, income should be measured from all sources for single unattached individuals and from all sources for all family members (total family income) in the case of families. Total family income is the correct measurement for family poverty, as the earnings of the household head may be supplemented by the spouse or other family members.

In Canada there are no official poverty income levels. Statistics Canada, however, provides unofficial "low-income cutoff" measurements, based on families spending 62 per cent or more of their income on necessities. While these measurements are not intended as a specific measurement of poverty, they do provide some indication of low-income conditions in Canada. The Statistics Canada low-income mea-

surements account for the different costs of living in different-sized cities³ and different-sized families.⁴ They are also updated annually to account for inflation.

Since the improvement in agricultural incomes in 1973, there have been few studies of low incomes among farmers, and the overall examination of poverty throughout Canada in the 1970s has been very inadequate. Of the few available studies, the Agriculture Canada study [Darcovich, Gellner, and Piracha, 1977] and the Statistics Canada series on income distribution by size [Cat. 13-207] will be used to illustrate the incidence of low-income farmers in the mid-1970s. In the study by Darcovich *et al.*, farm tax filer records were used to compare the incomes of individual farmers with the Statistics Canada low-income cutoffs adjusted for the farmer's family size. Although farm tax filer income excludes most income in kind, some consideration for this exclusion in income data is accounted for in the low-income cutoffs, which are expressed in terms of net operating (cash) incomes after adjustments for income in kind. The results of the study, presented in Table 3-9, show 114,266 farm tax filers, or 29 per cent of the farm population, below the Statistics Canada low-income cutoffs in 1974. The greatest proportion of these low-income farmers were found in the Atlantic provinces and Quebec. Since 1974 was a year of high farm income, these figures could be particularly alarming. It should be noted, however, that the study considered the farm and nonfarm income of only the farm operator as the total income for the family; therefore family incomes were underestimated in all cases where another family member received any earned or unearned income. Consequently the measurements likely overestimate the actual number of farmers living in poverty in 1974.

Table 3-9

Farm Tax Filers with or without Adequate Income, Canada by Province, 1974

	Farm tax filers					
	With inadequate income ¹		With adequate income		Total	
	Number	Percentage of total	Number	Percentage of total	Number	Percentage
Newfoundland	249	52	227	48	476	100
Prince Edward Island	1,600	51	1,551	49	3,151	100
Nova Scotia	1,891	41	2,691	59	4,582	100
New Brunswick	1,423	42	1,972	58	3,395	100
Quebec	15,534	39	24,378	61	39,912	100
Ontario	30,362	29	72,840	71	103,202	100
Manitoba	13,119	32	27,275	68	40,394	100
Saskatchewan	20,596	22	72,919	78	93,515	100
Alberta	24,089	30	57,061	70	81,150	100
British Columbia	5,236	25	15,503	75	20,739	100
Canada ²	114,266	29	276,665	71	390,931	100

1 Income below the Statistics Canada low-income cutoffs.

2 Including the Yukon and Northwest Territories. Nonresident tax filers are also included.

SOURCE W. Darcovich, J. Gellner, and Z. Piracha, "Estimates of Low Income in the Farm Sector, 1974," Working Paper, Agriculture Canada, Economics Branch, Ottawa, November 1977.

The Statistics Canada series on income distribution by size provides annual data on low-income families and unattached individuals for all of Canada, by occupation. Data on farmers and all Canadians from 1973 to 1978 are provided in Table 3-10. This table shows a large reduction in both low-income farm families and unattached individuals during that period – from a combined total of 115,000 in 1973 to only about 58,000 in 1978 (a reduction of nearly 50 per cent).⁵ The incidence of both low-income families and unattached individuals in farming also decreased at a faster rate in the 1973-78 period than that for all Canadians, narrowing the differences in incidence between farmers and all Canadians. The overall incidence of low-income families and unattached individuals, however, was still higher in farming than in all of Canada (12.8 compared with 10.3 per cent for families in 1978 and 37.8 compared with 36.6 per cent for unattached individuals in 1977).

The data in Table 3-10 must be interpreted carefully, however. First, they are based on a small sample for agriculture and could yield some inaccuracies. The definition of "farmer" is also based on the occupational definition in the 1971 census, identifying people primarily engaged in farming as those who spend the greatest share of their time in that occupation. Consequently this definition excludes part-time farmers for whom farming is a secondary occupation, and it underestimates the total number of low-income people who are engaged in some form of farming (as used in the study by Darcovich *et al.*). Finally, both the Statistics Canada data and those of Darcovich *et*

al. focus on the current cash flow (income-expenditure) aspects of low incomes and do not consider the impact of wealth.

Although the overall low-income situation in farming has improved substantially in recent years, it still remains a problem throughout Canada. In particular, the concentration of low-income farmers in specific areas can indicate significant local problems. In general, concentrations of low-income farmers are most apt to be found in the Maritimes, Newfoundland, and Quebec, where their incidence is highest; but pockets of low-income farmers may be found in all provinces. For example, in an earlier study [Brinkman, Driver, and Blackburn, 1977] of limited-resource farmers in Grey and Renfrew Counties in Ontario (where they represent about 80 per cent of all the farmers), 20 and 38 per cent of them, respectively, under the age of 65, had incomes below the low-income cutoffs. Surprisingly there were fewer farmers over 65 than under 65 who had low incomes, partly because the former were receiving pensions to supplement their incomes. Considering limited-resource farmers of all ages, 18 and 35 per cent in Grey and Renfrew Counties, respectively, had low incomes.

In a follow-up study [Blackburn, Brinkman, and Driver, 1978], it was found that a number of the limited-resource farmers considered their income to be adequate, even though it was below the low-income cutoffs. These farmers typically were the least receptive to making farm improvements and were

Table 3-10

Incidence of Low-Income Families and Unattached Individuals in Farming, and Throughout the Total Population, Canada, 1973-78

	Low-income families			Low-income unattached individuals			Total of low-income families and unattached individuals in farming
	Number in farming	Proportion of all farm families	Proportion of all Canadian families	Number in farming	Proportion of all unattached individuals in farming	Proportion of all Canadian unattached individuals	
1973	78,512	21.8	13.4	36,002	53.9	40.2	114,514
1974	64,890	17.6	11.3	..	..	37.5	..
1975	68,083	20.5	11.8	25,792	47.5	38.1	93,875
1976	60,078	18.8	11.2	..	..	34.3	..
1977	50,743	17.1	11.2	15,156	37.8	36.6	65,899
1978	41,138	12.8	10.3	17,020	..	34.9	58,158

.. not available because of the small sample of farmers. In even-numbered years, the overall sample size is about one-half of that in odd-numbered years.

SOURCE Statistics Canada, *Income Distribution by Size in Canada*, revised data, Cat. 13-207, annually, 1973 to 1978.

predominantly in subgroups identified in the study as a/ maintenance-state farmers with unreceptive attitudes (older farmers just maintaining their present operation until retirement and having behavioural attitudes unreceptive to making improvements), and b/ traditional farmers (subsistence-oriented farmers utilizing traditional, outdated technology).⁶ The maintenance-state and the traditional subgroups reported their perceived minimum incomes for family viability, on average, as \$5,272 and \$4,071, respectively, compared with average low-income cutoffs of \$5,543 and \$5,607. The "traditional farmer" subgroup even reported their perceived *satisfactory* level of income as an average of \$4,935 – that is, \$672 (or 12 per cent) below the average cutoffs. Consequently, the Statistics Canada low-income cutoffs may overestimate poverty conditions in agriculture, as perceived by some of the farmers themselves.

Capital Appreciation

Capital appreciation is by far the most controversial part of farm returns. It is often argued that capital appreciation should not be included in farm returns because it is not realizable until the farmer sells his assets. Hence farmers cannot benefit from their capital appreciation unless they retire, cease farming, or at least sell off some of the resources they require to farm successfully. There are several important reasons for including capital appreciation in income, however.

First, despite farmers' claims, some capital appreciation can be realized annually without disposing of assets. This realization occurs when capital appreciation is used as a substitute for savings or other funds to be set aside for retirement and when the increased equity from appreciation is used as

collateral for borrowing. Because farmers usually utilize their farm appreciation as their retirement fund, they do not have to set aside money for this purpose when their assets (particularly land) appreciate significantly. An amount equivalent to the income that would normally go into savings and retirement is realized from capital appreciation every year. For example, some people set aside as much as 20 per cent of their annual income for retirement every year. A farmer who did not need to set aside money for retirement could earn 80 per cent as much cash income as these people and have the same spendable income. Similarly, borrowing on the basis of capital appreciation enables a farmer to liquidate his equity. In the past, some farmers have even used the appreciation in the value of their land as leverage in borrowing to buy more land. It should be noted, however, that both of these examples relate to long-term durable assets, such as land and buildings, rather than short- or medium-term investment assets (like machinery or vehicles), which are used up in the production process and only have to be replaced at the higher appreciated cost. Furthermore, the treatment of annual realization of capital appreciation through substitution for savings might not be appropriate for some low-income farmers, who would need to use any increase in income for consumption rather than savings. The approximately 20 per cent of the farm population that may be considered to have the greatest income problems, however, controls only about 13 per cent of all farm land and building assets. Consequently, capital appreciation on most farm land and buildings can be realized at least in part on an annual basis.

Another reason for considering capital appreciation as a part of farm returns is that many farmers value

their capital at current market value rather than at actual purchase costs (usually lower) when calculating rates of return to their capital. For example, a farmer may have purchased a farm for \$50,000 in 1960 that is now worth \$250,000 in excess of his capital improvements. If the farmer is to receive a 10 per cent return on investment, how much income does he need just to cover his initial capital investment? Based on actual cost it should be \$5,000, but based on current market value it would have to be \$25,000. Some farmers may claim that they do not receive enough operating income to provide a decent return on both their labour *and* capital because they have used the higher appreciated value as the cost of their capital (i.e. the opportunity cost of selling their farm or buying the same farm today) even though their actual "out of pocket" costs have not increased. In these cases, farmers are treating capital appreciation as a cost but ignoring it as a return. If, however, costs are based on appreciated values, capital appreciation must also be added to income, because the farmer cannot have an opportunity cost of selling his farm without an opportunity return from its sale.

The mistake of treating capital as a cost while ignoring it as a return also helps explain the inaccurate statement that there is not enough income in agriculture to provide a decent investment return. By using census land values (which are reported in current market values) as the main measure of capital investment in agriculture, it is understandable that the residual return to capital would be very low during periods of appreciation in land values. Rather than declare that farming is an unprofitable capital investment, however, the correct interpretation is that the land market is functioning very efficiently in capitalizing higher expected future profits from farming (calculated at current land values) into the fixed land asset, which in turn appreciates.

Finally, many people do not realize that much of the capital invested in Canada is not physical capital (machinery, land, buildings, and so on) and does not appreciate in value. Probably half of Canada's investment capital is human capital, acquired by investing in people through education and training. The main costs of human capital investments through education are the earnings forgone while at school and the direct school expenses. Considering these costs, a doctor or new Ph.D. chemist, for example, has about \$200,000 invested. Because this capital cannot be sold or transferred, it cannot appreciate. The only return that can be realized from human capital is the labour and management earnings of the individual. For human and physical (nonhuman) capital to earn comparable overall returns, the return to human capital needs to be as large as the income from physical capital *plus* any realized appreciation in its value. Farmers also have human capital, but usually most of their investments are in physical capital. Consequently, their capital investments have the advantage of both a rate of return and the possibility of appreciation. Both of these factors should be considered in analysing returns to all forms of capital.

In recent years, capital appreciation on land and buildings has been very substantial. In 1960 the value of all farm land and buildings was \$8.2 billion. By 1979, the capital stock of farm lands and buildings had skyrocketed to \$60.9 billion in nominal terms and to \$23.9 billion in constant 1960 real dollars.⁷ The average value per acre of farm land in Canada rose from \$115 in 1971 to \$369 in 1979 – an increase of 321 per cent (Tables 3-11 and 3-12). Provincially, the greatest increases have occurred in Ontario, Saskatchewan, British Columbia, and Alberta. For example, a farmer in Ontario with a \$100,000 farm in 1971 now has, on average, a farm worth over \$300,000. This large increase in wealth typically

Table 3-11

Index of the Value of Farm Lands and Buildings per Acre, Canada by Province, 1971-79

	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
	(1971 = 100)									
1972	110.0	104.8	107.1	109.2	104.3	100.0	100.0	101.1	104.8	102.6
1973	130.0	120.0	122.4	124.1	126.7	114.5	115.9	114.0	122.0	120.0
1974	168.0	153.3	153.1	143.3	164.6	145.8	144.0	146.2	170.8	153.0
1975	184.0	165.7	190.8	166.7	207.8	166.3	188.4	178.5	205.6	189.6
1976	191.0	172.4	195.9	203.5	242.3	194.0	229.0	196.8	228.8	219.1
1977	182.0	162.9	193.9	236.2	267.8	207.2	240.6	204.3	238.8	235.7
1978	202.0	174.3	217.3	261.7	303.8	238.6	278.3	220.4	274.8	265.2
1979	245.0	190.5	235.7	290.0	344.3	262.6	323.2	305.4	308.4	320.9

SOURCE Statistics Canada, Agriculture Division, Value of Farm Lands and Buildings Survey, December 1979.

Table 3-12

Average per Acre Value of Farm Lands and Buildings, Canada by Province, as of July 1, 1971-79

	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Canada
	(Dollars)									
1971	100	105	98	141	345	83	69	93	250	115
1972	110	110	105	154	360	83	69	94	262	118
1973	130	126	120	175	437	95	80	106	305	138
1974	168	161	150	202	568	121	100	136	427	176
1975	184	174	187	235	717	138	130	166	514	218
1976	191	181	192	287	836	161	158	183	572	252
1977	182	171	190	333	924	172	166	190	597	271
1978	202	183	213	369	1,048	198	192	205	687	305
1979	245	200	231	409	1,188	218	223	284	771	369

SOURCE: Statistics Canada, Value of Farm Lands and Buildings Survey, November 1979.

cannot be acquired in most other occupations. As a result, many urban people find it hard to believe that farming is not very profitable overall, even though a farmer could have \$250,000 in equity but cash earnings low enough to create a serious cash flow problem. Most urban Canadians, however, would probably welcome that kind of problem.

The large increases in capital appreciation in recent years make it imperative that capital appreciation (or depreciation) be examined carefully. Table 3-13 summarizes annual aggregate net farm income (including income in kind from farm-produced food consumed on the farm but excluding net house rent) and capital appreciation in nominal terms from 1960 to 1979, as well as real capital appreciation in real current-dollar terms. Real current-dollar value represents the annual increase in the value of capital stock

in excess of the general rate of inflation after deduction for net capital formation in farm buildings (new building investment minus depreciation on previous capital), expressed in the dollar value of that year rather than the dollar value of a constant base year. This measurement is useful for comparisons with annual net farm income in the same year. Table 3-14 also summarizes real net farm income (including income in kind from farm-produced food consumed on the farm, with and without net house rent) and capital appreciation in constant 1960 dollar values for comparisons over time. In both of these tables it should be noted that farmers own roughly 90 to 94 per cent⁶ of the farmland and therefore receive approximately the same proportion of the capital appreciation on farm land and buildings. Not all farmland owned by farmers is worked by the owner; some farmers lease land to other farmers.

Table 3-13

Aggregate Net Farm Income, Annual Nominal and Real Capital Appreciation on Land and Buildings, and Comparison between Real Capital Appreciation and Real First-Year Interest on Canada Savings Bonds, 1960-79

	(1) Aggregate net farm income ¹	(2) Annual capital appreciation on land and buildings		(3) Annual Real Increase		Relative size of real capital appreciation compared to net farm income (3)÷(1)
		Nominal ²	Real ³	Appreciation on land and buildings ⁴	First-year interest from Canada Savings Bonds	
1960	1,125,978	311,535	218,213	2.7	2.8	19.4
1961	841,125	304,172	227,527	2.7	3.8	27.1
1962	1,448,525	268,402	166,907	1.9	3.4	11.5
1963	1,445,665	533,398	385,051	4.2	3.4	26.6
1964	1,205,455	885,466	718,792	7.1	3.2	59.6
1965	1,484,854	1,197,173	953,690	8.4	2.6	64.2
1966	1,841,427	1,224,985	805,319	6.4	1.3	43.7
1967	1,383,971	1,569,343	1,116,920	7.9	1.9	80.7
1968	1,649,780	1,412,164	839,630	5.4	1.4	50.9

Table 3-13 (concl'd)

	(1) Aggregate net farm income ¹	(2) Annual capital appreciation on land and buildings		Annual Real Increase		Relative size of real capital appreciation compared to net farm income (3)+(1)
		Nominal ²	Real ³	Appreciation on land and buildings ⁴	First-year interest from Canada Savings Bonds	
1969	1,505,973	212,826	-496,200	-3.1	2.2	-32.9
1970	1,275,635	65,409	-454,725	-2.9	4.7	-35.6
1971	1,425,960	139,819	-316,000	-2.0	4.9	-22.2
1972	1,633,947	1,366,197	599,787	3.5	2.4	36.7
1973	3,219,940	3,798,264	2,491,350	11.8	-0.2	77.4
1974	3,580,193	6,649,843	4,344,414	15.6	-3.4	121.3
1975	4,135,894	7,465,174	4,464,806	12.7	-1.1	108.0
1976	3,376,881	6,713,131	4,069,654	9.7	1.9	120.5
1977	2,899,211	3,027,053	-329,706	-0.7	1.1	-11.4
1978	3,266,174	5,710,355	1,679,561	3.3	-0.9	51.4
1979	3,990,000	10,203,286	5,574,660	9.2	0.4	139.7

1 Excluding net house rent.

2 Annual change in total value of farm lands and buildings, after deductions for net fixed capital formation in farm buildings.

3 Average increase in the value of the capital stock of farm lands and buildings in each year in excess of the general rate of inflation (as measured by the consumer price index), after deductions for net capital formation. Figures represent the real capital appreciation in each year, measured in the dollar value of that year (rather than in constant dollar terms) to enable comparisons with annual net farm income.

4 Calculated as the annual real increase, divided by the market year-end value of the previous year. Percentage-increase values for land and buildings include only the increase in value from capital appreciation and exclude any rate of return to capital for its use in agriculture.

SOURCE Statistics Canada, Value of Farm Lands and Buildings Survey, November 1979; and unpublished data.

In Table 3-13, nominal measures of capital appreciation are provided for comparison with other investment returns measured in nominal terms. Although nominal capital appreciation (depreciation) is not as valid a measure of the change in farm value as real capital appreciation (or depreciation when the rate of inflation is greater than the increase in the price of land and buildings), it is necessary for comparison purposes because the returns to most capital investments are not measured in real terms. For example, we measure interest rates on savings in nominal terms (9 to 12 per cent in 1979), while in recent years they have often been negative in real terms. Stock dividends and appreciation are also reported in nominal terms, and the real depreciation in human capital (which depreciates to zero) is never discussed. Valuing investments in land at their current market value when calculating returns to capital (treating capital appreciation as a cost in nominal term) also requires that capital appreciation be included in income in nominal terms.

From Table 3-13 it can be seen that annual nominal capital appreciation ranged from about one-quarter of a billion to one and one-half billion dollars in the 1960s but increased dramatically to between three billion and ten billion dollars per year in the 1973-79 period. In the latter years nominal capital appreciation was at times double the total net farm income. When considered in real current-dollar terms,

capital appreciation overall was still tremendous. In real current-dollar terms there was some decline in the value of land and buildings, especially in 1969-71 and 1977; yet the overall real growth continued to be extremely high. In four of the last six years in the 1970 decade, it even exceeded net farm income. Because of the magnitude of this increase in wealth, it simply cannot be ignored when examining the welfare of farmers and explaining why investment in agriculture continues despite apparent low farm incomes. (The relationships between nominal annual net farm income, nominal capital appreciation, and capital appreciation in real current-dollar terms are graphed in Figure 5-1.)

Table 3-13 also illustrates the importance of comparing real capital appreciation levels or rates only with real levels or rates in other investments. Overall, the real appreciation on farm land and buildings, excluding any return to the capital for its use in agriculture, greatly exceeded the real return to interest savings, as represented by the first-year interest on Canada Savings Bonds. Despite interest rates often in excess of 9 per cent in the later years, annual real returns to these investments from 1973 to 1979 were negative overall. From 1960 to 1979 the average annual compounded nominal rate of increase in appreciation on farm land and buildings was about 10.5 per cent compared with a return of about 6.7 per cent for Canada Savings Bonds. The real

rates were about 5.0 and 1.8 per cent, respectively. From 1970 to 1979 the nominal rates of appreciation on farm land and buildings was about 14.4 per cent, compared with returns of about 8.4 per cent on Canada Savings Bonds; the corresponding real rates were about 6.9 and 0.9 per cent, respectively.

Table 3-14

Aggregate Real Net Farm Income¹ and Real Capital Appreciation on Land and Buildings (in Constant 1960 Dollars), Canada, 1960-79

	Real value in 1960 dollars ²		
	Net farm income		Annual capital appreciation on land and buildings
	Excluding net house rent	Including net house rent	
	(Thousands of dollars)		
1960	1,125,978	1,186,947	218,213
1961	833,275	907,680	225,514
1962	1,417,989	1,492,339	162,935
1963	1,391,359	1,476,988	369,358
1964	1,139,508	1,229,705	678,690
1965	1,370,493	1,467,440	878,754
1966	1,638,539	1,742,828	713,426
1967	1,188,775	1,308,371	960,992
1968	1,361,985	1,485,657	693,718
1969	1,189,094	1,335,961	-391,711
1970	975,100	1,140,874	-347,195
1971	1,059,488	1,213,316	-234,813
1972	1,158,419	1,303,851	425,760
1973	2,122,818	2,287,809	1,642,741
1974	2,128,067	2,327,584	2,581,242
1975	2,218,750	2,507,866	2,396,536
1976	1,685,039	1,987,236	2,028,114
1977	1,339,623	1,628,870	-149,505
1978	1,385,141	1,646,264	712,273
1979	1,550,507	1,882,113	2,165,257

1 Excluding and including net house rent, and including income in kind from food produced and consumed on the farm.

2 Deflated by the consumer price index.

SOURCE Statistics Canada, *Farm Net Income Reference Book*, December 1979; Value of Farm Lands and Buildings Survey, November 1979; and unpublished data.

Table 3-14 presents both net farm income and capital appreciation in real 1960 dollar values to measure real changes over time (see also Figure 3-2). Total Canadian net farm income, including income in kind from food produced and consumed on the farm but excluding net house rent [Statistics Canada, aggregate net farm income series], when measured in 1960 dollars, shows some substantial increases in the 1973-75 period but gradually returns to close to the pre-1973 income levels in the late 1970s. When net house rent values are included, however, the picture changes to one of large increases in the 1973-75 period, followed by a level of real income (in 1960 dollars) above the pre-1973 level. Real capital appreciation is also seen to increase over time (in

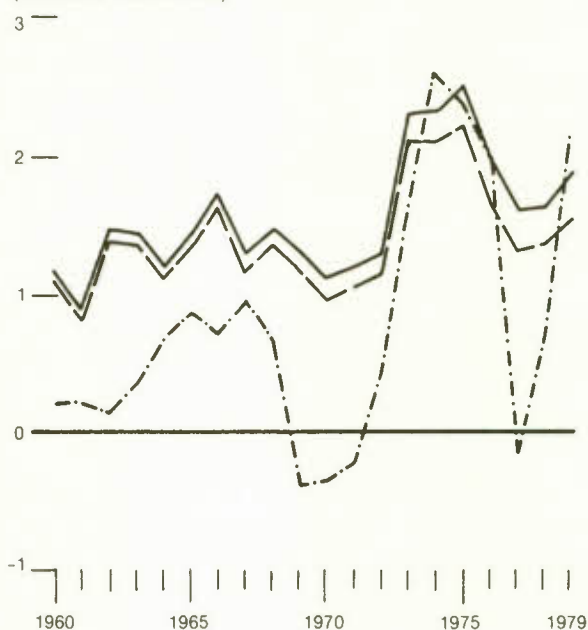
1960 dollars) despite real capital depreciation in 1969-71 and in 1977.

Figure 3-2

Aggregate Real Net Farm Income¹ and Real Capital Appreciation on Farm Land and Buildings, Canada, 1960-79

— Real net farm income, including net house rent
 - - - Real net farm income, excluding net house rent
 ···· Real capital appreciation on farm land and buildings

(Billions of 1960 dollars)



1 Including income in kind from food produced and consumed on the farm.

In explaining the figures in Table 3-14 it should be noted that the changes in total income do not necessarily reflect the prosperity of individual farmers, since the decline in the number of farmers over the period meant that the total income was distributed to fewer individuals. In particular, the larger commercial farmers have continually produced a greater relative share of the value added in agriculture and have therefore received an increasing share of net farm income. Furthermore, constant real family incomes do not necessarily mean that family welfare has remained constant. The consumer price index used in deflating income over time reflects price increases for some aspects, like housing, which appreciate over time. The owners of these assets can maintain their standard of living with an increase in income that is less than the increase in overall inflation, as long as their income increases enough to cover the cost increases of their actual expenditures (including

increases in interest but excluding any increase in the cost of new houses). Again, this is an example of treating capital appreciation as a cost (this time for consumption rather than for investment) while excluding it as a return. White-collar workers and self-employed businessmen (like farmers) typically have a high incidence of home ownership and can maintain their standard of living with a rate of increase in income that is somewhat below the overall rate of inflation.

The distribution of capital appreciation, by farm size, is given for 1976 in Table 3-15. The year 1976 was selected primarily because of the availability of land and building values, by gross farm sales, from

the census (see Table 2-3). Data for this particular year are also useful, however, because the real rate of capital appreciation (9.7 per cent) was quite similar to the average real rate of appreciation per year from 1973 to 1979 (8.9 per cent). In this table, capital appreciation is given in both nominal and real terms. Nominal capital appreciation ranged from a low of \$7,419 per farm (\$5,983 per tax filer) on farms with gross sales of less than \$2,500 to a high of \$43,095 per farm (\$26,439 per tax filer) on farms with gross sales of \$50,000 or more. In real terms, capital appreciation ranged from a low of \$3,763 per farm (\$3,035 per tax filer) on farms in the smallest category to \$21,979 per farm (\$13,484 per tax filer) on farms in the largest category.

Table 3-15

Average Capital Appreciation on Farm Lands and Buildings per Farm¹ and per Farm Tax Filer Equivalent² by Size of Farm (Gross Sales), Canada, 1976

	Average number of acres	Average value per acre (including buildings)	Average value of land and buildings per farm ³		Average capital appreciation on land and buildings per farm		Average number of farm tax filer equivalents per farm	Average capital appreciation per farm tax filer equivalent ²	
			1975	1976	Nominal	Real		Nominal	Real
			(Dollars)						
			(Dollars)						
Gross farm sales (\$):									
50 - 2,499	132	426	48,748	56,167	7,419	3,763	1.24	5,983	3,035
2,500 - 9,999	280	268	64,783	74,649	9,866	5,007	1.19	8,291	4,208
10,000 - 24,999	487	217	91,203	105,094	13,891	7,050	1.15	12,079	6,130
25,000 - 49,999	695	231	138,962	160,125	21,163	10,741	1.28	16,534	8,391
50,000 and over	1,057	310	282,968	326,062	43,095	21,979	1.63	26,439	13,484
All farms	473	266	108,670	125,220	16,550	8,400	1.26	13,134	6,667

1 Including private, partnership, and family corporation farms but excluding institutional, nonfamily corporations, and other farms.

2 Includes adjustments to account for the equivalent number of tax filers for the corporate family farms reported in the census that would have been supported on private unincorporated farms of similar size and value.

3 After reduction for net capital formation in farm buildings of \$142.7 million in 1976. Net capital formation is assumed to be an equal percentage of the 1975 value on all farms.

SOURCE Average acreage derived from Statistics Canada, *Census of Agriculture*, Cat. 96-800, 1976, Table 25; tax filer equivalents derived from data in Table 2-1 and from Statistics Canada, *Census of Agriculture*, Cat. 96-800, 1976, Tables 25 and 32; and average value per acre derived from unpublished data from the Value of Farm Lands and Buildings Survey, November 1978.

These increases in capital appreciation are combined in Tables 3-16 and 3-17 with the farm and nonfarm income of tax filers (Table 2-1) plus the estimated income in kind not included in the income reported by tax filers, in order to produce a more complete picture of farm income.⁹ Including income in kind, and with capital appreciation reported in nominal terms (for comparison with other investment returns measured in nominal terms), the average returns in 1976 were equal to around \$20,000 per tax filer and \$25,000 per farm on farms with sales of less than \$2,500 and on those with sales of \$2,500 to \$10,000. Total returns equaled \$46,000 per tax filer

and \$75,000 per farm on farms with gross sales of \$50,000 or more. In real terms, the picture is still striking. The average 1976 returns on farms in the first two categories amounted to roughly \$17,700 and \$15,600 per tax filer and \$22,000 and \$18,600 per farm, respectively; on those with gross sales of \$50,000 or more, the average returns amounted to about \$33,000 per tax filer and \$53,900 per farm. Clearly this is a very different picture from that presented by net farm income alone or by making generalizations with regard to the total farm population from observations of average net farm income for the total agricultural sector (only \$3,839 in 1976).

Table 3-16

Average Total Returns from All Sources per Farm Tax Filer and per Farm, by Source and Size of Farm (Gross Sales), with Capital Appreciation Measured in Annual Nominal Terms, Canada, 1976

	Average net income per tax filer		Estimate of unreported average income in kind ¹ per tax filer		Average per tax filer		Average per farm	
	Farm income	Off-farm income	Food produced and consumed on the farm	Imputed house rent	Nominal capital appreciation on land and buildings	Total returns from all sources	Number of tax filers	Total returns from all sources
Gross farm sales (\$):								
50 - 2,499	-1,167	13,505	317	2,030	5,983	20,668	1.24	25,628
2,500 - 9,999	30	9,522	317	1,568	8,291	19,728	1.19	23,476
10,000 - 24,999	3,190	5,625	317	1,753	12,079	22,964	1.15	26,409
25,000 - 49,999	7,589	3,764	317	1,937	16,534	30,141	1.28	38,580
50,000 and over	13,148	3,988	317	2,121	26,439	46,013	1.63	75,001
All farms	3,839	7,603	317	1,845	13,134	26,738	1.26	33,690

1 Data on income in kind have been adjusted to exclude corporation, institutional, and other special farms. The value of unreported home produce is assumed to be equal for all farm sizes and is calculated from the average 1976 value per farm tax filer (\$377) times the percentage of the 1974 value (84 per cent) unreported on income tax returns. Imputed house rent, based on the average 1976 value per farm tax filer (\$1,845) has been adjusted per size category by 110, 85, 95, 105, and 115 per cent to reflect the approximate differences in house value from the \$50-\$2,499 category through to the \$50,000 and over category, respectively.

SOURCE Average net farm and nonfarm income is from unpublished Statistics Canada data from Personal Income File (see Table 2-1); income in kind, from George Andrusiak, "Farm Income Situation and Outlook," a paper presented at the Canadian Agricultural Outlook Conference, Ottawa, December 11, 1978.

Table 3-17

Average Total Returns from All Sources per Farm Tax Filer and per Farm, by Source and Size of Farm (Gross Sales), with Capital Appreciation Measured in Annual Real Terms, Canada, 1976

	Average net income per tax filer		Estimate of unreported average income in kind ¹ per tax filer		Average per tax filer		Average per farm	
	Farm income	Off-farm income	Food produced and consumed on the farm	Imputed house rent	Real capital appreciation on land and buildings	Total returns from all sources	Number of tax filers	Total returns from all sources
Gross farm sales (\$):								
50 - 2,499	-1,167	13,505	317	2,030	3,035	17,720	1.24	21,973
2,500 - 9,999	30	9,522	317	1,568	4,208	15,645	1.19	18,618
10,000 - 24,999	3,190	5,625	317	1,753	6,130	17,015	1.15	19,567
25,000 - 49,999	7,589	3,764	317	1,937	8,391	21,998	1.28	28,157
50,000 and over	13,148	3,988	317	2,121	13,484	33,058	1.63	53,885
All farms	3,839	7,603	317	1,845	6,667	20,271	1.26	25,541

1 Same as for Table 3-16.

SOURCE Same as for Table 3-16.

When considering these returns it must be recognized that many farmers have very large investments (averaging about one-third of a million dollars in land and buildings alone in 1976 for farms with gross sales of \$50,000 or more), and a substantial amount of their returns may result from these investments. (The question of whether farmers earn enough to generate

a good rate of return on their resources is treated in the following chapter.) Furthermore, much of the total return in recent years has accrued through capital appreciation. This form of return is much less certain than current income, and lands and buildings could appreciate at a lower rate in the future, or even depreciate. The greater uncertainty associated with

future capital appreciation, however, is not a valid reason for excluding it from past income measurements or for ignoring the change in capital value (either appreciation or depreciation) in future analyses.

Table 3-18, based on an earlier study [McClatchy and Campbell, 1975], provides additional information, by province, on total family income from all sources in 1971, representing the pre-1973 farm income era. Some of the figures in the table are derived from sources other than those used for earlier tables in this study, and total income is reported per family rather than per tax filer. Furthermore, because

the capital appreciation for 1971 shown in Table 3-18 was measured at the average rate for the entire 1961-71 period, it is positive instead of negative as reported in Table 3-13. The figures substantiate the conclusion, however, that farm family real income is much greater than farm operating income, with a respectable average per family. The breakdown by province also shows that farm families from Ontario westward (with Manitoba lagging) are, on average, better off than those in Quebec and the Maritimes. This provincial disparity continued in the post-1973 era, as shown by the tax filer data on net farm operating income and off-farm income (Table 3-4) and by the rate of capital appreciation on land and buildings (Tables 3-11 and 3-12).

Table 3-18

Some Approximate Estimates of the Absolute and Proportionate Importance of the Five Main Components of Farm Family Real Income: Average per Farm, Canada by Province, 1971

	Rental value of house		Other income in kind (mainly food)		Net farm cash income after expenses and depreciation		Real capital gains on land ¹		Off-farm family income		Total farm family income	
	\$Value	%	\$Value	%	\$Value	%	\$Value	%	\$Value	%	\$Value	%
British Columbia	2,500	16	350	2	1,800	12	2,600	17	8,400	54	15,650	100
Alberta	1,150	10	250	2	3,500	31	2,400	21	4,100	36	11,400	100
Saskatchewan	900	8	250	2	5,500	48	2,500	22	2,300	20	11,450	100
Manitoba	900	9	250	3	4,100	43	1,800	19	2,500	26	9,550	100
Ontario	1,650	15	300	3	1,600	14	1,900	17	5,700	51	11,150	100
Quebec	650	8	500	6	2,300	30	700	9	3,600	46	7,750	100
New Brunswick	600	8	350	5	1,800	25	600	8	3,800	53	7,150	100
Nova Scotia	800	11	350	5	1,300	18	600	8	4,200	58	7,250	100
Prince Edward Island	900	17	300	6	1,000	19	700	13	2,500	46	5,400	100
Canada	1,150	11	300	3	3,100	29	1,900	18	4,100	39	10,550	100

1 Average annual real capital gains over the 1961-71 period.

SOURCE D. McClatchy and C. Campbell, "An Approach to Identifying and Locating the Low-Income Farmer," *Canadian Farm Economics* 10, no. 2 (April 1975).

Supply Management Quota Values

Supply management quota values represent another form of wealth to the farm sector. These values, however, accrue only to those farmers operating in supply management programs and not to the total farm population. Production quotas are typically used in supply management programs to restrict output to some level of production that can be sold in the market at a profitable price. Quotas take on value primarily when the profitability of agricultural production in the commodity controlled by quotas exceeds the profitability of competing alternatives for use of the farmers' resources, so that farmers are willing to pay for the right to produce the more profitable product. With the expansion of

supply management programs in the 1970s and the increased profitability of producing the commodities controlled by those programs, there has been a substantial creation of quota value in recent years.

A crude measure of the aggregate value of production quotas in Canada in 1978 for the main supply-managed commodities (fluid and manufacturing milk, eggs, broilers, turkeys, and tobacco) is derived in Tables 3-19 through 3-21. Table 3-19 provides measures of value per unit of quota in 1978 for the supply-managed commodities in most provinces, taken from CFA estimates [Canadian Federation of Agriculture, 1979] and supplemented in several cases by estimates obtained through personal communications or other published sources. In several provinces (e.g. Manitoba and Saskatchewan), however, quotas are tied to the sale of the farm, and

no separate quota values exist. In these cases, quota values were estimated from other provinces (i.e. from Alberta, for Manitoba and Saskatchewan). These values per unit of quota multiplied by the production under quota reported in Table 3-20 give the aggregate quota values listed in Table 3-21.

Overall, the aggregate quota value in 1978 amounted to roughly \$2 billion. Dairy producers held the greatest share of the quota value (61 per cent), but the poultry quota also contributed substantially to

the total value. Provincially, Ontario and Quebec farmers held about 68 per cent of all quota value; Ontario led with 35 per cent of the Canadian total. Since the federal-provincial poultry supply management schemes, accounting for a good share of the value of poultry quotas, have only been in effect since the mid-1970s or later (broilers in 1979) and since milk quotas in many provinces had little value in the 1974-75 period, when competing alternatives (beef) were more profitable, most of the aggregate quota value can be attributed to appreciation in per-unit

Table 3-19

Per-Unit Quota Values, by Province, Mid-1978

	Fluid milk (lbs./day)	MSQ milk (lbs./year)	Eggs (/bird)	Chickens ¹ (/lb.)	Turkeys ¹ (/lb.)	Tobacco (/lb.)
(Dollars)						
Prince Edward Island	10.00	0	6.00 ^e	n.q.	n.q.	
Nova Scotia	23.00	0	6.25	0.06	0.38 ²	
New Brunswick	22.00	0	8.00	0.05 ²	0.86	
Quebec	48.06	.075	10.00	0.25	0.67	
Ontario	16.00	.053	12.00	0.42	0.30	1.08
Manitoba	30.00 ^a	.028 ^e	5.00 ^e	0.25 ^e	0.38 ^e	
Saskatchewan	30.00 ^e	.028 ^e	5.00 ^e	0.06	0.38 ^e	
Alberta	30.00	.028 ²	5.00 ²	0.25 ²	0.38 ^e	
British Columbia	150.00	.15	21.00	0.63	1.52	

e - estimate for quota that was not independently transferable and had no specific price (typically tied to transfer with the farm); it is based on that for other provinces.

n.q. - no quota.

1 For quotas specified in square footage of floor space, the value per pound of chicken was calculated as 4.75 pounds per square feet, produced four times a year, for Ontario and 4.0 pounds four times a year for other provinces. For turkeys, a quota of 5.25 pounds per square feet per year was used.

2 Estimate derived from unpublished provincial sources.

SOURCE Canadian Federation of Agriculture, *Quotas*, 1979; and Peter Arcus, "The Values of Milk Quota in British Columbia: An Economic Analysis," *Canadian Journal of Agricultural Economics* (July 1978).

Table 3-20

Production of Major Agricultural Products under Supply Management, Canada by Province, 1978-79

	Fluid milk	Industrial milk	Eggs	Chickens	Turkeys	Tobacco
	(Million lbs.)		(Thousands of layers)	(Thousand lbs. eviscerated)		(Million lbs.)
Newfoundland	-	-	380	9,000	-	-
Prince Edward Island	35.1	188.4	120	1,176	-	-
Nova Scotia	231.6	122.0	788	30,000	3,303	-
New Brunswick	153.0	132.5	387	21,700	2,251	-
Quebec	1,303.9	4,797.1	3,016	277,000	47,066	-
Ontario	2,244.8	3,134.0	7,325	294,000	88,403	229
Manitoba	250.1	390.2	2,157	34,500	15,292	-
Saskatchewan	230.3	260.2	628	17,170	7,193	-
Alberta	499.4	671.1	1,399	73,000	15,304	-
British Columbia	638.6	310.0	2,365	91,000	16,349	-
Canada	5,586.8	10,005.5	18,565	848,546	195,161	229

SOURCE Agriculture Canada, Market Information Service, *Dairy Market Report* 55, no. 6 (1980): 2, for milk sold off the farm, calendar year 1978, by province; Dairy Farmers of Canada, *Dairy Facts and Figures*, Ottawa, 1979, Table 23 (dairy year April 1, 1978 to March 31, 1979); National Farm Products Marketing Council, *Annual Report*, Table 8, p. 9, for provincial average numbers of hens, 1978, and Table 15, p. 14, for CTMA allocation of turkey slaughtering, 1977-78; and S. H. Lane, *Agricultural Marketing Handbook*, AEEE/79/10, University of Guelph, 1979.

Table 3-21

Aggregate Quota Value,¹ Canada by Province, Mid-1978

	Fluid milk	Industrial milk	Eggs	Chickens	Turkeys	Tobacco	Total
	(Millions of dollars)						
Prince Edward Island	1.0	0	0.7	-	-	-	1.8
Nova Scotia	14.6	0	4.9	1.8	1.3	-	22.6
New Brunswick	9.2	0	3.1	1.1	1.9	-	15.3
Quebec	171.7	359.8	30.2	69.3	31.5	-	662.5
Ontario	98.4	166.1	87.9	123.5	26.5	247.3	719.7
Manitoba	20.6	10.9	10.8	8.6	5.8	-	56.7
Saskatchewan	18.9	7.3	3.1	1.0	2.7	-	33.0
Alberta	41.0	18.8	7.0	18.3	5.8	-	90.9
British Columbia	262.4	46.5	49.7	57.3	24.9	-	440.8
Canada	637.8	609.4	197.4	304.4	100.4	247.3	2,043.3

1 Excluding that of commodities such as fruits and vegetables.

SOURCE Derived from Tables 3-19 and 3-20.

quota values since the mid-1970s. Most of the appreciation in quota values (likely more than 80 per cent) has gone to commercial farmers, since they hold most of the quota.

Since 1978, quota values have continued to rise. In addition, many of the 1978 unit quota values, especially for milk, were controlled by the respective marketing boards, and they underestimated the true market value. As an example, following the initiation of free trade in milk quotas in Ontario in March 1980, fluid quotas traded at about \$26 per pound (\$59 per litre), compared with the rate of \$16 per pound reported in Table 3-19, and market share quotas (MSQ) for industrial milk traded at about \$0.10 per pound (\$22 per hectolitre), compared with \$0.053 per pound in 1978. Even at an average unit value of \$0.10 per pound for all of Canada (Ontario holds about 30 per cent of Canada's MSQ), the total aggregate quota value for industrial milk would be about \$1.0 billion, nearly 165 per cent of the value reported in Table 3-21. As a consequence, the 1978 aggregate estimates are considerably less than the 1980 values, which likely approached between 2.8 and 3.0 billion dollars. Assuming that 80 per cent of this value has accrued over the last five or six years, supply management schemes have created, on average, nearly \$400 million in wealth per year – over 10 per cent of the annual net farm income in the same period.

Capital appreciation in quota values is similar to appreciation in land and building values and represents an increase in wealth for farmers. Quotas are created by government policy, however, and their value is therefore more susceptible to changes in government positions regarding the creation or

maintenance of supply management programs and the pricing of these products. Compared with capital appreciation in land and buildings, it is much harder for farmers to realize annually some of the appreciation in quotas without first disposing of them, because quotas are usually not utilized as collateral for borrowing,¹⁰ and farmers usually do not treat quota values as a retirement fund (because of uncertainties about government policies affecting long-term quota values). Most of the value of quota appreciation goes to the original producer, who often receives the quota "cost-free" based on his historical production. When he sells his quota, the purchased quota becomes a cost to the new farmer, which must be covered by the value of his production. As a result, the value of quota over time tends to become a cost to the consumer.

Taxation Benefits

Another consideration in analysing farm income is the effect of government taxation policy on farmers relative to other Canadians. By providing special treatment to a particular group in society or providing general provisions that, because of special circumstances, may be utilized more easily by a particular group, taxation policy can increase the after-tax disposable income of one group relative to that of other groups.

In general, it would appear that farmers in Canada receive relatively very advantageous tax treatment. The major taxation provisions provided only to farmers or those provided to other groups but more easily utilized by farmers in 1980 are summarized in Table 3-22. These provisions may be grouped as: a/ tax benefits unique to agriculture; b/ tax benefits

Table 3-22

Major Taxation Advantages Available to Farmers

	Tax benefits primarily available only to farmers	Tax benefits available only to small businessmen		Tax benefits available to all tax filers but utilized more by farmers
		But utilized more by farmers	But commonly used by both farmers and nonfarmers	
Federal government (income tax)	Cash method of accounting	Wages to children	Business deductions	Exclusion of 50 per cent of capital gain from taxation
	Roll-over (deferral) of tax on capital gains on farm property transferred from parent to child (for farm proprietorships and partnerships)	Inclusion of residence as part of business (deductions for interest, taxes, and portion of repairs and operating costs)	\$200,000 deferral from tax on capital gain for transfer of shares in corporation to children (corporations only)	
	5-year income block averaging		Special business tax credits	
	Optional livestock inventory valuation		Small business corporate income tax reduction, and receipt of income as dividends rather than wages and salaries (corporations only)	
Provincial governments	Succession duty exemptions or reductions			
	Property tax reductions or rebates			

available only to agricultural and nonfarm small businesses, but which can be utilized more easily and extensively in agriculture; c/ tax benefits available to, and equally important to, all small businesses, but not available to wage-earning and salaried workers; and d/ benefits available to all Canadians, but more easily utilized in agriculture.

Tax provisions unique to agriculture include:

1/ *The cash method of accounting*, whereby income is reported for the year during which items are sold (rather than for the year in which they are produced) and expenses are deducted in the year in which they are paid. This procedure typically enables farmers, for taxation purposes, to defer their income from production in a given year to the following year by selling grain or livestock after December 31. Prairie farmers can even take a "deferred cash purchase ticket" for certain grain sales, which allows them to sell in one year at the prevailing price and defer receipt of the income until the next year. Accumulating inventories of inputs, livestock, and crops also enables farmers to defer taxes on income, because

these inventory purchases, or the cost of producing them, may be deducted out of current income, and the resulting income is not reported until the product is sold, even if the value of inventories increases. At the interest rates that have prevailed in recent years, these taxation deferral provisions were worth around 9 to 12 per cent of the deferred taxes annually during the late 1970s, and up to 15 to 20 per cent in 1980 and 1981.

2/ *A tax deferral of capital gains on farm property* owned as a sole proprietorship when the property is transferred from parent to child, with similar treatment for a family farm partnership since April 10, 1978. This provision makes it possible to postpone the capital gains tax until the farm is sold to someone other than each succeeding farmer's child. If the deferral period is substantial (30 years or more), the net present value of the future tax on current capital gains, discounted at today's high interest rates, will be so small as to make the capital gains virtually tax-free in current dollars.¹¹ Furthermore, the provision also provides for the deferral of capital cost allowance recapture.

3/ *Five-year income block averaging*, enabling farmers to average their income over a period two years longer than for other Canadians. This provision can be used only once every five years, however. Three-year general averaging, which is available to all Canadian taxpayers, can be used each year but is applicable only when incomes are rising.

4/ *A livestock inventory valuation option*, whereby a farmer can "sell" livestock to inventory to generate income when total income is low and then deduct the "sale" as an expense the next year when income may be higher. This sale of inventory can be repeated from one year to another, so that the farmer can more effectively average out his income and carry forward the losses in early years when he is starting out to later years when his income is positive.

Additional benefits provided by provincial governments and unique to agriculture include:

1/ *Special property tax provisions* that grant farmers either lower property tax rates, exemptions on portions of property, or special grants to compensate for the property taxes paid. In Ontario, for example, farmers receive a rebate on 50 per cent of their property tax.

2/ *Exemptions from succession duties*, providing elimination or reduction of these taxes in the transfer of a farm upon the death of the operator to direct live descendants. Currently, federal estate taxes and most provincial succession duties have been eliminated, but many were in effect during the 1970s and should be considered when examining past incomes.

Tax benefits available to all small businessmen but more appropriate for farmers include:

1/ *The legal ability to pay wages to children* (and to the spouse¹²) for their work.

2/ *The optional inclusion of the residence as a component of the business* – because farmers are more likely to live on their business property than other businessmen, this provision is much more beneficial to them. Advantages are provided in that farmers (and others living on their business properties) can deduct a portion of home operating costs and repairs, and all taxes and interest, as a business expense. This means that farmers can pay a large portion of their home living expenses with before-tax income, rather than with after-tax income, as is the case for most other Canadians. If the farmer does not take any capital cost allowance (depreciation) on the house, he may still treat it, for taxation purposes, as a personal residence (exempt from capital gains tax). If he does depreciate the house, or any room in it,¹³ he is subject to taxes on the capital gain on the entire house or on the room(s) depreciated. Again, how-

ever, the net present value of this tax may not be high if the tax is not payable for a considerable number of years. Furthermore, the farmer can deduct a basic \$1,000 from the taxable gain plus an additional \$1,000 for each year he owned the residence from 1971. Alternatively he could elect to exclude his residence from the farm business. In this case he would not be subject to capital gains tax on the farmhouse, and he could still deduct a portion of current house expenses.

The after-tax benefit of the income in kind in imputed net house rent derived from living rent-free on a person's business property is also greater than the before-tax benefit. At a 30 per cent marginal tax rate, an untaxed rental value of \$2,000 would be equivalent to \$2,857 in income subject to tax. The equivalent value for a 44 per cent marginal tax rate would be \$3,571.

Tax benefits common to agricultural and non-agricultural businessmen but not available to wage-earning and salaried workers include:

1/ *Employment expense deductions*, such as vehicle costs incurred in driving to and from work, specialized equipment and clothing, hidden consumption expenses, and so on. If an overall loss from farming occurs, however, part-time farmers whose chief source of income is not from farming can claim no more than \$7,500 in total farm income losses (including expense deductions, depreciation, and other costs) based on all of the first \$5,000 in losses but only half of the next \$5,000 in losses.

2/ *Employment tax credits* for hiring additional workers (reducing the cost of labour).

3/ *A \$200,000 maximum deferral of capital gains subject to tax* for shares in a corporation transferred to one's children (which is similar in principle to the deferral of the tax on capital gains for sole proprietorships and farm partnerships).

4/ *A variety of special business tax credits and allowances* – some credits, such as those for grain storage and drying, may be solely for agriculture, but tax credit provisions in general are extended to both farm and nonfarm businesses.

5/ *Reduced corporate income tax rates* for small businesses and receipt of personal income by shareholders in the form of dividends rather than wages or salaries. These provisions are the direct benefits of small business incorporation. In most provinces, small businesses are taxed at an effective federal and provincial corporate income tax rate of 25 per cent (20 per cent for manufacturing businesses) instead of the 1980 standard 50 per cent corporate rate. This provision enables small businessmen to have more

after-tax income for dividends or reinvestment, but it does not affect wages or salaries paid to workers. Personal wages or salaries are treated as corporate business expenses (deducted from gross income) and then taxed as personal income to the wage earner. Since the corporations are privately owned (sometimes by a small number of family members), small businessmen typically can choose to earn personal income within the business either as dividends or as wages and salaries. In most cases, dividend earnings are taxed as personal income at a lower rate than wages and salaries, as they are subject to federal dividend tax credits and a \$1,000 dividend earnings exemption (if issued to a person without controlling interest). It is difficult to specify precisely what the combined reduced tax rates and dividend treatment are worth, however, as their value will depend on the shareholder's level of personal income and his mix of dividends and other income. In some cases, the savings could be substantial if the shareholder were able to receive large payments as dividends instead of wages or salary (resulting in a tax saving of 7 to 8 per cent of dividend income).

The benefit of the tax rate reduction through incorporation and the subsequent receipt of income through dividends instead of wages or salaries is available to farmers and nonfarm small businesses alike (except that small manufacturing businesses get a 5 per cent greater tax reduction). The dividend tax credit, once received, is also available to all Canadians, but usually shareholders in large corporations do not work directly for the corporation and thus are unable to arrange for receipt of income as dividends rather than salary. The main consideration in incorporating a small business, however, is economic size. Generally a firm needs a net income of about \$18,000 before incorporation becomes profitable, and this minimum level will increase considerably with payment by unincorporated businessmen of wages to spouses to keep down personal income tax rates. Consequently, the tax and dividend provisions for small businesses may be utilized somewhat more by nonfarm self-employed businessmen than farmers because of the greater percentage of nonfarm small businesses large enough to benefit from these provisions. The large majority of both farm and nonfarm self-employed small businesses, however, are not incorporated. In 1976 only about 4 per cent of all farms and roughly 35 to 37 per cent of all nonfarm small businesses were incorporated.¹⁴ Only about 14 per cent of the nonfarm small businesses, however, utilized the small business tax reduction provisions. The other 22 per cent of nonfarm small businesses that were incorporated did not generate enough income to be liable for any corporate income

tax; they could not, therefore, use the tax reduction or dividend provisions.

The main provisions available to all taxpayers but which are more applicable to farmers relate to the treatment of capital gains, of which only one-half are taxable (one-half are tax-free). Since farmers have a large portion of their capital invested in land, which has been steadily appreciating for several decades now (as opposed to depreciating physical and human capital), they typically receive a larger share of their lifelong income in the form of capital gains, which are taxed at a reduced rate (and deferred through parent-child transfers). Furthermore, capital gains are taxed only when the farm is sold, even though some of the capital appreciation can be realized annually through a substitution for savings and retirement fund contributions and through borrowing against the appreciation; that is, these increases in capital values are not subject to tax until the farm transfer takes place, and then only one-half the gain is taxed at the individual's personal income tax rate. Actual savings and retirement contributions by other Canadians were typically made after taxes (at the full rate) until the 1970s, when the introduction of RRSPs allowed other Canadians to defer taxation on income used for retirement savings. The amount eligible for RRSPs, however, is limited to a maximum of \$3,500 or \$5,500, depending on whether or not the taxpayer is a member of a company pension plan.

Determining the total value of these taxation advantages to farmers is very difficult because of the different circumstances facing the individual farmer. Larger-scale farmers, for example, generally receive greater benefits than smaller operators. Estimates have been made [Johnson and Scarth, 1979] of the value of cash accounting, tax deferrals for capital gains from parent-to-child farm transfers, and succession exemptions for a farmer with \$10,000 net income, an initial investment of \$100,000, 8 per cent capital appreciation per year, and a 25-year work horizon in agriculture (a typical commercial farmer). Johnson and Scarth estimated that the value of the tax provisions to the farmer would be \$177, \$543, and \$244, respectively, per year above what a comparable self-employed nonfarm businessman could derive from the same business conditions if he converted the capital appreciation to an income-averaging annuity upon retirement to keep down taxes. The overall benefits to a commercial-sized farmer, then, would amount in total to \$964 annually. Since, however, succession duty benefits no longer exist as a special benefit to agriculture in most provinces, the overall annual value under current taxation conditions (excluding those duties) would be

\$720. Nevertheless, the \$244 benefit from succession duties should be considered for earlier years when the duties did provide special advantages to agriculture.

The advantages of the exclusion of half the capital gains from taxation will vary depending on the size of the farmer's gain and how long he has held his land since 1971, when taxes on capital gains were first introduced. The present value of future benefits from the 50 per cent exclusion, however, can be used to indicate the value of this tax treatment to farmers.

As an illustration, the position of a farmer with a \$300,000 capital gain from his farm (excluding his house) over a 25-year period is compared with that of a wage-earning and salaried worker who accrues a \$50,000 capital gain over the same period.¹⁵ In this example, the farmer is assumed to have a much larger capital gain than the nonfarmer because experience shows that the capital gains received by farmers have been much larger than those received by people in most other occupations. As a consequence, the 50 per cent exclusion of capital gains from taxation is worth more to farmers than to others with less capital gain. At current taxation rates (using Ontario rates and assuming \$5,000 of other income in retirement and 3-year averaging), the future tax savings from the 50 per cent capital gain exclusion would amount to approximately \$83,938 for the farmer and \$11,982 for the nonfarmer – a difference of about \$72,000. The net present value of this difference, discounted at 10 per cent,¹⁶ is about \$6,645. Converted to a yearly benefit compounded at 10 per cent, this amount yields an annual income value of about \$730. This benefit is in addition to the tax deferral benefits for farm proprietorships and partnerships if the farm is transferred from parent to child.

Income in kind also provides large taxation benefits. The tax advantages pertaining to the farm residence can be estimated as either tax savings, as a result of excluding the value of net house rent from taxation, or as the savings on property taxes, interest, and a proportion of the operating expenses and repairs for the house that were deducted as business expenses. If a tax filer spends \$3,000 on deductible house expenses (interest, taxes, and repairs), he saves \$900 in before-tax income because of his deductions if he is in a 30 per cent marginal income tax bracket (combined federal and provincial tax rate). Alternatively if his net house rental value is \$2,000,¹⁷ he saves \$857 in before-tax income if he is in the same 30 per cent tax bracket (the farmer would have had to have earned \$2,857 to yield \$2,000 after taxes).

The unreported income in kind from food produced and consumed on the farm (estimated at \$317 per farm tax filer in 1976, Tables 3-16 and 3-17) would also result in a tax saving of \$95 at a 30 per cent marginal tax rate. As a result, total income tax benefits from the treatment of the farmhouse and the income in kind from food would total nearly \$1,000 (at modest estimates of net house rent). These benefits would be available to both large- and small-scale farmers. Additional benefits of up to several hundred dollars could be derived from business deductions (vehicle expenses, cost of driving to and from work, and so on) not available to wage-earning and salaried workers.

Farmers also often receive advantageous treatment in property taxation through provincial property tax reduction or rebate programs. In Ontario and Quebec, for example, farmers receive a 50 per cent reduction and 35 to 40 per cent rebates, respectively. Ontario commercial operators often receive rebates of \$400 to \$800 or more; smaller operators typically receive \$250 to \$400.

The annual benefits of incorporation for small businesses and the advantageous tax treatment of dividends over wages and salaries can be illustrated for Ontario in 1980 by comparing a self-employed businessman with \$6,000 in personal taxable income and \$20,000 in business earnings that can be received either as dividends or as wages or salary. If he elects to take this income as wages or salary, he will pay a combined federal and Ontario income tax of \$8,092 on his \$26,000 of taxable income. If he elects to take the income as dividends and the small business is not engaged in manufacturing, the corporate income tax will be \$5,000 (25 per cent of \$20,000, leaving \$15,000 for dividends), and his personal income tax (after grossing up the dividends and subtracting the federal tax credit) would be \$1,403, amounting to a total tax of \$6,403. If the business was engaged in manufacturing, the corporate income tax would be \$4,000 (20 per cent of \$20,000, leaving \$16,000 for dividends), and the personal tax would be \$1,593, amounting to a combined tax of \$5,593. In this particular example, the annual incorporation and dividend benefits would be worth \$1,689 (8.4 per cent of the \$20,000 in business earnings) for nonmanufacturing businessmen and \$2,499 (12.5 per cent of the \$20,000) for those engaged in manufacturing.

Most of these taxation benefits are widely available to the agricultural sector and apply directly to a

broad spectrum of farmers. The overall benefits of incorporation and dividend tax treatment, however, must be carefully qualified because of their restricted use by both farm and nonfarm small businessmen. These benefits can be substantial for individual businesses, but they are used by only a minority of farm and nonfarm businessmen. Even then, they are applicable primarily to the larger businesses. Furthermore, part of the tax savings may be offset by initial incorporation expenses and the costs of accounting and time required to comply with incorporation requirements. As a result, it is difficult to specify precisely the additional value of these provisions to either the overall farm or nonfarm small business sectors.

Overall, the combined benefits of tax treatment for agriculture are very large, even excluding the benefits of incorporation. Combining the estimates of Johnson and Scarth with the additional benefits from tax exemptions on 50 per cent of the capital gain, income in kind, and property tax rebates indicates much larger relative income benefits from taxation for farmers than for either nonfarm self-employed businessmen or wage-earning and salaried workers.¹⁸ The annual advantages over self-employed businessmen are roughly \$2,500 for commercial farmers and \$1,700 for smaller-scale farmers, excluding succession duty benefits, and \$2,800 and \$1,900, respectively, when these benefits are included. The annual tax advantages over wage-earning and salaried workers would be roughly \$3,500 for commercial operators and \$2,700 for smaller operators, excluding past succession duty benefits, and \$3,800 and \$2,900, respectively, including those benefits. Including incorporation and dividend benefits might narrow the differences between farm and nonfarm businessmen somewhat, because of the greater use of incorporation by nonfarm small businessmen. The difference would not be narrowed substantially, however, because of the limited use of incorporation and the associated costs. On the other hand, including these benefits would widen the differences between farmers and wage-earning and salaried workers somewhat, particularly for commercial farmers who are more apt to be incorporated. Considering all aspects of taxation, therefore, it is apparent that, compared with nonfarmers, farmers are relatively much better off after taxation. Using before-tax measures of farmers' income could easily underestimate their after-tax income relative to that of nonfarmers by \$1,500 to \$3,500 per year. This difference represents over half of the aggregate annual average net farm income reported for taxation purposes (Table 2-1) in recent years, excluding income in kind and capital appreciation.¹⁹

An Overview of Farm Income

From the preceding analysis it can be seen that on the basis of farm and nonfarm operating incomes, there is not much difference, on average, between the incomes of farmers and nonfarmers (Tables 3-5 to 3-8). When the additional benefits to farmers from income in kind, asset appreciation, and taxation treatment are included, however, we get a different picture. In many cases, the total returns to farmers, especially the larger operators, are greatly in excess of those of their urban counterparts. Focusing on average net farm income, or even farm and off-farm operating incomes, greatly underestimates the total income level of farmers and distorts the overall farm income picture.

A similar picture is provided in an article examining the relative income positions of Canadian farm and urban families in 1970 (as representative of the pre-1973 era) [Shaw, 1979b]. Shaw's results are summarized in Tables 3-23 and 3-24. If only the average cash incomes of individuals in 1970 are compared, the farmers appear to have had only half as much cash income as urban people, and the proportion of

Table 3-23

Comparison of Farm and Urban Income, Canada, 1970

	(1) Farm	(2) Urban	(1)÷(2)
	(Dollars)		(Ratios)
Individuals			
Per capita cash income	1,500	3,000	0.50
Percentage below low-income cutoff	37	18	2.05
Families			
Cash income	6,935	10,300	0.67
Cash and income in kind	8,498	11,069	0.77
Cash, income in kind, and annuity value of net capital assets	11,316	11,614	0.97
Farmers, by major source of income¹			
Farm self-employment	9,029		0.78
Wages and salaries	12,956		1.11

1 The ratio here expresses a comparison between farmers' income and urban income (\$11,614).

SOURCE R. Paul Shaw, "Canadian Farm and Nonfarm Family Incomes," *American Journal of Agricultural Economics* (November 1979).

farmers falling below the (statistical) low-income cutoffs is twice that of urban individuals. However, when family cash incomes from all sources, together with the value of income in kind, are compared, farm family income averages over three-fourths that of urban families. Further, when allowance is made for the fact that farm families have larger net worths than their urban counterparts (\$53,991 as opposed to \$14,369), by adding the annuity value of these respective wealths to average family incomes, the average real family incomes of farm and urban families become almost identical. On a regional basis (Table 3-24, last column), farmers in British Columbia and Ontario were 25 to 35 per cent better off in 1970 than their urban counterparts; farmers in the Prairie and Atlantic provinces were about equally well off (99 per cent); and only those in Quebec were slightly worse off (91 per cent).

Table 3-24

Provincial Ratios of Farm to Urban Income, Canada, 1970

	Farm/urban ratios for individuals		Farm/urban ratios for families	
	Per capita income	Percentage below low-income cutoff	Cash and income in kind	Cash, income in kind, and annuity value of assets
Newfoundland	0.60	1.38	0.84	0.99
Prince Edward Island	0.56	1.58	0.77	
Nova Scotia	0.52	1.42	0.81	
New Brunswick	0.50	1.72	0.76	0.91
Quebec	0.49	2.15	0.89	
Ontario	0.51	1.86	0.96	1.24
Manitoba	0.42	2.42	0.69	0.99
Saskatchewan	0.49	1.83	0.76	
Alberta	0.45	2.35	0.77	
British Columbia	0.58	1.17	1.05	1.35
Canada	0.50	2.05	0.77	0.97

SOURCE Same as for Table 3-23.

Developments since 1970, particularly since 1973, have generally favoured farmers relative to nonfarmers. This conclusion is particularly true for net farm operating income, house rental values, capital appreciation on land and buildings and on quotas, and the combined effect of advantageous tax treatment of these items.

This encouraging picture holds for Canadian agriculture as a whole, but there are some qualifications. First, there are some regional differences.

Farmers in British Columbia, Ontario, Alberta, and Saskatchewan tend to have had the highest incomes from all sources, followed by those in Manitoba and Quebec, with farmers in the Maritimes lagging behind the rest. There are, of course, also substantial income disparities within agriculture. Commercial farmers typically produce 80 per cent or more of the marketed produce and consequently receive the greatest share of farm income. Data in Table 3-25, for example, show that cash incomes in 1973 were distributed somewhat less equally among farm families than among urban or rural nonfarm families. Farm families had higher Gini ratios,²⁰ and the upper and lower 20 per cent of the farm population had a higher and lower proportion, respectively, of total income than was found within either rural nonfarm or urban families.

The high interest rates of recent years, especially in 1981, also have had a strong effect on new and expanding farmers requiring large amounts of credit. Particularly hard-hit have been beef feed lot operators requiring large quantities of purchased feed and feeder cattle. Fortunately, the majority of farmers have either high equity in their farms or interest charges for their long-term credit based on earlier, lower rates. The high current rates, however, have still had a significant impact on the cost of short-term operating capital for all farmers.

Finally, despite favourable average overall levels of returns, there are still a number of poor farmers. Typically these are the limited-resource farmers who depend heavily on agriculture for their income. In 1978, there were about 58,000 farm families and unattached individuals earning incomes below the Statistics Canada low-income cutoff level [Cat. 13-207]. Although this number of poor farm families and individuals is inflated somewhat because of inadequate consideration of income in kind and the wealth of the families concerned, it indicates that a number of farm families still face problems, particularly on a cash flow basis. Furthermore, the concentration of low-income farmers in particular geographic areas can create severe local problems. By 1978 the number of low-income farmers, however, was substantially reduced from the numbers indicated in the early 1970s, with the incidence of low-income people in agriculture now only moderately higher than that found throughout Canada. Because of these improvements in the poverty situation in agriculture and the improved incomes of other farmers, the recent overall farm income picture would appear to be very positive and much better than generally acknowledged.

Table 3-25

Distribution of Family Units and Total Income, by Sector and Income Class, and Gini Ratios and Quintiles, by Sector, Canada, 1973

	Sector							
	Urban		Rural nonfarm		Rural farm		Total	
	Family units	Income	Family units	Income	Family units	Income	Family units	Income
	(Per cent)							
Net income class (\$ per family):								
Under 3,000	14.7	2.0	15.2	2.9	18.9	2.4	15.0	2.2
3,000 - 5,999	15.7	6.4	20.2	9.8	20.7	9.6	16.6	7.0
6,000 - 9,999	20.5	14.9	25.1	21.6	23.9	19.4	21.3	15.9
10,000 - 14,999	24.2	27.1	23.5	31.2	18.0	22.7	23.7	27.3
15,000 - 24,999	20.1	34.1	13.6	26.5	13.4	25.7	18.8	32.7
25,000 and over	4.8	15.4	2.3	7.8	5.3	20.3	4.5	14.7
Gini ratio	0.3898		0.3679		0.4528		0.3924	
	Income share of quintiles							
	(Per cent)							
Quintiles:								
Lowest	3.8		4.6		2.6		3.8	
Second	10.8		11.2		9.5		10.7	
Third	17.8		17.9		15.8		17.6	
Fourth	25.2		25.4		24.0		25.1	
Fifth	42.4		40.8		48.0		42.6	

SOURCE W. Darcovich and M. Mouelhi, *Farm and Off-Farm Incomes of Farm Families, 1973* (Ottawa: Agriculture Canada, June 1976).

4 Relative Rates of Return

So far the study has provided information on income levels to determine whether farmers have enough income to provide a satisfactory standard of living. The analysis, however, has not specifically considered the investment that farmers have in their businesses to determine if the level of income is high enough to provide a decent rate of return on the farmer's labour, management, and equity capital (including land). In other words, if farmers have, for example, twice as many resources committed to their businesses as nonfarmers, are they earning twice as much?

The question of rates of return has received inadequate treatment in Canada, and no studies exist that comprehensively examine farm rates of return relative to nonfarm rates for the country as a whole during the 1970s. The only comprehensive analysis of relative rates of return in the 1970s was done for Ontario in 1977 [Brinkman and Gellner] and will be summarized here to provide a basis for examining relative rates of return in Canada.

The Nature of the Study

The Ontario study analysed the relative farm/non-farm rates of return to labour, management, and capital/land resources engaged in agriculture by comparing the earnings of commercial farmers with the earnings that could be expected from the same

quantities of comparable resources used in the nonfarm sector. The study was based on data pertaining to 194 commercial farms in Ontario over the 1971-74 period, which were derived from CAN-FARM records and a supplementary questionnaire. Farms grossing \$15,000 or more in 1971 were taken as an approximation of commercial farms. In 1971, farms of this size accounted for only 24 per cent of all farms but 65 per cent of all agricultural sales. The analysis was carried out over the multi-year 1971-74 period to reduce the effect of yearly fluctuations and because that time period provided a reasonable representation of long-run farm income, with both low- and high-income years.

The sample farms were classified by 1/ size of farm, 2/ type of farm, and 3/ geographic region in Ontario. Size was based on gross sales, divided into three categories: \$15,000 – \$24,999; \$25,000 – \$49,999; and over \$50,000. There were five farm types, based on the principal commodity sold (50 per cent or more of gross sales) – namely, dairy, cattle, hog, crop, and mixed farms. After cross-classification, the sample farms were weighted to give the same distribution of farm numbers by size, type, and location that existed for all commercial farms in Ontario, based on the 1971 Census of Agriculture. Characteristics of the sample farms are given in Tables 4-1 and 4-2.

Table 4-1

Summary of Sample Data from CANFARM Records, 1971-74

	Number of farms	Average gross sales	Average net farm Income ¹	Average farm equity ²
			(Dollars)	
1971	194	39,746	9,149	108,911
1972	194	48,878	13,792	121,093
1973	194	62,646	26,522	141,063
1974	194	75,938	14,567	172,719

¹ Excluding income in kind.

² Equity values have been adjusted to reflect current market values of real estate.

SOURCE George L. Brinkman and Jack A. Gellner, "Relative Rates of Resource Returns for Ontario Commercial Farms – A Farm to Nonfarm Comparison, 1971-1974", *Canadian Journal of Agricultural Economics* (July 1977).

Table 4-2

Summary of Sample Data from Mail Survey, 1974

	Number	Average age	Average education (grade)	Average hours of work/yr.	Proportion of work hours devoted to management	Average number of acres
Farms	194	-	-	-	-	216
Farm operators ¹	273	42	12	2,844	15	-
Unpaid family members	225	23	9	662	0	-

1 Farms are defined in terms of the business unit and may include more than one operator.

SOURCE Same as for Table 4-1.

Two comparisons of farm/nonfarm returns were made. In each, four return components were examined: the labour return, the management return, the investment return, and capital appreciation. All nonfarm labour and management returns were adjusted for differences in age, sex, and schooling, and they were calculated on the basis of long-run opportunity costs – i.e. as though the farmer had initially entered a nonfarm profession instead of farming. In addition, each comparison standard was developed as a consistent set of nonfarm earning opportunities, in which control over resources was maintained by the individual operator.

The first comparison was based on a self-employment standard of nonfarm earnings. This standard measured nonfarm earnings in terms of the amount that resources similar to those used by commercial farmers could earn in nonfarm unincorporated small businesses – i.e. the amount that nonfarm, self-employed businessmen whose age, sex, and schooling were similar to those of the farmer would earn with the farmer's resources and hours of work. The self-employment comparison is summarized as:

$$\frac{\sum_{i=1}^4 FY_i + K_i + FA_i}{\sum_{i=1}^4 OE_i + FaL_i + BA_i}$$

where farm returns consisted of

FY = net farm income, as reported from CAN-FARM records,

K = farm income in kind (food and imputed house rent),

FA = capital appreciation on farm real estate, and

i = year 1 (1971) to year 4 (1974);

and comparable nonfarm earnings consisted of

OE = potential nonfarm labour, management, and investment earnings of farm operators, jointly measured by the earnings of self-employed, unincorporated businessmen,

FaL = potential nonfarm labour earnings of unpaid family workers, measured by the earnings of nonfarm wage-earning and salaried workers,

BA = potential nonfarm capital appreciation, measured by the rates of capital appreciation on assets employed in nonfarm manufacturing businesses.

The self-employment standard developed in this study is a more conceptually valid measure for comparing farm and nonfarm returns than the measures in previous studies because it measures potential nonfarm returns under conditions resembling as much as possible those found in agriculture. Previous studies [e.g. U.S. Senate, 1967] calculated nonfarm returns to management and labour in terms of wage earners and salaried management personnel. By using the earnings of nonfarm self-employed businessmen in the standard, the monetary returns of both farmers and nonfarm self-employed operators can be measured as a joint management, labour, and investment return, hence not requiring an arbitrary allocation of total income to each factor. Both farmers and nonfarm businessmen also primarily invest in their own businesses rather than external capital markets. In addition, psychic incomes tend to be similar, as they are derived from similar conditions of business freedom and independence. Although the levels of risk between farmers and nonfarm businessmen may not be strictly comparable, they should provide a reasonable comparison. Furthermore, the hours of work and conditions of employment are likely quite comparable.

The second comparison was based on a wage-earner/stockholder standard for measuring comparable nonfarm earnings. This standard measured

nonfarm returns to management and labour in terms of nonfarm wage earnings and salary, and it measured returns to capital in terms of earnings in the stock market. Although this comparison is not as valid conceptually as the self-employment comparison, it provides a useful alternative measurement:

$$\frac{\sum_{i=1}^4 FY_i + K_i + FA_i}{\sum_{i=1}^4 OL_i + OM_i + FaL_i + I_i + SA_i}$$

where FY_i , K_i , and FA_i are as defined for the self-employment comparison, and comparable nonfarm earnings consist of

- OL = potential nonfarm labour earnings of farm operators, measured by the earnings of nonfarm wage earners;
- OM = potential nonfarm management earnings of farm operators, measured by nonfarm earnings of full-time, full-year managers in Ontario;
- FaL = potential nonfarm labour earnings of unpaid family members, measured by the earnings of nonfarm wage-earning and salaried workers;
- I = potential investment returns to capital, measured as dividend yields to common stock;
- SA = potential nonfarm capital appreciation, measured as capital appreciation on common stock.

Ratios of the actual farm returns to the potential nonfarm returns were calculated from the above formulas to measure the returns position of the resources used in farming. A ratio greater than 1.0 would indicate that resources in agriculture were earning returns in excess of comparable nonfarm returns, while a ratio of less than 1.0 would indicate that farm returns were less than comparable nonfarm returns. For example, a returns ratio of 0.96 would indicate that resources in agriculture were earning 96 per cent of the returns to similar resources in the nonfarm sector. Comparisons were also made excluding the capital appreciation component to measure the relative importance of capital appreciation. Since ratios were used to compare the farm and nonfarm returns in the same time period, no adjustments for inflation were necessary.

The Findings on Relative Returns to Commercial Agriculture in Ontario

Average yearly farm and potential nonfarm returns, and the returns ratios, are given in Table 4-3. Total farm returns, including capital appreciation, averaged \$26,749 per year over the sample period, while comparable potential nonfarm returns averaged \$27,943 and \$28,705 for the self-employment and wage-earner/stockholder standards, respectively. The returns ratios under the two standards were 0.96 and 0.93, indicating that rates of return to resources used in commercial agriculture in Ontario during 1971-74 were generally very close to what similar resources could expect in the nonfarm sector (96 or 93 per cent).

Table 4-3

Average Farm and Potential Nonfarm Returns and Returns Ratios for Resources in Commercial Agriculture, Ontario, 1971-74¹

	Farm returns	Potential nonfarm returns		Returns ratio	
		Self-employment ²	Wage/stock ³	Self-employment	Wage/stock
		(Dollars)			
Total return	26,749	27,943	28,705	0.96	0.93
Labour, management and investment return	17,500	21,141	24,946	0.83	0.70
Capital appreciation	9,249	6,802	3,759	1.36	2.46

1 The levels of farm and nonfarm returns are expressed as a one-year average of the current-dollar values for the four years in the sample period.

2 Hours of work are limited to a maximum of 60 per week for farm and nonfarm self-employed individuals and to a maximum of 50 per week for unpaid family labour. Adjustments have been made for differences in the average levels of investment in farm and nonfarm businesses.

3 Wage/stock is used as an abbreviation for wage-earner/stockholder standard. Hours of work are limited to a maximum of 50 per week for farm operators and unpaid family labour for this returns standard.

Return ratios close to 1.0, while indicating quite similar rates of return in total, do not necessarily mean that all resources are earning similar returns. For Ontario, farm labour and investment returns were only 83 and 70 per cent of the nonfarm returns under the self-employment and wage-earner/stockholder standards, respectively, but capital appreciation on farmland values was high enough to compensate in large part for these differences. Capital appreciation in agriculture averaged \$9,249 per year per sample farm from 1971 to 1974 and accounted for 35 per cent of total returns. Capital appreciation under the self-employment standard was 25 per cent of total returns, and only 13 per cent under the wage-earner/stockholder standard. The difference between the two nonfarm standards was due largely to the downturn in stock prices in 1974.

It is interesting to note that the returns ratios for labour and investment alone were higher for the self-employment standard than for the wage-earner/stockholder standard — i.e. 0.83 compared with 0.70. This is due to lower potential nonfarm earnings excluding capital appreciation under the self-employment standard than under the wage-earner/stockholder standard (\$21,141 compared with \$24,946), possibly reflecting the fact that the self-employment standard may include certain non-monetary returns that are not included in the wage-earner/stockholder standard. These psychic returns may compensate the self-employed individuals for lower monetary returns.

Variations between Farm Groups — A comparison of average farm/nonfarm potential returns ratios is given in Table 4-4 for farms of different sizes, product types, and geographic regions. Because of the small sample size, each category of farms was analysed separately, and no cross-classifications were carried out. From Table 4-4 it can be noted that the returns ratios based on total returns increased significantly with increases in farm size. More specifically, the ratios for total returns (including capital appreciation) for the self-employment and wage-earner/stockholder standards were considerably less than 1.00 for farms with sales of \$15,000 — \$24,999 (0.73 and 0.70, respectively) and significantly greater than 1.00 under both standards (1.19 and 1.25) for farms with sales over \$50,000. The total returns ratios for farms with sales of \$25,000 — \$49,999 were 1.00 and 0.94. When capital appreciation was excluded, the gap between small and large farms widened; i.e. the returns ratios for the smallest farms were 0.53 and 0.46 under the two standards, while they were 1.21 and 1.06 for the largest farms. Even without capital appreciation the larger commercial farms had returns

ratios greater than 1.00. Capital appreciation represented 43 per cent of total returns for the small commercial farms but only 32 and 31 per cent of total returns for the medium-sized and largest farms.

Table 4-4

Ratio of Farm to Potential Nonfarm Returns for Commercial Farms, by Farm Size, Farm Type, and Region, Ontario, 1971-74

	Self-employment standard		Wage-earner/stockholder standard	
	A	B	A	B
	(Ratios)			
All farms	0.96	0.83	0.93	0.70
Farm size based on gross sales (\$)				
15,000 - 24,999	0.73	0.53	0.70	0.46
25,000 - 49,999	1.00	0.89	0.94	0.72
50,000 and over	1.19	1.21	1.25	1.06
Farm type				
Dairy	0.98	0.81	0.92	0.67
Cattle	0.88	0.72	0.90	0.66
Hog	1.03	0.88	1.01	0.77
Crop	1.00	0.97	0.98	0.80
Mixed	0.86	0.66	0.80	0.50
Region				
Southern	1.02	0.93	1.00	0.79
Western	0.93	0.80	0.93	0.71
Central	0.92	0.71	0.91	0.59
Eastern	0.85	0.73	0.79	0.60
Northern	0.81	0.57	0.64	0.41

A - Including capital appreciation.

B - Excluding capital appreciation.

SOURCE: Same as for Table 4-1.

Hog, crop, and dairy farms had total returns ratios that were close to 1.00 over the sample period, while cattle and mixed farms had somewhat lower ratios. It must be recognized, however, that the returns comparisons reflect the market situations that existed for the particular commodities only during the four-year sample period. By region, farms in Southern Ontario had the highest total returns ratios (1.02 and 1.00 for the two standards), while farms in Northern Ontario had the lowest total returns ratios (0.81 and 0.64). These differences between regions for the most part reflect the comparative advantages of agricultural production in the various areas — e.g. climatic conditions, soil quality, nearness to markets, and nearness to metropolitan centres (which affects urban demand for land).

Variations within Farm Groups – The variability of returns ratios for individual farms within farm groups is measured by the coefficient of variation, defined as the standard deviation of the returns ratio divided by the average returns ratio over the composite four-year sample period. Table 4-5 provides a comparison of the coefficients of variation for the sample farms collectively and grouped by farm size, farm type, and region. Large coefficients indicate high levels of variability among individual farms.

Table 4-5

Variability in Returns Ratios, by Farm Size, Farm Type, and Region, Ontario, 1971-74

	Coefficient of variation			
	Self-employment standard		Wage/stock standard	
	A	B	A	B
	(Per cent)			
All farms	59	75	55	72
Farm size, based on gross sales (\$)				
15,000 - 24,999	60	89	53	79
25,000 - 49,999	55	67	48	60
50,000 and over	62	69	50	59
Type				
Dairy	44	54	44	53
Cattle	64	98	63	99
Hog	68	100	66	91
Crops	86	92	71	82
Mixed	63	47	57	47
Region				
Southern	59	69	57	67
Western	60	84	58	79
Central	68	98	52	86
Eastern	47	55	48	57
Northern	51	59	54	65

A - Including capital appreciation.

B - Excluding capital appreciation.

SOURCE Same as for Table 4-1.

Table 4-5 indicates tremendous variability in relative rates of return among individual commercial farms in Ontario. The coefficients of variation in total returns for all farms combined were 59 and 55 per cent of the average 0.96 and 0.93 returns ratios under the self-employment and wage-earner/stockholder standards, respectively. This means that the interval of returns ratios containing one standard deviation (approximately two-thirds of the observed farms) under the self-employment standard was 0.96 ± 0.57 ($0.96 \pm 0.59 \times 0.96$), or a range of return

ratios of 0.39 to 1.53. Under the wage-earner/stockholder standard, the range was 0.42 to 1.44. When capital appreciation was excluded, the coefficients of variation increased significantly to 0.75 and 0.72, indicating that current farm income was more unstable than total returns. As an additional indication of variability, the individual farm total returns ratios for the self-employment standard ranged from a low of -0.35 to a high of 3.34.

Table 4-5 further reveals high variability within all size groups, farm types, and geographic regions over the complete four-year period. This variability is somewhat expected in light of the high overall variability, however, since each size category contains farms of different types, and each farm type group consists of farms of different sizes, and so on. With the lone exception of mixed farms, every farm size, type, and regional category also had greater variability in current returns (excluding capital appreciation) than for total returns. For example, the coefficients for the self-employment standard, excluding capital appreciation, were 89, 67, and 69 per cent for the small, medium-sized, and large farms, respectively. Dairy and mixed farms had the lowest coefficients of variation (54 and 47 per cent for the self-employment standard, excluding capital appreciation), while cattle, hog, and crop farms had extremely high coefficients of variation (98, 100, and 92 per cent, respectively). This reflects to some degree the greater vulnerability to market uncertainties of crop, cattle, and hog producers than mixed farmers, who achieve greater stability through diversification, or dairy farmers, who operate under administered prices and quotas. Differences by region for the most part reflected the predominance of certain farm types in each area.

This finding of such high variability among farmers, even within the same farm size and commodity type, is extremely important. In particular, it means that there is really no typical average group of farmers, but a very wide range of efficiency and relative resource returns on otherwise similar farms. This poses great problems for commodity programs, as providing comparable rates of returns to even all the commercial farmers studied (excluding limited-resource operators and hobby farmers) would require very high levels of subsidization. For example, the profitability in farming would have had to have been almost three times as high just to assure at least comparable returns to the top five-sixths of the commercial operators in the study.

Sensitivity Adjustments – In the preceding calculations, the returns ratios were based on a maximum of 60 hours per week for farm operators under the self-employment standard and 50 hours under the wage-

earner/stockholder standard. In addition, hourly earnings were calculated as long-term expected returns, and farm income included the value of income in kind. In this section, adjustments are made to these conditions to determine their effect on the returns ratios. These effects are reported in Table 4-6 for total returns (including capital appreciation).

Adjusting the allowable weekly maximum hours under the self-employed standard from 55 to no limit causes the returns ratios to change from 0.99 to 0.90. Under the wage-earner/stockholder standard, adjusting the allowable maximum hours from 45 to 60 per week decreases the returns ratios from 0.98 to 0.87. Estimating the short-term earnings opportunities of farmers (if they switched jobs today) at 20 per cent less than the long-term potential earnings (which were used in the study) increased the returns ratios to 1.20 and 1.16, respectively, indicating that many farmers now contemplating leaving agriculture might be better off staying. Income in kind from net house rent and from food was found to affect the ratios by 0.07 and 0.02, respectively. The after-tax value of net house rent (assuming a 30 per cent marginal tax rate) would increase the ratios by 0.03 to 0.04.

Since farm organizations have contended that rates of return on farm resources have been too low, they may argue that the calculations used in this study have overstated the income of farmers or understated the potential nonfarm income, thereby overestimating the returns ratios. The evidence presented here, however, tends to support the opposite conclusion that returns ratios may have been underestimated, particularly for farmers currently considering leaving agriculture.

Some concerns may be expressed that limits on weekly hours unrealistically limit potential nonfarm income. Using all the work hours reported by farmers, however, would not be appropriate because some of the farmers sampled appear to have overstated their productive hours.¹ Furthermore, the nonfarm hourly rates under the self-employment standard were based on a 60-hour maximum, and most farmers could not find nonfarm jobs allowing them to work as many hours as they wanted, when they wanted. Also, nonfarm hourly rates do not reflect business failures and unemployment in these sectors. Calculating hourly earnings as long-term opportunity costs also gives farmers the benefit of highest nonfarm earnings, as any farmers now leaving agriculture must consider

Table 4-6

Sensitivity of Overall Returns Ratios to Adjustments for Hours of Work, Expected Short-Term Nonfarm Earnings for Labour, and Income in Kind, Ontario, 1971-74

	Returns standard (including capital appreciation)	
	Self-employment ratio	Wage/stock ratio
Effect of maximum hours of work per week for operators: ¹		
No weekly maximum of hours (2,778)	0.90	-
Weekly maximum of 60 hours (2,518)	0.96 ²	0.87
Weekly maximum of 55 hours (2,386)	0.99	0.90
Weekly maximum of 50 hours (2,210)	-	0.93 ²
Weekly maximum of 45 hours (2,056)	-	0.98
Effect of expected short-term nonfarm earnings:		
Long-term earnings	0.96 ²	0.93 ²
Short-term earnings ³	1.20	1.16
Effect of income in kind:		
Including total income in kind	0.96 ²	0.93 ²
Excluding net house rent	0.89	0.86
Excluding net house rent and produce consumed	0.87	0.84
Total income in kind, with net house rent valued after tax	0.99	0.97

1 Hours with no weekly maximum represent actual hours reported. Average yearly hours of work calculated under the different weekly maximums are given in parentheses. The nonfarm earnings of unpaid family members are based on a maximum of 50 hours per week in all cases.

2 This weekly maximum of hours was used in the previous analysis (Table 4-3).

3 Expected short-term nonfarm earnings for labour are assumed to be 20 per cent lower than expected long-term earnings.

SOURCE Same as for Table 4-1.

short-term earning opportunities. Using short-term opportunity costs would substantially increase the returns ratios and more than offset the impact of restricting nonfarm working hours.

Farmers may argue that excluding the "goodwill" value of nonfarm businesses from capital appreciation underestimates the comparable nonfarm return. Unfortunately, however, about 85 per cent of all nonfarm businesses fail within five years. Including the loss of value of any original "goodwill" for these businesses with the capital appreciation from "goodwill" of the 15 per cent that are successful would result in a net capital *depreciation* in the nonfarm small business sector and a much greater relative rate of return for farmers than reported here.

Finally, the overall effect of taxation also was not examined. The example of the impact of after-tax imputed house rent (Table 4-6) illustrates how important these considerations can be. The differences in average tax advantages between farmers and nonfarm, self-employed businessmen are not as great as between farmers and wage-earning and salaried workers (see the previous subsection on Taxation Benefits and Table 3-22), so after-tax considerations would not increase the self-employment standard comparison (likely 6 to 7 per cent) as much as the wage-earner/stockholder comparison (likely over 10 per cent). A detailed examination of the impact of relative tax rates on relative rates of return, however, was outside the scope of this study.

Applicability of the Ontario Study to All of Canada

This study indicates that when full account is taken of the various components of income (including capital appreciation in both the farm and nonfarm sectors), operators of commercial farms in Ontario have not been underpaid, at least in the 1971-74 period. They have been receiving rates of return that, on average, are about as good as could be expected from similar quantities of comparable resources used in nonfarm occupations. Farms with gross sales of \$50,000 in 1971 were doing even better than the rates of return that their resources could earn in alternative uses. In using these findings to draw broader conclusions, however, three questions must be addressed. First, can the results from the 1971-74 period be extended to the rest of the 1970s; can results from Ontario be extended to other provinces within Canada; and are these results applicable to all farmers?

The question of extending these findings to later years in the 1970s is easy to address because there is good evidence that farm incomes have improved

commensurately with nonfarm incomes, maintaining at least a comparable relative rate of return for agricultural resources throughout the entire decade. For example, farm operating incomes in Ontario, including net house rent, averaged \$614 million in total during the 1971-74 period, and about \$950 million between 1975 and 1979. This represents about a 55 per cent increase, compared with around a 33 per cent increase for nonfarm, self-employed business income.² Furthermore, farm land and building capital values continued to appreciate at a rapid rate, amounting to a simple average rate of about 22 per cent during 1975 to 1979 compared with around 15 per cent in the 1971-74 period (see Table 3-12). This rate of increase is typically far greater than that obtainable from nonfarm assets in the same period. Furthermore, the appreciation in house values and increases in interest rates in recent years have meant that the income in kind from the net house rent component of income will continue to provide a significantly greater advantage to farmers. The increase in value from income in kind in Ontario increased 33 per cent from 1974 to 1975 alone.

The improvement in agricultural incomes across Canada would suggest that these continued income improvements for farmers are not limited to Ontario. Total annual Canadian net farm income, including net house rent, was 54 per cent higher in the 1975-79 period than from 1971 to 1974, and real capital appreciation on land and buildings (in current dollars) was 74 per cent higher. When one considers that appreciation in quota values has also represented an additional increase in wealth equivalent to around 10 per cent of the net farm operating income, it seems reasonable to conclude that the relative position of commercial farmers at least has been maintained throughout the entire decade.

The second question of applicability to all provinces is much more difficult to address because specific studies are not available for other provinces. Given the relatively higher farm and total incomes in British Columbia, Alberta, Saskatchewan, and Ontario, it would seem likely that commercial producers in these provinces would be earning rates of return comparable to, or better than, what they could earn in the nonfarm sector. Commercial farmers in other provinces may be earning smaller incomes, but their rates of return may be quite similar to those of their provincial nonfarm counterparts, where nonfarm earning opportunities are also lower.

Finally, since these relative rates of return are for commercial farmers only, they would not represent the rate of return on all resources used in farming. The Ontario study did not examine farmers grossing under \$15,000 in 1971 (typically limited-resource or

Table 4-7

Ratio of Farm to Nonfarm Returns, by Farm Size, United States, 1966

	Number of farms (Thousands)	Landlord standard ¹		Stockholder standard ¹	
		A	B	A	B
All farms	3,252	0.79	0.81	0.82	0.96
Farms with sales of:					
\$20,000 and over	527	1.07	1.29	1.12	1.67
\$10,000 - \$19,999	510	0.81	0.85	0.84	0.98
\$5,000 - \$9,999	446	0.65	0.62	0.67	0.70
Under \$5,000	1,769	0.43	0.31	0.43	0.35

A - Including capital appreciation.

B - Excluding capital appreciation.

¹ The returns to capital invested in farming under the landlord standard were computed as a percentage of the return that could be realized from renting out the farm, at approximately 6 per cent. Under the stockholder standard, the returns to capital were computed as a percentage of the return from investment in common stock. The returns to labour were calculated under both the landlord and stockholder standards as a percentage of the wages that could have been earned in manufacturing, with adjustments for age, education, and sex.

SOURCE U.S. Senate, *Parity Returns Position of Farmers*, Senate Document No. 44, 90th Congress, 1st sess. (Washington: U.S. Government Printing Office, August 1967), Table 8, p. 22.

hobby farmers), but the relative rates of return for the smaller farmers would likely be much lower than those of commercial farmers because they are much less efficient (or farming for non-income reasons). This conclusion is substantiated by differences in relative rates of return by farms of different size even within the commercial category in Ontario, and by evidence from a similar study in the United States in the 1960s [U.S. Senate, 1967].

The results of the U.S. study are given in Table 4-7 for 1966. In this table, 1966 gross sales of \$20,000 would be roughly equivalent to \$25,000 in the Ontario study, and gross sales of \$5,000 would be equivalent to around \$6,000. The study shows roughly the same picture as in Ontario for commercial

farmers but also points out that U.S. farmers with less than \$5,000 in gross sales in 1966 only averaged relative rates of resource returns in the neighbourhood of 31 to 43 per cent (of the average in the nonfarm sector). Since most of these farmers are poor managers and inefficient farmers, however, they cannot be expected to receive a comparable rate of return, particularly since they produce only about 2 per cent of the produce marketed. Goals of comparable rates of return are much more applicable to commercial farmers, who are fully committed to agriculture, than to limited-resource or hobby farmers. Average profitability in agriculture in total would have to be 2.5 to 3.0 times higher to ensure these producers, on average, a comparable nonfarm return on their approximately 2 per cent of total farm sales.

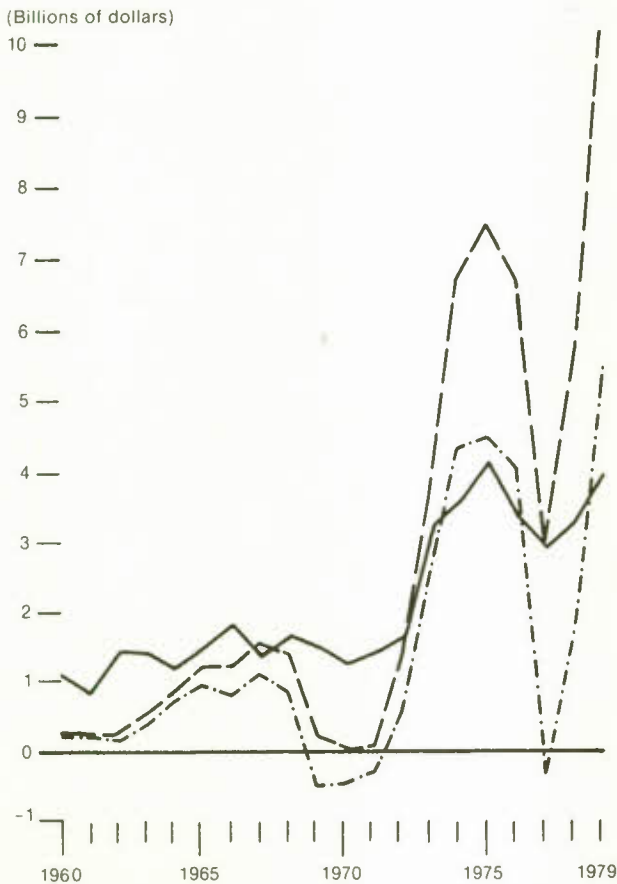
5 Income Instability over Time

Income instability from one year to another is a prominent characteristic of the agricultural industry.

Figure 5-1

Annual Aggregate Net Farm Income,¹ and Nominal and Real Current Dollar Capital Appreciation on Farm Land and Buildings, Canada, 1960-79

— Net farm income
 - - - Annual nominal capital appreciation
 - · - Annual real capital appreciation (in current dollars)



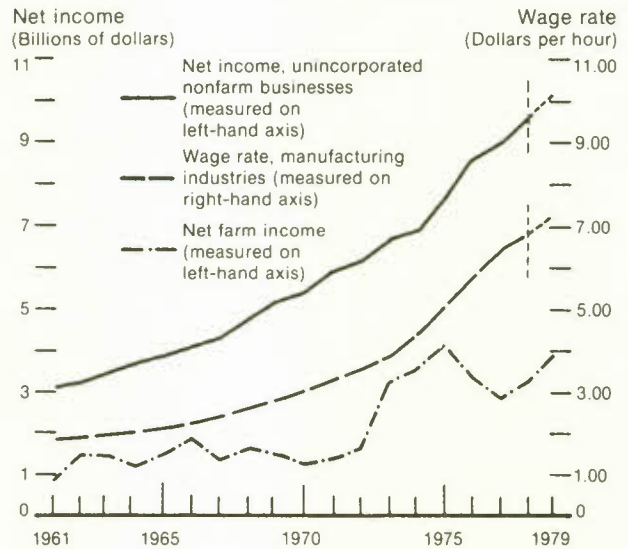
1 Excluding net house rent.

Variations in output and demand often cause wide fluctuations in agricultural prices and gross revenues. Given this instability and the rapidly rising input prices in recent years, individual farm incomes and profit margins per unit of commodity have been even more unstable. As a result, stabilization of farm returns (as well as support) has emerged as an integral part of most recent farm policies.

Indications of year-to-year instability in average income per tax filer are presented in Table 2-1, while Tables 3-1 and 3-3 and Figures 5-1 and 5-2 point out

Figure 5-2

Net Income of Unincorporated Nonfarm Businesses, Wage Rate in Manufacturing Industries, and Net Farm Income,¹ Canada, 1961-79



-----projected.

1 Excluding net house rent.

SOURCE Nonfarm business income, from Statistics Canada, *National Income and Expenditure Accounts*, Cat. 13-201; manufacturing wage, from Statistics Canada, *Employment Earnings and Hours*, Cat. 72-206; and farm income, from Table 3-1.

the instability of income for the entire farm sector. Figure 5-1 graphs the Statistics Canada series of annual total aggregate net farm income, excluding net house rent, together with nominal and real capital appreciation. Total aggregate net farm income by itself is very unstable; when it is combined with capital appreciation, however, the overall instability is tremendous. Figure 5-1 also shows the relationship between net farm income and capital appreciation, as the expected future increases (decreases) in earnings from farming following a high- (low-) income year are reflected in appreciating (depreciating) land values. As a result, farmers tend to benefit twice from large product price and profitability increases and are doubly penalized by price declines and cost increases leading to decreased profitability.

Figure 5-2 provides a comparison between net farm income, excluding net house rent, nonfarm unincorporated business earnings, and the average manufacturing wage rate. Of the three measures, farm income is the least stable, particularly since the instability in wage rates and aggregate unincorporated small business earnings is reflected in a relatively smooth upward trend.

Measures of Income Instability for Individual Farmers

The best information on year-to-year income instability in agriculture in recent years is provided in an Agriculture Canada working paper [McClatchy,

Leblanc-Cooke, and Bollman, forthcoming]. Through use of the "10 percent sample longitudinal farm taxfiler file" of Statistics Canada, these researchers were able to derive empirical estimates of individual income instability over the 1967-76 period. Among other conclusions they found that the average variation in individual incomes over time is considerably greater than the variation in the annual average per farm share of aggregate net farm income, indicating that previous studies based on year-to-year changes in the average per-farm share of aggregate net farm income have greatly underestimated the instability of incomes in agriculture. The authors also found that overall year-to-year instability is much greater for farmers, in both their major source of business income (farming) and total income, than it is for nonfarm unincorporated small businessmen. Comparisons with nonfarm wage-earning and salaried workers were not reported, but these comparisons undoubtedly would have shown even far greater relative instability between farmers and wage earners than the comparisons with small businessmen.

Evidence for the first conclusion is provided in Tables 5-1 and 5-2. Table 5-1 provides annual estimates of average provincial and total net farm income per farm in Canada, as well as the mean, standard deviations, and coefficients of variation (standard deviation divided by the mean) of these provincial and Canada averages over the 10-year period. Table 5-2 provides a comparison of the standard deviations and coefficients of variation for

Table 5-1

Variability in Average Net Income from Farming Operations per Farm, Canada by Province, 1967-76

	Average real net farm income per farm										Mean 1967-76	Standard deviation 1967-76	Coefficient of variation (mean ÷ standard deviation)
	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976			
	(Constant 1971 dollars)												
Prince Edward Island	1,239	1,962	2,215	3,185	1,063	2,713	6,390	9,256	4,059	9,251	4,133	2,944	0.71
Nova Scotia	1,831	2,041	3,070	3,215	2,578	3,517	4,798	3,551	3,543	3,840	3,198	832	0.26
New Brunswick	1,716	2,356	2,570	3,742	2,862	3,345	7,398	9,121	3,317	6,009	3,536	2,312	0.65
Quebec	3,062	3,467	3,842	3,679	3,288	4,275	5,681	5,739	6,405	5,021	4,446	1,121	0.25
Ontario	4,070	4,463	4,733	4,635	3,868	5,054	6,895	7,709	8,017	6,740	5,623	1,476	0.26
Manitoba	4,918	5,258	3,864	2,734	4,888	5,207	9,832	8,190	9,538	7,532	6,196	2,297	0.37
Saskatchewan	4,967	6,553	5,964	3,160	6,199	5,233	10,744	12,430	15,049	13,438	8,374	3,934	0.47
Alberta	4,883	6,193	4,718	3,984	4,402	5,599	9,602	10,243	10,493	8,054	6,817	2,417	0.35
British Columbia	4,667	5,487	4,429	4,783	4,742	4,657	7,032	6,712	6,464	6,954	5,593	1,020	0.18
Canada	4,171	4,996	4,627	3,833	4,425	4,973	8,239	8,800	9,565	8,181	6,181	2,108	0.34
Consumer price index	86.5	90.0	94.1	97.2	100.0	104.8	112.7	125.0	138.5	148.9			

SOURCE D. McClatchy, J. Leblanc-Cooke, and Ray D. Bollman, "Agricultural Stabilization Programs and the Variability of Farm Taxfilers' Net Incomes," Working Paper, Agriculture Canada, Policy, Planning, and Economics Branch, Ottawa, forthcoming.

Table 5-2

Comparisons over the 1967-76 Period of Instability in the Yearly Average Per-Farm Share of Aggregate Net Farm Income and the Average Instability in the Net Farm Income of Individual Farm Tax Filers, Canada by Province, 1967-76

	Instability in the yearly average per-farm share of aggregate net farm income ¹		Average instability in the net farm income of individual farm tax filers ²		(4) ÷ (2) (5)
	Standard deviation (1)	Coefficient of variation (2)	Average standard deviation (3)	Coefficient of variation (4)	
	(Constant 1971 \$)		(Constant 1971 \$)		
Prince Edward Island	2,944	0.71	2,069	1.01	1.42
Nova Scotia	832	0.26	2,122	1.15	4.42
New Brunswick	2,312	0.65	2,868	1.37	2.11
Quebec	1,121	0.25	1,414	0.54	2.16
Ontario	1,476	0.26	2,870	1.11	4.27
Manitoba	2,297	0.37	3,083	0.99	2.68
Saskatchewan	3,934	0.47	4,259	0.86	1.83
Alberta	2,417	0.35	3,762	1.13	3.23
British Columbia	1,020	0.18	3,094	1.34	7.44
Canada	2,108	0.34	3,409	0.98	2.88

1 Aggregate net farm income divided by the number of census farms.

2 Instability of income of individual farm tax filers who reported net farm income continuously over the entire 1967-76 period, as an average of all such farm tax filers studied.

SOURCE Same as for Table 5-1.

net farm income calculated from the annual provincial and total Canadian average income per farm estimates in Table 5-1 with the average standard deviation and coefficient of variation for individual farmers over the 10-year period (the same farmer was examined each year) for each province and for Canada as a whole.¹ In all provinces except Prince Edward Island, the mean standard deviation for individual farmers was greater than the standard deviation of provincial annual average per farm shares of aggregate net farm income, and the coefficient of variation for individual farmers in all provinces was from about 1.5 to 7.5 times as large as the coefficient for provincial annual average per farm share of aggregate net farm income (Table 5-2, col. 5). For Canada as a whole, the coefficient of variation for the farm incomes of individual farmers was nearly triple (2.88 times) that for the national average per farm share of aggregate net farm income. On a provincial basis, farmers in Quebec (with a relatively high proportion of dairy farm income) had the lowest instability (Table 5-2, col. 4).

Comparisons between farmers and nonfarm businessmen are provided in Tables 5-3 and 5-4. In these tables only farmers and self-employed businessmen earning at least 50 per cent of their income from their respective businesses are compared, to better indicate the relative degree of instability facing

those farmers and businessmen whose major dependence is on their business. These tables reveal that in Canada "farm-oriented" farmers had considerably greater average business and total income instability per person than "business-oriented" nonfarm businessmen. (The difference in average individual instability between all farmers and all businessmen for net farm or business income was even greater than for those earning at least 50 per cent of their income from their business, while the differences in instability in total income were slightly less.)

In interpreting these figures, one caution should be expressed. Since the measurements are for the entire 1967-76 period, they include the large upward shift in farm incomes that occurred in 1973. Measurements of instability up until 1973 and from 1973 onward would likely show a lower level of instability in farm incomes, although it would most likely still exceed the instability facing nonfarm businessmen.

Instability in Relative Rates of Return

Instability in relative rates of return is represented by additional data from the Ontario study [Brinkman

Table 5-3

Average Standard Deviation of the Incomes of Individual Self-Employed Farm or Business Tax Filers,¹ Canada² by Province, 1967-76

	Average standard deviation of income					
	Farm tax filers			Business tax filers		
	Net farm income	Nonfarm income	Total net income	Net business income	Nonbusiness income	Total net income
	(Constant 1971 dollars)					
Newfoundland	2,169	431	2,171	1,965	556	2,068
Prince Edward Island	2,286	615	2,385	1,844	809	1,854
Nova Scotia	2,716	711	2,914	1,857	718	1,804
New Brunswick	3,260	908	3,506	2,331	812	2,430
Quebec	1,500	741	1,729	2,332	954	2,449
Ontario	3,362	882	3,567	2,654	992	2,734
Manitoba	3,432	921	3,770	2,294	994	2,315
Saskatchewan	4,561	1,087	5,070	2,760	1,051	2,978
Alberta	4,283	1,056	4,621	3,053	1,363	3,112
British Columbia	4,345	1,402	4,473	2,806	1,033	2,798
Canada ²	3,884	995	4,241	2,546	996	2,628

1 A tax filer in this table is one who reports some (unincorporated) self-employment farm or business income for each year from 1967 to 1976 and whose average net farm or business income is greater than one-half of average total net income.

2 Figures cover Yukon and Northwest Territories, nonresidents, and multiple jurisdiction.

SOURCE Same as for Table 5-1; and Statistics Canada, longitudinal taxation sample. Table prepared by J. D. Forbes.

Table 5-4

Coefficients of Variation¹ of the Incomes of Individual Self-Employed Farm or Business Tax Filers,² Canada by Province, 1967-76

	Coefficient of variation of income (constant 1971 dollars)					
	Farm tax filers			Business tax filers		
	Net farm income	Nonfarm income	Total net income	Net business income	Nonbusiness income	Total net income
Newfoundland	0.7	1.2	0.6	0.5	0.7	0.4
Prince Edward Island	0.7	1.0	0.6	0.5	1.0	0.4
Nova Scotia	0.7	0.7	0.6	0.4	1.0	0.3
New Brunswick	0.8	1.1	0.7	0.4	1.0	0.4
Quebec	0.4	1.0	0.4	0.4	1.0	0.3
Ontario	0.7	1.0	0.6	0.4	1.0	0.4
Manitoba	0.8	1.1	0.7	0.5	1.2	0.4
Saskatchewan	0.8	1.0	0.7	0.5	1.3	0.4
Alberta	0.8	1.1	0.8	0.5	1.4	0.4
British Columbia	0.7	1.1	0.6	0.5	1.1	0.4
Canada ³	0.8	1.0	0.7	0.4	1.1	0.4

1 The coefficient of variation is the ratio of the standard deviation divided by the mean and represents the degree of variation when compared with the mean. For example, the mean net farm income of all farm tax filers for this table was \$5,074. In Table 5-3 the average standard deviation was \$3,884. Therefore, $\$3,884/\$5,074 = 0.8$.

2 As defined in footnote 1 of Table 5-3.

3 Figures cover Yukon and Northwest Territories, nonresidents, and multiple jurisdiction.

SOURCE Same as for Table 5-1; and Statistics Canada, longitudinal taxation sample. Table prepared by J. D. Forbes.

and Gellner, 1977], which examined relative rates of return. The instability of the relative rates of return over time is examined by comparing average ratios for all farmers in the sample for each year under the self-employment standard. Table 5-5 provides these comparisons for 1971 to 1974 and reveals a high degree of annual instability for all farms collectively, for all sizes and types of farms, and for farms in all regions. The returns ratios for 1971 to 1974 for all farms, including capital appreciation, were 0.26, 0.99, 1.47 and 0.80; and excluding capital appreciation they were 0.52, 0.73, 1.29 and 0.72. Returns ratios measuring only current income, excluding capital appreciation, ranged from 0.36 to 0.82 for the small farms and from 0.52 to 1.38 and 0.74 to 1.91 for the medium-sized and large farms, respectively. Thus, while the returns ratios were higher for the

larger farms, they also exhibited a higher degree of absolute variation over time. Yearly instability, by farm type, followed a pattern similar to that of the variations among individual farms within these groups over the entire period; dairy and mixed farms had the lowest instability over time (excluding capital appreciation), while hog, crop, and cattle farms had high annual variations. High yearly instability was to be expected, however, since the 4-year period from 1971 to 1974 included years of very low and high farm incomes and was probably the most unstable in recent decades. The returns comparisons therefore likely overstate the long-term instability of farm returns. The difference between rates of return ratios with and without capital appreciation also illustrates the destabilizing effect of including capital appreciation.

Table 5-5

Average Yearly Returns Ratios under the Self-Employment Standard, by Farm Size and Type, and by Region, Ontario, 1971-74

	1971		1972		1973		1974	
	A	B	A	B	A	B	A	B
All farms	0.26	0.52	0.99	0.73	1.47	1.29	0.80	0.72
Farm size, based on gross sales (\$)								
15,000 - 24,999	0.20	0.36	0.82	0.53	1.17	0.82	0.54	0.39
25,000 - 49,999	0.30	0.52	1.10	0.81	1.47	1.38	0.86	0.78
50,000 and over	0.30	0.74	1.09	0.94	1.89	1.91	1.08	1.17
Type								
Dairy	0.38	0.63	1.11	0.77	1.43	1.04	0.70	0.75
Cattle	0.33	0.62	1.15	0.80	1.46	1.22	0.39	0.32
Hogs	0.24	0.30	1.12	0.90	1.72	1.64	0.71	0.62
Crops	0.11	0.40	0.71	0.58	1.44	1.58	1.32	1.18
Mixed	0.18	0.44	0.77	0.70	1.36	0.91	1.04	0.54
Region								
Southern	0.11	0.51	0.77	0.71	1.49	1.36	1.24	1.05
Western	0.17	0.52	1.35	0.86	1.56	1.34	0.44	0.48
Central	0.51	0.49	0.94	0.69	1.65	1.31	0.47	0.36
Eastern	0.75	0.62	1.00	0.55	0.84	0.88	0.72	0.81
Northern	0.58	0.18	0.74	0.48	1.30	1.05	0.41	0.47

A - Including capital appreciation.
B - Excluding capital appreciation.

SOURCE: Same as for Table 4-1.

Additional Data on Instability over Time, by Commodity

The McClatchy, Leblanc-Cooke, and Bollman study also provides measurements of the instability over the 1967-76 period in farm cash receipts for different commodities (Figure 5-3). From this figure and the listed coefficients of variation, it can be seen

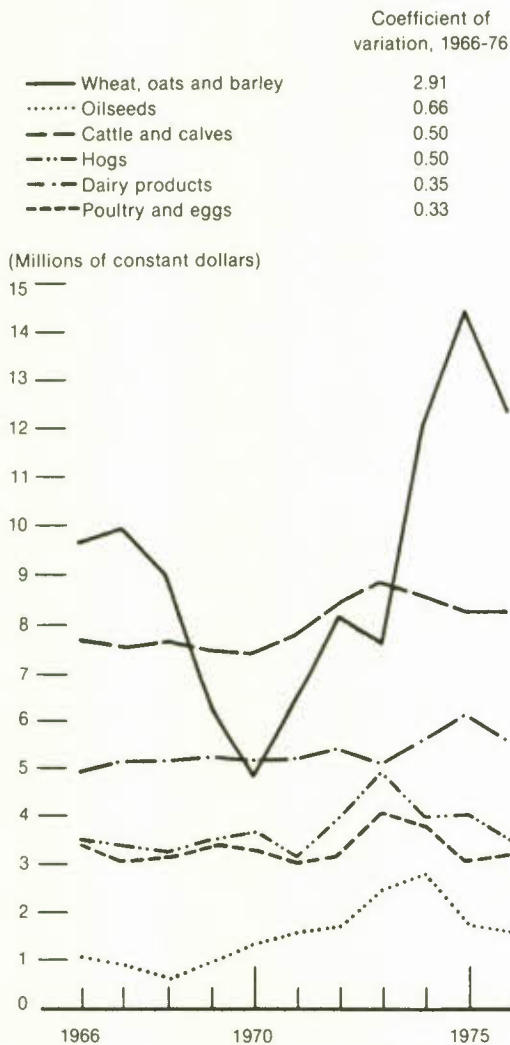
that among commodities small grains receipts have been the most unstable, while dairy and poultry/eggs have been the most stable. These results led the authors to conclude that 1/ the evidence on grains instability strongly reinforced the propriety of the federal government in introducing the Western Grains Stabilization Program in 1976, and 2/ no significant problem of income instability existed in the dairy

sector relative to most other commodities in the 1967-76 period. Besides the authors' conclusions, the degree of instability in most other commodities should raise concerns about the effectiveness of the Agricultural Stabilization Act and provincial stabilization programs with regard to their stabilization function during 1967-76,² as well as since that time

(the worst instability for cattle and hogs occurred after 1976 and is not shown in Figure 5-3). Overall, the evidence of instability over time in the returns for different commodities and in both farm and total incomes of individual farmers would justify the concern throughout Canada regarding year-to-year income instability in agriculture.

Figure 5-3

Variation in Farm Cash Receipts from the Sale of Farm Products, by Major Commodity Grouping, Canada, 1966-76



SOURCE D. McClatchy, J. Leblanc-Cooke, and Ray D. Bollman, "Agricultural Stabilization Programs and the Variability of Farm Taxfilers' Net Incomes," Working Paper, Agriculture Canada, Policy Planning, and Economics Branch, Ottawa (forthcoming).

6 Government Expenditures

Canada, like most developed countries, has extensive public involvement in the agricultural sector. This involvement ranges from research and extension to direct output subsidies and from public market information to complete pricing and supply regulation by governments or their legislatively sanctioned agencies. Collectively, these measures have tremendous potential for affecting farm incomes and rates of return. This chapter provides an overview primarily of federal government expenditures in recent years, to indicate the degree of public involvement in different aspects of agriculture. More specific policy analyses, by commodity, are being undertaken in other related studies prepared for the Economic Council of Canada and will not be duplicated here.

Table 6-1 summarizes federal government expenditures oriented towards agriculture. These expenditures are primarily by Agriculture Canada, but agriculture-oriented expenditures are also made by the Departments of Industry, Trade and Commerce; Regional and Economic Expansion; External Affairs; and others. Overall, federal agricultural expenditures amounted to \$1.37 billion in fiscal year 1978/79, or about the equivalent of one-third of the net farm income in 1979. Total federal expenditures on agriculture increased very rapidly from about \$0.57 billion in 1970/71 to \$1.52 billion in 1977/78 before dropping to \$1.37 billion in 1978/79.

Table 6-1

Net Expenditures by Federal Government for Specific Policy/Programs, Canada, 1965/66 and 1970/71 to 1978/79¹

	1965/66	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79
	(Thousands of dollars)									
<i>Type of expenditure (and department)</i>										
Direct payments through commodity programs:										
- Direct subsidy on milk (Ag.)	19,210	125,000	109,000	107,400	143,400	251,100	275,000	233,118	293,580	271,524
- Deficiency payments (Ag.)	39,407	1,470	12,988	11,184	97	46,474	25,989	28,749	70,531	47,069
- Price support - Agricultural Products Board (Ag.)	1,619	398	520	419	5	98	415	1,122	35	107
- Quality premium on hog and lamb carcasses (Ag.)	8,650	1,379	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- Premium on high-quality cheese (Ag.)	1,505	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- Subsidies on fluid milk and powder (Ag.)	n/a	n/a	n/a	n/a	51,474	74,621	14,453	13,080	12,952	563
- Lower Inventory for Tomorrow (Ag.)	n/a	57,588	5,678	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- Grassland Incentive Payments (Ag.)	n/a	n/a	9,807	15,619	16,770	14,944	n/a	n/a	n/a	n/a
- Two-price wheat (IT&C)	n/a	n/a	n/a	63,173	69,386	81,230	188,698	65,303	21,860	43,826
- Western Grain Stabilization Program (IT&C)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	61,801	57,980	53,157
- Payments to wheat producers to increase minimum return (IT&C)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,500	405
- Compensation for losses due to Migratory Waterfowl (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,500
- Write-off of CDC Milk Powder Export Subsidy Deficit (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	159,718	n/a
Subtotal	70,391	185,835	137,993	197,795	281,132	468,467	504,555	403,173	621,156	418,151

Table 6-1 (cont'd)

	1965/66	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79
	(Thousands of dollars)									
Direct payments through social programs:										
- Canada West Foundation (IRC)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	75
- Exhibition contributions (Ag.)	919	1,342	1,359	1,378	1,405	1,411	1,470	1,596	1,651	2,021
- Agricultural Museum contributions (Ag.)	6	21	24	24	24	24	30	31	31	31
- Federated Women's Institutes of Canada (Ag.)	10	10	10	10	10	10	10	10	10	10
- 4-H Club assistance (Ag.)	160	191	193	198	208	196	208	212	216	221
+ Small Farm Development adjustment (Ag.)	n/a	n/a	n/a	638	6,102	8,653	7,318	6,548	2,628	n/a
- Farm Labour Pool (M&I)	n/a	n/a	n/a	n/a	n/a	1,489	3,462	3,438	3,879	3,811
- Agriculture for Young Canadians (M&I)	n/a	n/a	n/a	n/a	n/a	50	n/a	n/a	n/a	n/a
- Student summer employment and activities (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	682	908
Subtotal	1,095	1,564	1,586	2,248	7,749	11,833	12,498	11,835	9,097	7,077
Crop insurance:										
- Contributions to provinces - Crop Insurance Act (Ag.)	631	2,898	3,158	4,144	15,182	31,140	48,276	56,457	72,812	74,965
- Contribution to province of Quebec (Ag.)	n/a	920	877	1,070	1,473	96	n/a	n/a	n/a	n/a
Subtotal	631	3,818	4,035	5,214	16,655	31,236	48,276	56,457	72,812	74,965
Assistance in producer financing:										
+ Farm Credit Corporation net loss (Ag.)	1,105	8,603	8,885	8,446	6,808	4,716	3,514	2,400	1,700	-1,700
- Grants to provinces in accordance with terms and conditions prescribed by Minister of Agriculture (Ag.)	9,751	n/a	n/a	12,250	2,021	795	1,404	2,599	354	772
- Pesticide Residue Compensation (Ag.)	180	n/a	n/a	n/a	n/a	13	1	n/a	n/a	n/a
- Cheese Improvement Act (Ag.)	207	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- Prairie Grain Provisional Payments (IT&C)	n/a	63	21	10	8	42	n/a	n/a	n/a	n/a
- Prairie Grain Advance Payments (IT&C)	669	11,614	3,513	1,036	1,645	3,058	1,011	2,550	3,478	5,193
- Deficit Pool Accounts (IT&C)	n/a	18,295	11,210	3,870	n/a	n/a	n/a	n/a	n/a	n/a
- Deletion from the accounts of advances made to Saskatchewan to provide seed grain loans to farmers (Fin.)	n/a	n/a	n/a	n/a	n/a	74	n/a	n/a	n/a	n/a
Subtotal	11,912	38,575	23,629	25,612	10,482	8,698	5,930	7,549	5,532	4,265
Storage and/or freight assistance:										
+ Canadian Livestock Feed Board (Ag.)	n/a	20,773	20,563	21,381	22,737	21,921	20,709	12,730	11,773	14,155
- Freight or livestock shipment to Royal Winter Fair (Ag.)	38	46	63	61	40	28	65	114	64	99
+ Canadian Government elevator operations (Ag.)	1,684	2,478	3,132	3,671	4,050	6,357	8,126	7,968	9,435	606
- Contributions towards the cost of transportation of fodder and silage (Ag.)	278	n/a	n/a	580	820	944	n/a	n/a	n/a	402
- Contributions to producer groups towards the cost of construction of storage (Ag.)	50	n/a	n/a	n/a	367	1,218	1,292	893	1,645	1,808
- Payments on temporary wheat reserves (IT&C)	36,807	23,650	85,281	21,919	5,833	n/a	n/a	n/a	n/a	n/a
- Payments to Canadian Wheat Board for the purchase of hopper cars to facilitate the movement of Canadian grain exports (IT&C)	n/a	n/a	n/a	46,091	n/a	n/a	40,639	167,341	2,343	838
- Contribution to CN and CP re-leasing railway cars (IT&C)	n/a	n/a	n/a	1,300	n/a	3,430	n/a	n/a	n/a	n/a
- Contribution to Wheat Board to cover carrying charges on reserve stocks of feed grains (IT&C)	n/a	n/a	n/a	n/a	n/a	1,849	3,215	2,743	2,994	2,200

Table 6-1 (cont'd)

	1965/66	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79
(Thousands of dollars)										
- Contribution to Railways under Section 258 of Railway Act (T.)	n/a	n/a	33,282	22,884 ¹	25,248 ¹	85,505 ¹	108,685 ¹	104,419	67,022	98,854
- Maritime Freight Rates Act (T.)	n/a	13,999	13,111	13,000	14,088	15,060	16,020	17,103	15,986	15,379
- Atlantic Region Freight Assistance Act (T.)	n/a	2,822	6,937	11,422	15,972	21,748	23,692	27,070	29,907	41,283
- Assistance to Rapeseed Processing Freight (IT&C)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	500	2,500	3,839
- Feed Freight Assistance Adjustment Fund (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,996	11,749
- Canadian Co-operative Implements Ltd. (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	8,000	n/a
- Assistance to UCO Grain Terminal (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	500	8,000	n/a
- Rehabilitation of Box-cars (IT&C)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2,911
- Rehabilitation of Prairie Branch Railway Lines (T.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	30,000	70,000
Subtotal	38,857	63,768	162,369	142,309	89,155	158,000	222,443	341,348	194,665	264,123
Research programs:										
+ Animal Contagious Diseases (Ag.)	14,995	7,725	9,483	10,902	12,750	17,247	23,554	27,580	27,747	24,770
+ Animal Pathology Programs (Ag.)		3,628	4,027	4,435	5,409	6,417	10,275	9,045	9,916	11,967
+ Research activities (Ag.)	32,593	47,753	50,726	54,310	62,959	74,335	95,633	95,744	104,380	113,872
- Livestock improvement (Ag.)	10	22	21	16	33	33	50	91	121	113
- New Crop Development Fund (Ag.)	n/a	n/a	n/a	n/a	n/a	100	521	759	913	737
- CDC Research (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	577	817
Subtotal	47,598	59,128	64,257	69,663	81,151	98,132	130,033	133,219	143,654	152,276
Extension and information services:										
+ Economics and CANFARM (Ag.)	979	3,940	6,706	7,080	7,819	8,850	9,833	10,499	13,118	6,481
+ Information (Ag.)	685	1,472	1,952	2,299	2,202	2,679	2,765	3,263	3,422	4,105
+ Elevator and Grain Documentation (Ag.)	n/a	708	905	1,029	1,117	1,303	1,407	1,604	1,722	1,850
- Canadian National Livestock Records (Ag.)	45	50	50	50	65	50	50	50	50	50
Subtotal	1,709	6,170	9,613	10,458	11,203	12,882	14,055	15,416	18,312	12,486
Testing services:										
+ Agricultural pest and disease control (Ag.)	n/a	1,731	1,892	2,182	2,324	2,645	2,813	3,163	3,807	n/a
+ Meat inspection (Ag.)	n/a	12,697	14,583	16,591	17,965	21,625	24,805	29,779	32,507	35,742
+ Grain inspection (Ag.)	5,260 ²	4,024	4,861	5,824	5,921	6,601	7,886	8,190	8,213	9,137
+ Grain testing and research (Ag.)	n/a	928	1,090	1,336	1,682	1,997	2,058	2,224	2,743	2,747
+ Grain weighing (Ag.)	n/a	2,147	2,581	2,702	2,541	2,724	3,539	3,635	3,727	5,065
Subtotal	5,260	21,527	25,007	28,635	30,433	35,592	41,101	46,991	50,997	52,691
Technical and food aid:										
- World Food Program (Ext. Aff.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	10,000	10,000
- International Food Aid Program (Ext. Aff.)	34,539	100,141	75,529	94,272	66,274	106,991	222,537	237,511	221,519	175,916
- FAO (Ext. Aff.)	979	1,226	1,538	1,528	2,142	2,141	3,324	3,373	4,331	4,630
- Mennonite Central Committee Food Bank (Ext. Aff.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	500	1,000
Subtotal	35,518	101,367	78,067	95,800	68,416	109,122	225,861	240,884	236,350	191,546
Trade promotion:										
+ Marketing and promotion (Ag.)	2,360	7,579	8,725	10,065	11,441	13,482	16,364 ¹	18,378	20,659	21,605
- Rapeseed utilization assistance (IT&C)	n/a	200	200	300	300	300	300	325	325	350
- Grains export credit (IT&C)	n/a	1,599	2,291	2,106	5,946	11,904	10,070	7,743	7,218	12,399
- Grains and oilseeds marketing incentives (IT&C)	n/a	n/a	n/a	726	318	412	390	635	979	840
- Contribution to the Canadian International Grains Institute (IT&C)	n/a	n/a	n/a	n/a	564	355	443	529	619	686
- Payments to western millers re stop off charges (IT&C)	n/a	n/a	n/a	n/a	139	133	200	725	850	983
+ Marketing (IT&C)	n/a	n/a	n/a	1,117	1,418	1,569	3,343	5,799	3,780	2,747

Table 6-1 (concl'd)

	1965/66	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76	1976/77	1977/78	1978/79
	(Thousands of dollars)									
- Milk promotion by CDC (Ag.)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	500	2,379	3,800
Subtotal	2,360	9,378	11,216	14,314	20,126	28,155	31,110	34,634	36,809	43,410
Social adjustment and rural economic development										
- ARDA (DREE)	28,383 ²	18,088	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- Rural Area Development (DREE)	n/a	35,012	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
- Canada Land Inventory (DREE)	n/a	4,016	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
+ Social Adjustment and Rural Economic Development (DREE)	n/a	n/a	88,223	101,551	109,863	123,861	117,342	99,696	74,390	66,089
+ Lands Inventory (EC)	n/a	n/a	n/a	4,445	n/a	n/a	n/a	n/a	n/a	n/a
Subtotal	28,383	57,116	88,223	105,996	109,863	123,861	117,342	99,696	74,390	66,089
Administration and miscellaneous ³										
+ Administration (Ag.)	15,476	16,612	17,181	20,518	29,836	38,500	41,461	50,196	52,601	81,231
+ Miscellaneous (Ag.)	68	7	6	8	25	39	33	88	125	163
+ Canadian Dairy Commission (Ag.)	n/a	453	535	656	752	895	1,062	1,348	1,666	1,980
Subtotal	15,544	17,072	17,722	21,182	30,613	39,434	42,556	51,632	54,392	83,374
Grand total	259,258	565,318	623,717	718,253	785,377	1,171,826	1,346,419	1,442,834	1,518,166	1,370,453

- Grants, contributions, or transfer payments only.

+ Including operating capital and grants.

n/a Not applicable or not available.

1 Revised.

2 Fiscal year April 1-March 31.

3 Administration expenditures in Agriculture Canada only, including contributions to superannuation accounts, operating and capital expenditures less revenue and receipts credited to vote. Miscellaneous includes membership fees and contributions to international and domestic organizations, and so on.

SOURCE Revised 1965/66-1975/76 data from Agriculture Canada, *Orientation of Canadian Agriculture*, vol. II, Table 2, 1977; data on contribution to railway from Canadian Transport Commission; 1976/77 to 1978/79 data from Receiver General of Canada, *Public Accounts of Canada*.

Table 6-2

Aggregate Net Farm Income, Direct Government Payments through Commodity Programs, Federal Income and Marketing Subsidies, and Payments and Subsidies as a Proportion of Aggregate Net Farm Income, Canada, 1965 and 1970-78.

	Aggregate net farm income ¹	Direct payments through commodity programs ²			Proportion of aggregate net farm income		
		Federal subsidies ³	Direct payments plus subsidies	Direct payments	Subsidies	Direct payments plus subsidies	
	(Thousands of dollars)			(Per cent)			
1965	1,484,854	70,391	53,760	124,151	4.7	3.6	8.4
1970	1,275,635	185,835	115,539	301,374	14.6	9.1	23.6
1971	1,425,960	137,993	201,249	339,242	9.7	14.1	23.8
1972	1,633,947	197,795	187,449	385,244	12.1	11.5	23.6
1973	3,219,940	283,220	136,418	419,638	8.8	4.2	13.0
1974	3,580,193	482,518	226,149	708,667	13.5	6.3	19.8
1975	4,135,894	554,349	307,759	862,108	13.4	7.4	20.8
1976	3,376,881	486,167	439,988	926,155	14.4	13.0	27.4
1977	2,899,211	740,637	309,819	1,050,456	25.5	10.7	36.2
1978	3,266,174	442,660	386,763	829,423	13.6	11.8	25.4

1 Excluding net house rent but including income in kind from food produced and consumed on the farm.

2 Includes provincial income stabilization programs (1973 onward).

3 Crop insurance, producer financing, storage and freight assistance, and trade promotion.

SOURCE Income and provincial commodity program payments data from Statistics Canada, *Farm Net Income Reference Book*, December 1979; federal government expenditures from Table 6-1.

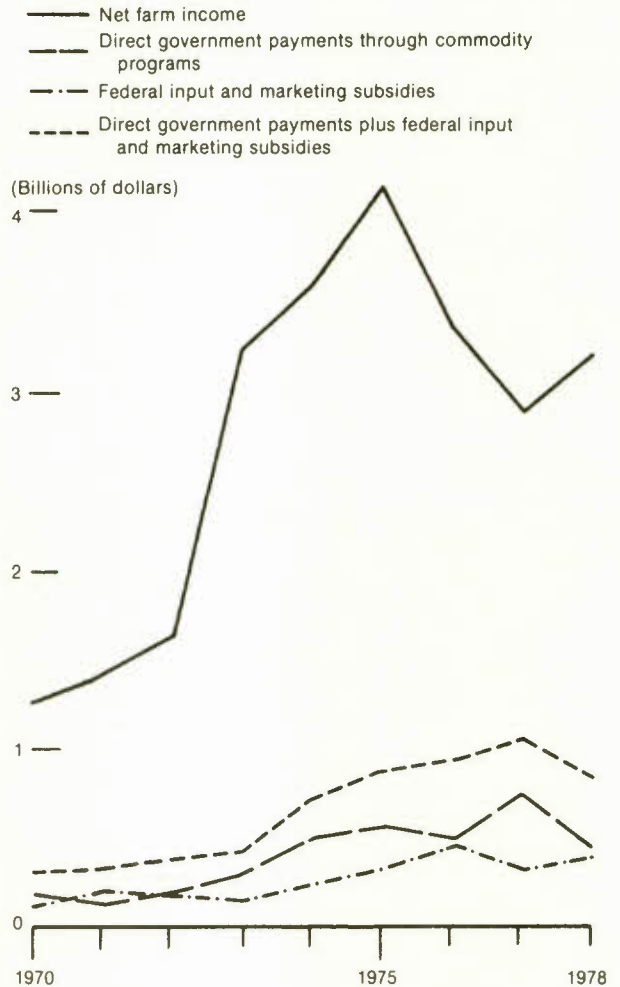
Federal government funds are spent on a wide variety of agricultural programs. The largest expenditure categories are for direct payments through commodity programs and for storage and freight assistance. Research programs and technical food aid also require major expenditures. Milk subsidies represent the single largest item, amounting to \$271 million in 1978/79 from direct price subsidies on manufacturing milk and to \$453 million in 1977/78 from direct price subsidies and the one-time write-off of the milk powder export subsidy deficit. It is interesting to note that less money (\$47 million in 1978/79) is spent on deficiency payments from all federal government stabilization programs, excluding milk, than on crop insurance (\$75 million in 1978/79). In addition to these figures, sizeable expenditures are also made by provincial governments. Not all expenditures in agriculture are designed primarily to help the farmer, however. Many of the benefits of public expenditures in agriculture are passed on to consumers through more efficient food production and lower prices.

Table 6-2 provides an indication of the impact of governmental expenditures on net farm income. In this table, direct government payments through commodity programs from both the federal and provincial governments are examined, along with federal input and marketing subsidies. Together, these direct and indirect subsidies to agriculture averaged 23.7 per cent of net farm income, excluding net house rent, during the 1970-78 period (see Figure 6-1). They also increased steadily from about \$301 million in 1970 to \$1,050 million in 1977, before dropping to \$829 million in 1978. In 1973 these expenditures dropped to only 13 per cent of net farm income, primarily because of the big increase in incomes that year (the absolute level of expenditure was still higher than in previous years). From 1974 to 1977, however, these government expenditures also increased as a percentage of total income, resulting in a similar average percentage from 1973 to 1978 as occurred from 1970 to 1972 (despite substantially higher incomes in the 1973-78 period). Direct government payments from the provincial and federal governments represented from 9 to over 25 per cent of net farm income in the 1970-78 period, and indirect input and marketing subsidies represented 4 to 14 per cent.

Since this study has emphasized the necessity of looking at different categories of farms, especially as they are differentiated by economic size, it would also be appropriate to examine the distribution of government payments by farm size. Unfortunately, data are

Figure 6-1

Net Farm Income,¹ Direct Government Payments through Commodity Programs, and Federal Input and Marketing Subsidies, Canada, 1970-78



1 Including food produced and consumed on the farm, but excluding net house rent.

SOURCE Table 6-2.

not available to permit this investigation in Canada. In the United States, where appropriate data are available, the benefits of government programs are heavily skewed towards larger farms that produce most of the product. For example, the top 20 per cent of the farms (in size), which produce about 80 per cent of the output, typically receive over two-thirds of all government support payments [U.S. Department of Agriculture, annually]. This distribution of benefits occurs because most programs

benefits are per unit of production, so that the larger farmers who produce more also benefit more.

To a great extent this situation also holds for Canada. While the distribution of benefits would not be quite as skewed as in the United States because of a lower concentration of production on large farms and because of limits on the eligible payments in some programs (e.g. a maximum of \$45,000 in 1981 in gross receipts can be covered by the Western Grains Stabilization Program), nevertheless there

would be considerable concentration of benefits among the larger farms. If the pattern is similar to that found in the United States, we could expect the 30 per cent of the largest farms which constitute the main commercial producers (as opposed to 20 per cent in the United States) to receive about two-thirds of direct government payments. The 40 per cent of farmers who comprise the group of limited-resource farmers are likely to receive around 20 to 22 per cent; and hobby farmers (about 30 per cent of the total), 10 to 11 per cent.

7 Conclusions and Policy Implications

This study has attempted to update information on agricultural incomes and introduce new data (where necessary) to provide a more comprehensive analysis of the economic situation in agriculture, particularly with respect to conditions existing during the 1973 to 1979 period. The information presented here strongly indicates that average incomes for farmers are sufficient to provide decent living standards, particularly when all components of income are considered. The larger commercial farmers, who receive most of the benefits from current policies and programs, have on average very good incomes and have accumulated substantial wealth from capital appreciation on land and buildings in recent years. Limited-resource and hobby farmers typically have lower overall incomes, but these too are on average quite adequate, especially for farmers with off-farm employment.

Unfortunately, there are Canadian farm families with inadequate incomes from all sources, but the incidence of poverty in agriculture has been greatly reduced in recent years. For some who endure poverty, the evidence would suggest that their problems stem more from individual human limitations than from farm production and marketing conditions [Blackburn, Brinkman, and Driver, 1978]. As T. K. Warley has stated,

The fact that a majority of census farms are too small to provide adequate family incomes by themselves may be a source of regret to those who would prefer to see a more homogeneous and specialized industry composed of full-time farm businesses that would generate adequate incomes for their operators primarily from farm sources. But this is not how agriculture is structured in a modern society, and to move to this structure would require a drastic reduction in the numbers of persons who farm. As it is, the present heterogeneous structure of farming, in which there is a mix of commercial and noncommercial full-time and part-time farmers and in which off-farm income is at least as important a source of income as farm income for many farm families, seems to result in overall standards of living for many who farm that are on a par with those of Canadians who derive their

incomes entirely from other occupations [Warley, 1980a].

The evidence presently available on the rate of return on human and capital resources committed to farming is equally encouraging. Data on relative rates of return are not available for all of Canada, but the data available for Ontario indicate that commercial farmers earn rates of return on their resources that are quite comparable to the rates earned by similar resources in the nonfarm sector. Again, smaller farm businesses earn lower relative rates of return than larger operations, but this is to be expected since economies of size and indivisibilities in some resources exist in farming as in other occupations. Limited-resource and hobby farmers likely earn rates of return on their resources that are far below comparable rates in the nonfarm sector, but this does not necessarily mean they are underpaid in agriculture. Many simply are very poor managers or are farming for reasons other than profit.

Finally, farmers were shown to face far greater year-to-year income instability than nonfarm, unincorporated, self-employed businessmen, indicating that farmers may have greater income instability than nearly all other major groups in Canadian society. This high degree of income instability over time was apparent for both farm and total (farm and nonfarm) operating income, and for full-time and part-time farmers.

These results have definite implications for agricultural programs and policies. First, as many current programs appear more oriented towards achieving "fair" rates of return than alleviating low or poverty incomes, the existence of current rates of return comparable to nonfarm rates would indicate that commercial farmers are earning about the right level of income; i.e. they are neither overpaid nor underpaid. Since the comparability of returns on agricultural resources in Ontario was observed primarily during a period recently when government programs had helped to transfer income to farmers on a substantial scale, these results do not invalidate the rationale for government intervention to achieve fair

returns to farmers. At the same time, as some degree of economic and social comparability appears to have been achieved, there would seem to be little justification, in the absence of substantial deterioration in agricultural conditions, for expanding these programs in order to further bolster farm returns.

Different policy approaches may also be needed for different groups of farms, particularly for farms of different sizes. Most current agricultural programs provide support on a per-unit-of-output basis (stabilization payments of so many dollars or cents per bushel or animal unit), so that total benefits are tied to total production. This means that large farms, which produce a high proportion of the total sales, receive the largest proportion of benefits from commodity programs supporting agricultural prices. To the extent that the purpose of price support and stabilization programs is to compensate for chronic or spasmodic inadequacy in the returns to agricultural resources, it may be appropriate that returns be supplemented in proportion to output. If the programs are justified on the basis of low-income farmers and/or designed to alleviate problems of poverty in agriculture, however, the output-directed stabilization programs will fail. Small commercial farmers, and limited-resource farmers in particular, may have sales volumes that are too small to benefit sufficiently from commodity-based programs. Many hobby farmers, on the other hand, really have no legitimate claim to assistance from agriculture on low-income grounds, and the lack of assistance through output-oriented programs would seem appropriate in their case.

Throughout agriculture, low-income farmers may face the most inadequate assistance, even from ministries of agriculture. In previous years there have been some programs designed to deal specifically with low-income farmers, to help them to adjust. With the termination (as with the Small Farm Development Program) or reduced scope (the low profile of ARDA programs in many provinces) of these programs in recent years, however, it would appear that ministries of agriculture are not particularly committed to providing special assistance to this group. This lack of special programs can be of particular concern, because existing support programs for "all farmers" are tied to output and are not very effective for the low-income group.

For serious farmers with limited resources, specialized programs may need to be continued or reinstated to help them expand and take advantage of economies of size in agriculture and to improve their management. Programs to help share risk might also be effective, as many of these farmers are very security-conscious and reluctant to undertake

profitable improvements because of strong risk discounting [Driver, Brinkman, and Blackburn, 1979]. At the same time it may be necessary to assist in the transfer of some resources out of agriculture or to provide direct income support for those resources that cannot be transferred easily. In some cases the responsibility for assisting the limited-resource farmer may lie outside ministries of agriculture, but the large redirection away from the limited-resource farmer, in recent years, in favour of more-general assistance programs that are more appropriate to commercial farmers, would appear to reduce the long-run potential for many small farmers to become commercial farmers. In fact, programs in many provinces discriminate against the farmer who wishes to farm "part time" in order to increase total family income and even generate farm capital from nonfarm sources, particularly in consideration of credit assistance. Consequently, one of the routes to higher incomes for limited-resource farmers – i.e. multiple job holding – is being stifled.

The great differences in relative rates of return among individual farms in the Ontario study [Brinkman and Gellner, 1977], even within similar categories of farm size, type, and region, have two major implications. First, they demonstrate a need for extension programs, particularly in the area of farm management, to help bring the rates of return for less efficient farmers closer to the potential demonstrated by the better farmers. Second, they demonstrate the dilemma of commodity programs, as given programs yield substantially different benefits for different farmers. To provide adequate rates of return to all farmers would require very high levels of subsidization, which in turn would not only encourage inefficient farmers to remain in the industry but necessitate large transfers of public tax funds to support agriculture.

Capital appreciation in agriculture undoubtedly represents a very important component of farm returns. In effect, farmers may be compensated for low current investment returns by high future returns in the form of capital appreciation. To many farmers this may be an entirely acceptable situation because of favourable tax treatments. On the other hand, high capital appreciation may reflect a situation where farmers accumulate a large proportion of their returns in the form of assets; i.e. farmers "live poor and die rich." Accordingly, programs that help farmers to transform their capital appreciation into productive capital may be necessary – e.g. refinancing and education in financial management to assist farmers in recognizing and managing more-complex financing opportunities. It is also possible that high capital appreciation may result from increased competition

for land from the nonfarm sector, which touches upon questions of land use.

Capital appreciation also presents a problem in terms of income security. Although a strong case has been made here for including capital appreciation as part of the returns to farming, it is also recognized that a large part of the appreciation may be a "paper gain," subject sometimes to large changes in the real value of the stock of farm capital in land and buildings over time. The capitalization of expected future profits into the price of land further increases the instability of farm returns, as farmers tend to benefit doubly when prices and profitability increase (from higher current income plus capital appreciation) and face double jeopardy when prices fall. The problem of capital appreciation is further compounded by the fact that most of the gain is taken out of agriculture, as people sell their farms and leave for the city. This in effect requires the agriculture sector to generate and refinance its capital stock about every 40 years.

Because of the growing importance of capital appreciation and its recent overshadowing, in real terms, of aggregate net farm income, far greater attention should be directed at this aspect of agriculture. Although many might claim that land is far overvalued in terms of its earning capability in agriculture, essentially it has been "overvalued" for most of the years in the 1970s and may very well continue to appreciate as a long-run trend. Most of the "overvalued" purchases in the 1970s were made by farmers themselves, indicating that they likely derive substantial nonmonetary benefits from land ownership and inherently accept capital appreciation as a genuine return. By international standards, farmland in Canada is very cheap. Its potential attractiveness is accentuated by Canada's current low exchange rate, stable economic system, past record of large appreciation in the value of farmland and a much closer ratio of earnings to cost ratio than is found in Europe, where land for farming is selling at over \$25,000 per acre (e.g. in Holland). If farmland prices reverse and fall in the future, particularly in response to high interest rates in 1980 and 1981, increased attention to capital appreciation would still be merited, as comparable rates of return on resources have been achieved in recent years primarily through the additional boost to incomes from capital appreciation.

The recent high interest rates must be a major concern as well. The comparable rates of return and adequate income levels reported here were achieved in a period of lower interest rates, so that great changes in the cost of farm financing could affect future returns. The increasing interest rates hurt farmers in several ways. The first and most obvious is

through higher costs. Another impact stems from the fact that strengthening the exchange rate through the interest rate, although it helps some segments of society, generally worsens the relative position of producers. Agriculture's relative position is worsened because of its dependence on export markets to set, at least partially, the prices for grains, beef, hogs, and imported (competing) vegetables. High interest rates also reduce capital appreciation or may even cause real depreciation in farm values for existing farmers, as fewer people attempt to buy farms because they cannot afford the interest for purchases made on credit.

As interest rates have escalated in 1980 and 1981, their burden has been felt the hardest by new farmers, those requiring substantial purchased inventories and inputs (like beef feed lot operators), and operators undertaking sizeable capital improvements to make their operations more efficient. Farmers with little borrowed capital, on the other hand, have not been affected greatly. As a consequence, high interest rates often have had an inverse effect on farm efficiency, penalizing progressive farmers more than older, unreceptive ones, who are often using outdated (but paid for) technology and have very high percentages of equity in their farms. Current high interest rates, if they continue for long periods of time, should also necessitate changes in our thinking about what constitutes an efficient operation. Traditionally, farmers have substituted capital for labour, but at 1981 interest rates some resubstitution of labour for capital may be economical. At current rates some farmers would appear to be overcommitted in their outlays of capital relative to labour in order to achieve their least cost production. Furthermore, high capital costs may impose effective economic limits to farm size below the scale currently used by some of the largest farmers, particularly if additional labour is unavailable.

Capital appreciation and high interest rates also have strong implications for entry into farming. With the rapid appreciation of farm values in all parts of Canada it has become very difficult for many young farmers to accumulate the \$200,000 to \$250,000 in capital that is now required to buy a minimally viable commercial operation. With such large capital outlays, beginning farmers who manage to get funding may encounter cash flow problems because a large part of their earnings must go towards paying off their farm debt. If interest rates remain at their current very high levels or if they fall, with an accompanying appreciation in farm values, this problem likely will become progressively more severe throughout the 1980s. In some cases, special attention by ministries of agriculture may be merited. Farm leaders

sometimes have used the plight of beginning farmers as justification for greater levels of support to the entire agricultural sector. Since these farmers constitute only 10 to 15 per cent of all farmers, however, a more appropriate approach would be to design special policies to aid in farm transfer and purchase, and/or to improve tenancy provisions. Such policies for new owners could include longer-term loans and deferrals of both principal and interest until later years to give the farmer time to build up his cash flow. Tenants could be helped by longer-term leasing arrangements. If the problem of cash flow for beginning farmers is as serious as farmers claim it is, it could be solved within agriculture by establishing a special farm capital gains tax, with the tax proceeds to be used to assist new farmers. This would solve the problem of helping new farmers get started, eliminate some of the capital drain from agriculture as farmers retire outside of the sector, and tax something that many farmers claim cannot be counted as value anyway.

The instability of incomes and rates of return from one year to the next indicates the susceptibility of farmers to fluctuations in income. This instability over time may create difficulties for the long-term planning of agricultural resources and increase farmer interest in stabilization programs (current programs contain a strong element of support in addition to stabilization). Some instability in agriculture may be beneficial by accelerating desirable adjustments, as periodic periods of low returns may encourage inefficient farmers to leave the industry or to improve their production practices. From a policy viewpoint, however, the evidence on instability in this study indicates a need for programs that will prevent wide fluctuations in incomes and rates of return in agriculture, so as to facilitate better long-term planning and production efficiency.

Hopefully the data in this study will also be useful in addressing the long-term structural issues facing agriculture. Currently, the United States is reassessing its agricultural policy because it is concerned that its policies have in fact generated an agricultural structure that is increasingly dominated by larger-than-family farms and those run by nonfamily corporations, with farm entry restricted often to the sons of farmers and nonfarmers with very large capital resources. Nonfamily corporate farms have not been as prevalent in Canadian agriculture as in the United States, but many of the questions about farm concentration, financing, entry, government benefits, and specialized treatment for agriculture are equally valid here.¹ For example, are we creating two classes of farmers: the sons of farmers with special privileges, and others who must fend for themselves? Our tax

laws provide substantial benefits for farm transfers within the family, and both the advantages of financing from an established base and discrimination in credit against part-time farmers may in fact be contributing to the creation of a landed class of people in Canada.

With the scientific industrialization of agriculture, the delineation of the economy into farm and non-farm sectors is also becoming less distinct. With this change also goes much of the justification for special treatment of agriculture as a lifestyle instead of a business. Politically, the idea that agriculture as an industry, and farmers as a class, should be treated differently – by product and input subsidies; in trade matters; in taxation; in access to land, capital, and energy; on environmental issues; under labour laws; under the rules of competitive behaviour; and in the institutions of government and education – is everywhere under attack and increasingly difficult to sustain [Warley, 1980]. In the future, Canadians may need to face squarely these questions: Who should be able to own land and/or farm; what kind of benefits and governmental treatment should be provided to agriculture; and what kind of farm structure should be promoted throughout the country?

Finally, this study provides evidence for farmers in addressing conditions in their industry. New farmers in particular must recognize agriculture for what it is and how it works. This recognition means carefully evaluating the possibility of cash flow problems in early years, accepting the fact that a large share of the returns will likely come from capital appreciation, and being prepared to deal with year-to-year fluctuations in income. If these conditions are found disagreeable, the would-be farmer should not go into farming. He should examine these characteristics carefully before entering the sector, rather than complain later about not being able to change the nature of agriculture to suit him. Even established farmers are seldom trapped in agriculture today, as high land values enable them to sell out at a very good return if they want to leave agriculture.

Furthermore, farmers who complain about the Canadian "cheap food policy" in comparison with much higher European support levels must first examine the two systems in their entirety and not just compare support levels. In North America the agricultural system has evolved on an efficiency basis, whereby good producers could obtain resources at reasonable costs and thereby increase their incomes by expanding their production and lowering their costs. The continental European system has taken a different approach through higher prices. As prices

have increased, however, their capitalization into land values has made farm expansion much more difficult, especially as public measures (e.g. long-term leasing rights that can be transferred by renters from father to son) have been developed to protect and thereby maintain the small producer. These conditions greatly impede adjustments in agriculture, so that continental European farmers are typically restricted to small farms and, therefore, generally earn less income than Canadian producers. The more market-oriented Canadian approach to adjustment has enabled farmers to earn higher incomes with lower prices, because of their opportunities to adjust to a more efficient operation. At the same time, Canadian

consumers have also benefited from more efficient production and cheaper food prices.

Finally, because of the recent improvements in agriculture documented in this study, it seems time for farmers to start cheering and to take credit for their success. Commercial farmers, in particular, have made substantial progress. They work hard and manage large quantities of resources. When provided the right conditions they can produce food quite efficiently, by world standards, and still obtain good returns. They deserve to be recognized as good managers and as some of the most successful small businessmen in Canada.

Appendix

**Provincial Tables on Average Net Income of
Farm Tax Filers, by Source and
by Level of Gross Farm Income, 1979**

Table A-1

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Newfoundland, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)							
Gross farm income (\$):											
Nil (or no response)	45	44	0	-2,362	40	12,183	5,097	-1,981	2,294	17,593	15,231
1 - 2,499	225	43	933	-1,202	215	10,242	1,572	572	1,792	14,177	12,975
2,500 - 4,999	85	44	3,597	-480	80	7,343	771	774	1,919	10,807	10,327
5,000 - 7,499	55	42	6,156	402	55	3,359	198	1,954	1,820	7,332	7,734
7,500 - 9,999	30	40	8,836	-183	35	4,281	-63	768	2,381	7,366	7,183
10,000 - 12,499	15	46	11,374	721	15	2,061	755	2,563	1,391	6,770	7,490
12,500 - 14,999	25	43	13,709	1,199	20	2,473	786	778	825	4,861	6,061
15,000 - 17,499	10	45	16,022	1,164	10	821	877	138	1,635	3,472	4,635
17,500 - 19,999	10	52	18,823	2,349	10	1,746	98	1,618	1,439	4,902	7,250
20,000 - 22,499	10	51	20,906	2,255	10	12,923	492	1,587	725	15,728	17,983
22,500 - 24,999	10	46	23,899	5,625	10	2,599	645	1,181	870	5,296	10,921
25,000 - 29,999	10	49	27,001	-1,050	10	4,688	1,262	2,670	578	9,199	8,148
30,000 - 34,999	5	42	32,810	5,648	10	458	0	163	1,206	1,828	7,475
35,000 - 39,999	5	43	37,143	7,047	5	2,767	0	184	465	3,415	10,463
40,000 - 44,999	0		0	0	0	0	0	0	0	0	0
45,000 - 49,999	0		0	0	0	0	0	0	0	0	0
50,000 and over	115	45	147,933	8,307	100	1,856	413	873	652	3,793	12,100
Average, all farm tax filers	(680)	44	30,818	1,264	(620)	6,426	1,135	712	1,538	9,811	11,075

SOURCE Statistics Canada data on farm tax filers.

Table A-2

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Prince Edward Island, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)							
Gross farm income (\$):											
Nil (or no response)	110	42	0	-1,719	110	10,873	1,441	2,728	1,851	16,893	15,174
1 - 2,499	470	47	1,254	-1,501	465	7,934	1,696	1,622	1,650	12,902	11,401
2,500 - 4,999	355	47	3,710	-1,114	345	6,184	1,705	966	1,870	10,725	9,610
5,000 - 7,499	270	48	6,214	1	250	4,905	1,694	996	1,287	8,882	8,883
7,500 - 9,999	205	48	8,717	-70	185	5,053	1,116	1,073	1,553	8,796	8,726
10,000 - 12,499	170	48	11,345	184	155	4,771	590	972	1,192	7,524	7,708
12,500 - 14,999	110	50	13,620	346	100	4,463	780	934	1,095	7,272	7,618
15,000 - 17,499	120	48	16,349	557	105	3,467	1,402	1,130	1,046	7,045	7,602
17,500 - 19,999	100	48	18,763	1,659	95	2,511	294	901	1,357	5,063	6,722
20,000 - 22,499	95	47	21,299	2,682	80	2,523	781	740	534	4,578	7,260
22,500 - 24,999	75	49	23,626	2,429	60	2,433	461	1,221	908	5,024	7,452
25,000 - 29,999	165	47	27,429	3,601	140	2,395	650	1,216	799	5,059	8,660
30,000 - 34,999	120	45	32,362	4,571	105	2,785	31	912	1,233	4,961	9,532
35,000 - 39,999	110	43	37,433	4,661	100	2,108	54	1,090	661	3,913	8,574
40,000 - 44,999	90	49	42,494	6,274	75	816	393	801	676	2,686	8,960
45,000 - 49,999	75	43	47,543	6,141	70	1,489	1,227	385	626	3,727	9,867
50,000 and over	915	43	129,158	7,959	780	1,286	232	1,483	786	3,787	11,745
Average, all farm tax filers	(3,555)	46	43,311	2,629	(3,215)	4,006	902	1,250	1,181	7,338	9,967

SOURCE Statistics Canada data on farm tax filers.

Table A-3

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Nova Scotia, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)							
Gross farm income (\$):											
Nil (or no response)	330	44	0	-1,708	330	12,944	2,516	1,682	1,879	19,020	17,312
1 - 2,499	1,635	48	1,069	-1,346	1,620	10,065	1,522	1,316	1,836	14,739	13,393
2,500 - 4,999	690	49	3,632	-1,031	665	7,801	1,154	1,877	1,714	12,547	11,516
5,000 - 7,499	480	50	6,142	-804	465	7,270	1,185	2,021	1,793	12,269	11,465
7,500 - 9,999	280	49	8,667	-11	265	6,749	921	1,245	1,606	10,522	10,511
10,000 - 12,499	210	48	11,056	623	205	6,949	457	1,591	1,613	10,610	11,233
12,500 - 14,999	165	49	13,729	382	155	6,121	286	1,546	1,316	9,269	9,651
15,000 - 17,499	110	48	16,254	838	105	5,505	1,514	1,026	1,552	9,598	10,436
17,500 - 19,999	100	51	18,730	1,890	90	3,907	837	1,652	1,024	7,419	9,309
20,000 - 22,499	80	48	21,282	1,797	75	3,108	1,068	1,914	1,809	7,900	9,697
22,500 - 24,999	65	47	23,716	1,533	65	3,630	2,216	1,891	1,073	8,811	10,343
25,000 - 29,999	125	49	27,293	2,769	120	4,798	475	2,405	1,244	8,922	11,691
30,000 - 34,999	95	48	32,295	3,639	90	2,354	266	1,873	1,237	5,730	9,369
35,000 - 39,999	80	48	37,560	4,605	80	4,437	148	1,498	1,181	7,264	11,869
40,000 - 44,999	90	46	42,373	3,536	90	3,827	453	1,822	1,116	7,220	10,755
45,000 - 49,999	65	48	47,339	7,310	60	579	102	2,129	764	3,574	10,884
50,000 and over	1,015	45	154,768	11,156	960	1,289	279	2,354	925	4,846	16,002
Average, all farm tax filers	(5,640)	48	34,628	1,786	(5,440)	6,821	1,067	1,737	1,534	11,160	12,946

SOURCE Statistics Canada data on farm tax filers.

Table A-4

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, New Brunswick, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)							
Gross farm income (\$):											
Nil (or no response)	250	45	0	-2,283	245	12,217	2,801	1,870	1,994	18,882	16,598
1 - 2,499	1,180	46	1,087	-2,016	1,170	11,771	919	1,082	1,924	15,695	13,679
2,500 - 4,999	585	48	3,598	-1,671	580	9,643	868	1,442	1,590	13,561	11,890
5,000 - 7,499	295	50	6,115	-578	285	7,270	468	1,923	1,749	11,411	10,832
7,500 - 9,999	230	49	8,686	-495	210	6,532	1,040	1,450	1,221	10,244	9,749
10,000 - 12,499	175	49	11,224	-97	165	5,941	511	1,589	1,353	9,394	9,297
12,500 - 14,999	125	50	13,668	532	125	4,084	370	1,730	1,165	7,349	7,881
15,000 - 17,499	90	51	16,263	1,178	85	4,074	513	1,452	1,119	7,158	8,336
17,500 - 19,999	115	48	18,646	2,015	110	2,796	521	687	1,067	5,070	7,085
20,000 - 22,499	70	46	21,322	2,368	65	3,349	2,155	1,017	1,135	7,656	10,024
22,500 - 24,999	65	48	23,695	1,084	60	3,185	575	1,517	2,102	7,379	8,463
25,000 - 29,999	135	45	27,379	1,971	125	2,343	504	1,231	787	4,864	6,835
30,000 - 34,999	105	48	32,349	3,326	85	1,532	760	3,288	742	6,323	9,649
35,000 - 39,999	90	49	37,663	3,455	85	1,332	375	1,464	1,701	4,872	8,327
40,000 - 44,999	85	46	42,146	3,047	75	1,332	-478	859	831	2,543	5,590
45,000 - 49,999	75	45	47,281	4,844	75	2,924	43	1,456	756	5,180	10,023
50,000 and over	805	45	115,102	6,689	720	1,183	262	1,612	908	3,964	10,653
Average, all farm tax filers	(4,485)	47	28,499	748	(4,255)	6,878	775	1,449	1,455	10,557	11,305

SOURCE Statistics Canada data on farm tax filers.

Table A-5

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Quebec, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)							
Gross farm income (\$):											
Nil (or no response)	2,120	46	0	2,937	2,075	9,747	2,314	2,911	1,204	16,175	19,112
1 - 2,499	6,390	48	1,230	-2,799	6,345	12,875	2,179	1,986	1,642	18,682	15,883
2,500 - 4,999	3,650	48	3,631	-1,203	3,585	10,324	1,696	2,045	1,607	15,672	14,469
5,000 - 7,499	2,370	49	6,182	-590	2,305	7,931	1,406	1,968	1,669	12,973	12,383
7,500 - 9,999	1,705	49	8,701	474	1,640	7,608	1,264	2,293	1,269	12,433	12,907
10,000 - 12,499	1,470	49	11,217	1,311	1,415	5,687	688	1,816	1,356	9,546	10,857
12,500 - 14,999	1,275	49	13,724	2,056	1,205	5,197	733	1,969	1,202	9,102	11,157
15,000 - 17,499	1,290	49	16,243	2,980	1,235	3,942	717	1,841	1,173	7,672	10,652
17,500 - 19,999	1,205	48	18,736	3,244	1,145	3,982	466	1,827	1,056	7,331	10,576
20,000 - 22,499	1,225	48	21,269	3,973	1,160	2,873	594	1,545	1,034	6,045	10,018
22,500 - 24,999	1,150	47	23,725	4,791	1,105	2,574	413	1,213	806	5,006	9,797
25,000 - 29,999	2,150	47	27,475	5,504	2,045	1,960	371	1,409	845	4,585	10,090
30,000 - 34,999	2,035	45	32,490	6,441	1,930	2,016	297	2,152	724	5,189	11,630
35,000 - 39,999	1,930	45	37,480	7,111	1,825	1,203	497	1,061	778	3,539	10,651
40,000 - 44,999	1,810	44	42,475	7,607	1,710	1,374	201	1,166	707	3,447	11,053
45,000 - 49,999	1,525	44	47,364	8,398	1,455	944	280	1,173	903	3,300	11,698
50,000 and over	11,285	42	102,248	10,976	10,585	998	243	1,433	785	3,458	14,434
Average, all farm tax filers	(44,600)	46	37,723	4,377	(42,755)	5,148	920	1,737	1,118	8,924	13,301

SOURCE Statistics Canada data on farm tax filers.

Table A-6

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Ontario, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)							
Gross farm income (\$):											
Nil (or no response)	3,950	45	0	-2,048	3,890	15,406	2,223	3,647	1,775	23,051	21,003
1 - 2,499	16,850	50	1,148	-1,632	16,655	11,831	1,412	2,647	1,788	17,679	16,047
2,500 - 4,999	11,635	49	3,728	-1,417	11,345	10,850	1,361	2,433	1,590	16,234	14,817
5,000 - 7,499	8,175	49	6,166	-1,151	7,905	9,790	1,259	2,604	1,526	15,179	14,028
7,500 - 9,999	6,100	49	8,691	-607	5,840	9,461	1,106	3,128	1,438	15,133	14,526
10,000 - 12,499	4,705	49	11,205	-98	4,500	8,482	1,315	2,966	1,459	14,222	14,124
12,500 - 14,999	3,825	50	13,717	388	3,645	7,411	1,011	2,696	1,295	12,413	12,802
15,000 - 17,499	3,325	49	16,224	881	3,155	7,127	991	2,974	1,344	12,435	13,316
17,500 - 19,999	2,890	50	18,721	1,080	2,715	7,211	903	2,884	1,233	12,231	13,311
20,000 - 22,499	2,500	49	21,207	1,671	2,340	6,410	753	2,698	1,288	11,149	12,820
22,500 - 24,999	2,240	49	23,701	2,135	2,085	5,780	822	2,966	1,029	10,597	12,732
25,000 - 29,999	3,970	49	27,425	2,391	3,715	5,511	652	2,375	1,069	9,607	11,998
30,000 - 34,999	3,540	48	32,490	3,520	3,275	4,495	741	2,416	1,087	8,738	12,258
35,000 - 39,999	3,035	48	37,437	4,176	2,780	3,511	534	2,576	933	7,554	11,730
40,000 - 44,999	2,830	47	42,493	4,582	2,565	3,499	461	2,565	948	7,473	12,055
45,000 - 49,999	2,635	47	47,469	5,588	2,340	2,986	466	2,054	765	6,271	11,859
50,000 and over	34,325	44	136,612	8,547	30,460	1,805	346	2,223	727	5,100	13,648
Average, all farm tax filers	(116,550)	48	49,406	2,631	(109,190)	6,815	913	2,560	1,226	11,513	14,144

SOURCE Statistics Canada data on farm tax filers.

Table A-7

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Manitoba, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income		Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)				(Dollars)	(Dollars)			
Gross farm income (\$):												
Nil (or no response)	2,410	38	0	2,474	2,005	5,643	881	811	772	8,108	10,582	
1 - 2,499	5,685	49	1,137	-1,173	5,525	8,872	758	1,832	1,551	13,012	11,839	
2,500 - 4,999	3,915	49	3,726	-56	3,650	6,869	585	1,709	1,435	10,598	10,542	
5,000 - 7,499	3,025	49	6,210	833	2,830	6,153	547	1,736	1,317	9,754	10,587	
7,500 - 9,999	2,330	49	8,641	1,453	2,185	5,111	344	1,737	1,341	8,532	9,985	
10,000 - 12,499	1,870	49	11,207	1,598	1,745	4,939	508	1,898	1,231	8,576	10,173	
12,500 - 14,999	1,615	49	13,730	2,251	1,460	4,200	431	2,066	1,229	7,926	10,177	
15,000 - 17,499	1,445	49	16,217	2,795	1,330	3,698	504	1,936	1,110	7,249	10,043	
17,500 - 19,999	1,345	48	18,777	3,421	1,235	3,270	98	1,815	971	6,153	9,574	
20,000 - 22,499	1,140	48	21,206	3,813	1,040	2,957	381	2,034	1,003	6,375	10,188	
22,500 - 24,999	1,145	48	23,766	4,484	1,040	2,505	236	1,953	918	5,612	10,095	
25,000 - 29,999	2,015	48	27,464	4,778	1,840	2,329	306	1,887	909	5,431	10,209	
30,000 - 34,999	1,730	47	32,428	5,270	1,585	2,012	566	1,502	793	4,874	10,143	
35,000 - 39,999	1,445	47	37,475	6,193	1,330	1,671	191	1,634	917	4,414	10,607	
40,000 - 44,999	1,355	45	42,486	6,529	1,240	1,776	346	1,428	741	4,292	10,821	
45,000 - 49,999	1,180	45	47,453	7,268	1,080	1,151	318	1,516	711	3,697	10,965	
50,000 and over	9,780	44	112,394	10,634	9,020	1,087	261	1,558	851	3,757	14,391	
Average, all farm tax filers	(43,445)	47	36,411	4,118	(40,135)	4,108	453	1,675	1,093	7,330	11,447	

SOURCE Statistics Canada data on farm tax filers.

Table A-8

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Saskatchewan, 1979

	Number of farm tax filers	Average age	Gross farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income		Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)				(Dollars)	(Dollars)			
Gross farm income (\$):												
Nil (or no response)	1,450	42	0	-796	1,045	10,549	1,470	2,005	1,407	15,431	14,635	
1 - 2,499	7,835	48	1,214	-319	7,620	7,634	811	2,167	1,707	12,318	11,999	
2,500 - 4,999	6,885	49	3,714	701	6,640	6,689	754	2,096	1,581	11,120	11,821	
5,000 - 7,499	5,700	50	6,202	1,751	5,390	5,692	561	2,157	1,492	9,901	11,653	
7,500 - 9,999	4,940	50	8,691	2,515	4,645	5,206	502	2,326	1,475	9,510	12,025	
10,000 - 12,499	4,305	50	11,211	3,365	4,025	4,635	575	2,185	1,460	8,855	12,220	
12,500 - 14,999	4,085	50	13,723	4,066	3,795	4,052	604	2,269	1,385	8,309	12,375	
15,000 - 17,499	3,715	50	16,229	4,714	3,440	3,732	341	2,328	1,295	7,696	12,410	
17,500 - 19,999	3,335	49	18,731	5,259	3,075	3,453	483	2,150	1,277	7,363	12,622	
20,000 - 22,499	3,190	49	21,220	5,997	2,910	3,162	385	2,092	1,245	6,883	12,880	
22,500 - 24,999	3,000	48	23,744	7,071	2,765	2,527	258	2,138	1,110	6,034	13,104	
25,000 - 29,999	5,575	48	27,432	7,630	5,150	2,375	405	2,116	1,081	5,976	13,606	
30,000 - 34,999	5,170	48	32,466	9,220	4,785	1,790	323	2,235	1,030	5,379	14,599	
35,000 - 39,999	4,535	47	37,454	10,337	4,190	1,489	371	2,104	912	4,875	15,212	
40,000 - 44,999	3,985	47	42,459	11,737	3,705	1,320	231	2,157	979	4,688	16,425	
45,000 - 49,999	3,625	46	47,436	12,980	3,410	1,025	253	2,275	858	4,411	17,391	
50,000 and over	22,160	45	112,196	17,686	20,870	894	209	2,394	866	4,363	22,049	
Average, all farm tax filers	(93,490)	48	40,618	8,053	(87,815)	3,390	441	2,230	1,199	7,260	15,313	

SOURCE Statistics Canada data on farm tax filers.

Table A-9

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Alberta, 1979

	Number of farm tax filers	Average age	Gross farm income		Net farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)	(Dollars)	(Dollars)							
Gross farm income (\$):													
Nil (or no response)	3,645	41	0	-2,805	3,610	17,360	1,462	3,058	1,844	23,724	20,918		
1 - 2,499	12,920	46	1,176	-1,872	12,730	13,415	1,255	2,411	1,516	18,597	16,725		
2,500 - 4,999	8,780	47	3,657	-1,202	8,535	11,253	1,069	2,471	1,468	16,260	15,059		
5,000 - 7,499	6,240	48	6,185	-383	6,000	10,359	637	2,685	1,523	15,205	14,822		
7,500 - 9,999	4,615	49	8,695	193	4,415	8,646	834	2,741	1,470	13,691	13,884		
10,000 - 12,499	3,965	48	11,201	310	3,740	8,358	782	2,962	1,277	13,379	13,689		
12,500 - 14,999	3,330	48	13,703	1,062	3,135	7,437	899	2,503	1,366	12,205	13,267		
15,000 - 17,499	2,875	48	16,199	1,653	2,695	7,070	633	3,120	1,326	12,149	13,802		
17,500 - 19,999	2,760	48	18,687	2,452	2,595	6,308	611	2,899	1,409	11,228	13,680		
20,000 - 22,499	2,240	48	21,228	2,793	2,075	5,963	562	2,791	1,153	10,470	13,263		
22,500 - 24,999	2,005	48	23,752	3,929	1,860	5,297	761	2,754	1,262	10,074	14,003		
25,000 - 29,999	3,740	48	27,436	4,128	3,470	4,527	646	2,465	1,070	8,708	12,836		
30,000 - 34,999	3,200	47	32,498	5,272	2,950	4,317	650	2,228	1,060	8,256	13,528		
35,000 - 39,999	2,835	48	37,421	6,199	2,620	3,559	746	2,545	950	7,800	13,999		
40,000 - 44,999	2,460	47	42,485	6,847	2,255	3,174	206	2,437	990	6,808	13,654		
45,000 - 49,999	2,260	47	47,423	8,329	2,075	2,460	540	2,211	919	6,130	14,459		
50,000 and over	20,595	45	196,936	12,720	19,050	2,166	70	3,007	983	6,175	18,896		
Average, all farm tax filers	(88,480)	46	56,398	3,747	(83,805)	7,430	689	2,698	1,275	12,092	15,839		

SOURCE Statistics Canada data on farm tax filers.

Table A-10

Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, British Columbia, 1979

	Number of farm tax filers	Average age	Gross farm income		Net farm income		Number of farm tax filers reporting off-farm income	Wages and salaries	Business income	Rental and investment income	Other income	Total off-farm income	Total income
			(Dollars)	(Dollars)	(Dollars)	(Dollars)							
Gross farm income (\$):													
Nil (or no response)	1,885	43	0	-3,267	1,870	15,956	4,656	2,277	1,773	24,662	21,395		
1 - 2,499	6,525	47	1,204	-2,275	6,475	14,269	1,808	2,596	1,669	20,342	18,067		
2,500 - 4,999	3,670	48	3,595	-2,622	3,620	12,704	1,689	2,579	1,597	18,568	15,946		
5,000 - 7,499	2,035	49	6,122	-1,636	1,985	12,090	1,684	3,333	1,603	18,710	17,074		
7,500 - 9,999	1,435	48	8,691	-1,323	1,400	10,496	1,528	2,987	1,671	16,683	15,359		
10,000 - 12,499	1,130	49	11,194	-943	1,100	10,316	1,441	3,107	1,562	16,425	15,482		
12,500 - 14,999	815	49	13,723	-389	785	9,041	1,685	2,616	1,484	14,827	14,437		
15,000 - 17,499	685	49	16,178	469	655	7,764	1,962	3,188	1,946	14,859	13,327		
17,500 - 19,999	590	48	18,698	372	565	8,176	1,690	2,656	1,374	13,897	14,269		
20,000 - 22,499	500	48	21,327	1,107	475	6,997	1,241	2,159	1,351	11,747	12,854		
22,500 - 24,999	440	47	23,744	1,559	430	6,238	1,738	3,759	1,179	12,914	14,473		
25,000 - 29,999	675	47	27,367	2,342	640	5,954	1,478	3,341	1,307	12,080	14,422		
30,000 - 34,999	570	47	32,434	3,394	535	5,337	863	3,094	1,046	10,340	13,733		
35,000 - 39,999	455	47	37,428	4,078	425	5,528	868	2,875	977	10,248	14,325		
40,000 - 44,999	385	47	42,292	5,398	365	4,720	1,199	2,503	1,333	9,755	15,153		
45,000 - 49,999	375	46	47,408	5,249	350	4,577	766	3,741	1,011	10,094	15,343		
50,000 and over	4,080	46	146,163	10,495	3,805	3,765	278	3,197	1,096	8,336	18,831		
Average, all farm tax filers	(26,260)	47	30,363	639	(25,475)	10,413	1,634	2,843	1,499	16,389	17,028		

SOURCE Statistics Canada data on farm tax filers.

Notes

CHAPTER 1

- 1 This is due to the small proportion of the value of many processed food items that is made up of raw farm products, to the greater use of constant retail-value markups than percentage-value markups, and to the relatively large additional fixed (buildings) and semi-fixed (labour) costs involved in food retailing.

CHAPTER 2

- 1 Although gross sales are not as good a measure of economic size as value added and could be misleading for a farm buying and selling a lot of products, studies in the United States indicate a strong relationship, on average, between gross sales and value added. Data on value added by different farms are not readily available for Canada.
- 2 Because the gross sales in the categories in Table 2-1 are not changed each year to account for inflation, some of the decline in the numbers of farmers in low gross sales categories and the increase of those in the higher gross sales categories may be due to increases in agricultural product prices rather than greater physical production. Furthermore, the farm tax filer data used in Table 2-1 consider each partner in a formal partnership an individual tax filer. Although each partner reports only his share of income from the farm as his personal net farm income, the income figures are included in the gross farm sales category, based on the total sales of the farm rather than on a share of total sales for each partner. Consequently, in addition to inflation, some of the large increases in 1978 and 1979 in the numbers of farm tax filers operating farms with gross sales of \$50,000 and over may be the result of more partners in larger farm operations than before, rather than increased farm size. Nevertheless, large farms have been increasing in size and numbers, and small farms have been decreasing in numbers, even after accounting for inflation and partnerships. These changes are not as pronounced as Table 2-1 might indicate, however. Because of the effect of inflation on gross sales, care should be taken in comparing the number of farmers in each gross sales category over long periods of time.
- 3 The income figures in Table 2-1 report net farm income for taxation purposes only; this income is referred to in this study as "farm net operating income." This measure of income essentially represents receipts

minus operating expenses and depreciation, and it excludes income in kind derived from net house rent and most food produced and consumed on the farm (even though the expenses generally have been used as expense deductions from income), as well as capital appreciation. For a more complete discussion of how this measure of income is calculated, see the subsection on Farm Net Operating Income and Income in Kind.

- 4 Although total family income from all family members is the most appropriate measure of poverty, total operating income per farm tax filer is often a good measure of total family income for limited-resource farmers because many of the spouses and other family members of these farmers earn little or no additional income.

CHAPTER 3

- 1 For a more complete discussion of the tax treatment afforded farm houses, see the subsection on taxation benefits.
- 2 Although both the income and the operating expense components of imputed net house rent have been excluded from net income in the revised aggregate farm income series, farmers have still received substantial benefits in excess of their expenses in recent years when current annual house rental values are considered.
- 3 The relative sizes (percentages) of the low-income cutoffs for cities of different sizes are as follows: 500,000 population or more (110 per cent), 100,000 – 499,999 (103 per cent), 30,000 – 99,999 (100 per cent), 1,000 – 29,999 (92 per cent), and rural farm and nonfarm (80 per cent).
- 4 The low-income cutoffs for rural (farm and nonfarm) families of different sizes in 1979 are as follows: one member (\$3,841), two (\$5,574), three (\$7,111), four (\$8,454), five (\$9,454), six (\$10,375), and seven or more members (\$11,376).
- 5 It is impossible to identify the precise reasons for the large decline in the number of low-income farmers. Most likely, the reduction resulted from a combination of factors, including: a/ improved farm incomes among low-income farmers; b/ increased nonfarm earnings; c/ a shift in the majority share of hours worked in nonfarm occupations, resulting in low-income farmers

being reclassified under another occupation; d/ the number of low-income farmers selling their farms in periods of high land prices and leaving agriculture; and e/ the natural death rate of older farmers, many of whom had low incomes.

- 6 The "maintenance-state with unreceptive attitudes" subgroup and the "traditional farmers" subgroup represented 39 and 20 per cent, respectively, of the limited-resource farmers surveyed in the follow-up study. This study surveyed only the limited-resource farmers under age 65 who intended to stay in agriculture.
- 7 Derived from the Statistics Canada value of land and buildings series, which values only land and buildings currently used in agriculture. Since there has been a net transfer of land out of agriculture, which is deducted annually from the total capital value even though it typically appreciated while in agriculture, these figures likely underestimate the value of capital appreciation in agriculture.
- 8 The precise percentage of farmland owned by farmers is not known, but it is estimated informally by officials of Agriculture Canada at about 90 to 94 per cent.
- 9 The capital appreciation on farms comprising the 6 to 10 per cent of farmland not owned by farmers would not be considered as returns received by farmers.
- 10 In some cases (British Columbia), banks may lend a higher percentage of the farm cost for farms producing supply-managed commodities than for other farms, but lending agencies typically do not accept quotas as collateral.
- 11 At a discount rate of 10 per cent the value in current dollars (net present value) of a \$100,000 tax, deferred for 30 years, is only \$5,730 (5.73 per cent); i.e. \$5,730 put in the bank at 10 per cent interest for 30 years would be worth \$100,000. At a 12 per cent discount rate, the present value is only \$3,340 (3.34 per cent).
- 12 The ability to pay wages to a spouse for work on a farm or in another small business and to claim these wages as a deductible expense was introduced by the federal government for the 1980 taxation year.
- 13 In some cases the farmer may be able to depreciate up to one-fourth of his house (the "farm-use maximum") and still keep it as a personal residence for taxation purposes.
- 14 Rough estimate derived from unpublished Statistics Canada data.
- 15 At the rates of appreciation experienced in the 1970s, it would require only about sixteen years for a \$50,000 farm to appreciate to over \$400,000.
- 16 This rate is considerably below current rates but consistent with interest over the last decade.
- 17 Current net house rental values would be closer to between \$3,000 and \$4,000.
- 18 Benefits to commercial farmers over nonfarm businessmen are estimated to be \$177 from cash accounting (CA), \$543 from tax deferrals on capital gains in parent-to-child farm transfers (FT), \$300 from the 50 per cent exemption on capital gains subject to tax

(CG), \$1,000 from income in kind (IK), \$0 from special business deductions (BD), \$500 from property tax reductions/rebates (PTR), and \$244 from succession duties (SD). The totals with and without SD equal \$2,520 and \$2,764, respectively.

Benefits to small farmers over nonfarm businessmen are estimated to be \$100, CA; \$400, FT; \$100, CG; \$900, IK; -\$100, BD; \$300, PTR; and \$180, SD. The totals with and without SD equal \$1,700 and \$1,880, respectively.

Benefits to commercial farmers over wage-earning and salaried employees are estimated to be \$177, CA; \$543, FT; \$700, CG; \$1,100, IK; \$500, BD; \$500, PTR; and \$244, SD. Totals with and without SD equal \$3,520 and \$3,764, respectively.

Benefits to small farmers over wage-earning and salaried employees are estimated to be \$100, CA; \$400, FT; \$500, CG; \$1,000, IK; \$400, BD; \$300, PTR; and \$180, SD. Totals with and without SD equal \$2,700 and \$2,880, respectively.

The difference in tax benefits between commercial and smaller-scale farmers is less than the difference in income because many of the taxation benefits are directed towards assets. Commercial farmers have a much higher ratio of income to assets than limited-resource or hobby farmers.

- 19 It should be noted, however, that a significant number of serious farmers in the limited-resource category would have little cash income if they did not have any of these taxation advantages.
- 20 Gini ratios measure the degree of concentration or "inequality" of income within a population on a 0.0 to 1.0 basis. The closer the ratio is to 1.0, the greater the degree of inequality (most of the income earned by only a few individuals).

CHAPTER 4

- 1 On the mailed questionnaire, individual farmers reported as many as 5,460 hours per year. This represents the equivalent of working from 6 a.m. to 11 p.m. every day of the year, allowing two hours for meals, but not allowing any time for days off, church, sickness, shopping, visiting with friends, vacations, or even days when work was restricted by weather conditions.
- 2 Average Ontario manufacturing wages during 1975-79 were 65 per cent higher than during 1971-74, but rates of capital appreciation for wage earners would still be far below capital appreciation in agriculture.

CHAPTER 5

- 1 Calculations for the annual variability in the per farm share of aggregate net farm income were made by first dividing the aggregate net farm income by the number of census farm operators to obtain average annual net farm income per farm. The standard deviation over ten years was then calculated and divided by the 10-year average income per farm to obtain the coefficient of

variation. In contrast, coefficients of variation for individual farmers were calculated by first selecting farm tax filers who reported net farm income continuously for the 10-year period. The standard deviation of net farm income over the 10-year period was calculated for each farm tax filer and then averaged for all farm tax filers studied. Finally the average standard deviation was then divided by the average net farm income over the 10-year period of all farm tax filers studied, to obtain the coefficient of variation.

- 2 These programs also provided income support by serving as stop-loss assistance. In order to become more responsive to price changes, the Agricultural Stabilization Act was amended in 1975 to change the support price from one based on 80 per cent of a 10-year moving price average to one based on 90 per

cent of a 5-year moving price average, indexed to changes in variable cash costs.

CHAPTER 7

- 1 The data in this study may help to provide some of the required answers, but additional information and measurements will likely be needed. More extensive information on relative rates of return across provinces is critically absent. Statistical data on farm size should also be provided for much larger farm-size breakdowns than "\$50,000 and over," as the commercial farmer of the 1980s could easily be producing a minimum of \$100,000 in gross sales if current inflation rates continue.

List of Tables and Figures

Tables

2-1	Average Net Income of Farm Tax Filers, by Size of Farm (Gross Sales), Canada, 1971-79	5
2-2	Distribution of Farm Tax Filers, by Type of Farmer and Gross Farm Sales, Canada, 1976	7
2-3	Distribution of Farms, Acreage, and Value of Land and Buildings, by Size of Farm (Gross Sales) and Type of Farm Business Organization, Canada, 1976	8
3-1	Value of Income in Kind and Aggregate Net Farm Income, Canada, 1960-79	12
3-2	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Canada, 1979	13
3-3	Average Net Income per Farm Tax Filer, by Source, Canada by Province, 1979	14
3-4	Farm Income as a Proportion of Total Net Income of Farm Tax Filers from All Sources, Canada by Region or Province, 1958, 1971, 1974, and 1979	15
3-5	Average Net Income from All Sources of Farm Families and Unattached Individuals Compared with That of All Tax Filers, Canada, 1965-76	15
3-6	Average Net Income from All Sources of Individual Farmers Compared with That of All Individuals, Canada, 1965-76	16
3-7	Income of Farm Families and Unattached Individuals as a Proportion of the Income of All Families and Unattached Individuals, Canada, 1965-76	16
3-8	Income of Individual Farmers as a Proportion of the Income of All Individuals, Canada, 1965-76	17
3-9	Farm Tax Filers with or without Adequate Income, by Province, 1974	18
3-10	Incidence of Low-Income Families and Unattached Individuals in Farming and Throughout the Total Population, Canada, 1973-78	19
3-11	Index of the Value of Farm Lands and Buildings per Acre, Canada by Province, 1971-79	20
3-12	Average Per-Acre Value of Farm Lands and Buildings, Canada by Province, as of July 1, 1971-79	21

3-13	Aggregate Net Farm Income, Annual Nominal and Real Capital Appreciation on Land and Buildings, and Comparison between Real Capital Appreciation and Real First-Year Interest on Canada Savings Bonds, 1960-79	21
3-14	Aggregate Real Net Farm Income and Real Capital Appreciation on Land and Buildings (in Constant 1960 Dollars), Canada, 1960-79	23
3-15	Average Capital Appreciation on Farm Land and Buildings per Farm and per Farm Tax Filer Equivalent, by Size of Farm (Gross Sales), Canada, 1976	24
3-16	Average Total Returns from All Sources per Farm Tax Filer and per Farm, by Source and Size of Farm (Gross Sales), with Capital Appreciation Measured in Annual Nominal Terms, Canada, 1976	25
3-17	Average Total Returns from All Sources per Farm Tax Filer and per Farm, by Source and Size of Farm (Gross Sales), with Capital Appreciation Measured in Annual Real Terms, Canada, 1976	25
3-18	Some Approximate Estimates of the Absolute and Proportionate Importance of the Five Main Components of Farm Family Real Income: Average per Farm, Canada, 1971	26
3-19	Per-Unit Quota Values, Canada, Mid-1978	27
3-20	Production of Major Agricultural Products under Supply Management, Canada, 1978-79	27
3-21	Aggregate Quota Value, Canada, Mid-1978	28
3-22	Major Taxation Advantages Available to Farmers	29
3-23	Comparison of Farm and Urban Income, Canada, 1970	33
3-24	Provincial Ratios of Farm to Urban Income, Canada, 1970	34
3-25	Distribution of Family Units and Total Income, by Sector and Income Class, and Gini Ratios and Quintiles, by Sector, Canada, 1973	35
4-1	Summary of Sample Data from CANFARM Records, 1971-74	37
4-2	Summary of Sample Data from Mail Survey, 1974	38
4-3	Average Farm and Potential Nonfarm Returns and Returns Ratios for Resources in Commercial Agriculture, Ontario, 1971-74	39
4-4	Ratio of Farm to Potential Nonfarm Returns for Commercial Farms, by Farm Size, Farm Type, and Region, Ontario, 1971-74	40
4-5	Variability in Returns Ratios, by Farm Size, Farm Type, and Region, Ontario, 1971-74	41
4-6	Sensitivity of Overall Returns Ratios to Adjustments for Hours of Work, Expected Short-Term Nonfarm Earnings for Labour, and Income in Kind, Ontario, 1971-74	42
4-7	Ratio of Farm to Nonfarm Returns, by Farm Size, United States, 1966	44
5-1	Variability in Average Net Income from Farming Operations per Farm, Canada by Province, 1967-76	46
5-2	Comparisons over the 1967-76 Period of Instability in the Yearly Average Per-Farm Share of Aggregate Net Farm Income and the Average Instability in the Net Farm Income of Individual Farm Tax Filers, Canada by Province, 1967-76	47

5-3	Average Standard Deviation of the Incomes of Individual Self-Employed Farm or Business Tax Filers, Canada by Province, 1967-76	48
5-4	Coefficients of Variation of the Incomes of Individual Self-Employed Farm or Business Tax Filers, Canada by Province, 1967-76	48
5-5	Average Yearly Returns Ratios under the Self-Employment Standard, by Farm Size and Type, and by Region, Ontario, 1971-74	49
6-1	Net Expenditures by Federal Government for Specific Policy/Programs, Canada, 1965/66 and 1970/71 to 1978/79	51
6-2	Aggregate Net Farm Income, Direct Government Payments through Commodity Programs, Federal Income and Marketing Subsidies, and Payments and Subsidies as a Proportion of Aggregate Net Farm Income, Canada, 1965 and 1970-78	54
A-1	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Newfoundland, 1979	65
A-2	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Prince Edward Island, 1979	65
A-3	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Nova Scotia, 1979	66
A-4	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, New Brunswick, 1979	66
A-5	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Quebec, 1979	67
A-6	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Ontario, 1979	67
A-7	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Manitoba, 1979	68
A-8	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Saskatchewan, 1979	68
A-9	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, Alberta, 1979	69
A-10	Average Net Income of Farm Tax Filers, by Source and by Level of Gross Farm Income, British Columbia, 1979	69

Figures

1-1	The Interface between Farm Welfare and Resource Returns	1
3-1	Net Farm Income and Value of Income in Kind, Canada, 1960-79	13
3-2	Aggregate Real Net Farm Income and Real Capital Appreciation on Farm Land and Buildings, Canada, 1960-79	23
5-1	Annual Aggregate Net Farm Income, and Nominal and Real Current Dollar Capital Appreciation on Farm Land and Buildings, Canada, 1960-79	45
5-2	Net Income of Unincorporated Nonfarm Businesses, Wage Rate in Manufacturing Industries, and Net Farm Income, Canada, 1961-79	45
5-3	Variation in Farm Cash Receipts from the Sale of Farm Products, by Major Commodity Grouping, Canada, 1966-76	50

6-1 Net Farm Income, Direct Government Payments through
Commodity Programs, and Federal Input and Marketing
Subsidies, Canada, 1970-78

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