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Are Canada's Large Farms Really Different?

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by David Sparling and Pamela Laughland, University of Guelph and Verna Mitura, Statistics Canada

Agriculture Division
12-A2, Jean Talon Building
Ottawa, Ontario
K1A 0T6

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Editors: Verna Mitura and Bishnu Saha

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Internet: agriculture@statcan.ca
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Symbols

The following standard symbols are used in this Statistics Canada publication:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0** true zero or a value rounded to zero
- 0^s** value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- P** preliminary
- r** revised
- x** suppressed to meet the confidentiality requirements of the [Statistics Act](#)
- E** use with caution
- F** too unreliable to be published

Overview

Canadian farms are growing and becoming more productive. That trend has been going on for more than a century and the inevitable result that Canada will continue to need fewer farmers creates widespread angst. Many lament the loss of Canada's small farms and look for ways to save them, but few pay attention to the trends among Canada's largest farms. The largest farms, with annual revenue over \$500,000, now account for the majority of agricultural production in the country, invest more in their businesses and are growing in numbers. They also continue to be controlled predominantly by farming families. Large farms are the future of most commercial farming in Canada and it is important to understand how they are changing over time.

Analyses in the past have often grouped all farms with annual revenue over \$500,000 into a single category, termed very large farms. However, the reality today is that many Canadian farm families would view \$500,000 as relatively modest revenue; they measure it in millions. To better understand this group, Canadian farms with revenue of \$500,000 and over have been further subdivided, as illustrated in Table 1.

Table 1 Number of Canadian farms by revenue class (2005 dollars), 1996 to 2006

Revenue class (dollars)	Farms			Change
	2006	2001	1996	1996 to 2006
	number			percentage
10,000 to 99,999	100,284	111,646	128,590	-22.0
100,000 to 249,999	39,971	46,280	50,733	-21.2
250,000 to 499,999	22,837	21,331	17,977	27.0
500,000 to 999,999	10,241	8,461	5,904	73.5
1,000,000 to 2,499,999	4,259	3,287	2,174	95.9
2,500,000 and over	1,643	1,166	676	143.0
Total	179,235	192,171	206,054	-13.0

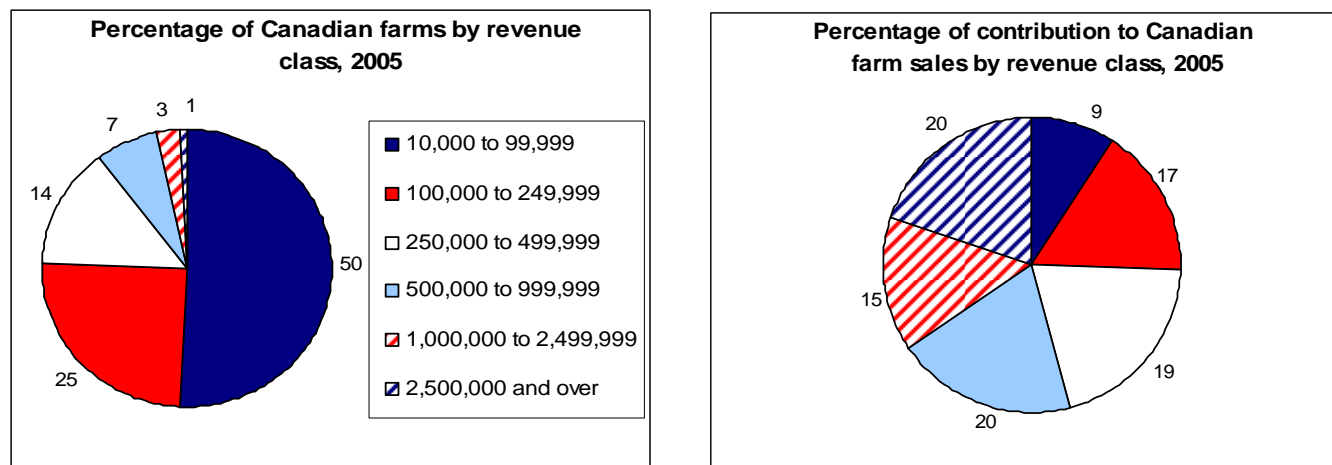
Note: The totals exclude farms with revenue of less than \$10,000.
 Source: Statistics Canada, Census of Agriculture, 1996, 2001, 2006.

A look at the farm numbers in Table 1 reveals just how rapidly the structure of Canada’s agricultural industry is changing. In ten years, the number of farms with annual revenue of \$2.5 million and over grew by 143%. The next category, at least \$1 million but less than \$2.5 million grew by almost 96%. In fact, the farm population in every sales class exceeding \$250,000 grew between 1996 and 2001, and continued to do so from 2001 to 2006. The number of farms with annual revenue below \$250,000 dropped by nearly 22% over the entire period as small farmers quit, sold or grew to a larger size. The trend to scale is undeniable, but is it justified financially?

Large farms are becoming a major economic force

While smaller farms dominate in numbers, large farms carry the economic clout in both revenue and profits. Farms with annual revenue of \$500,000 and over made up just 11% of all Canadian farms in 2005 but accounted for 55% of revenue as illustrated in Figure 1.

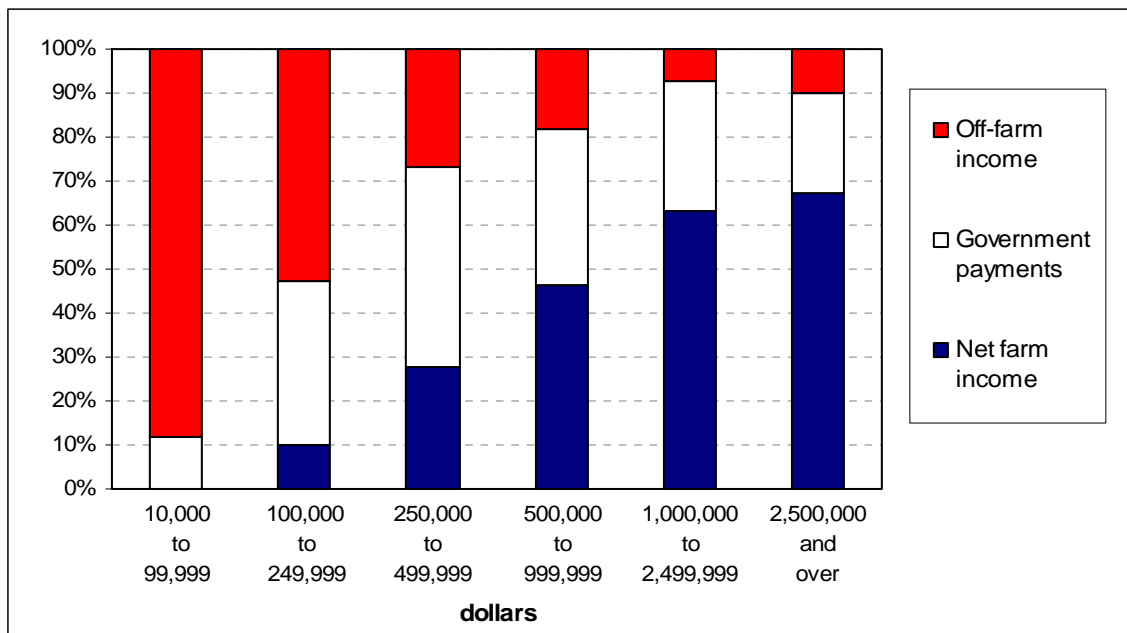
Figure 1 Canadian farms and sales by revenue class, 2005



Source: Statistics Canada, Farm Financial Survey, 2006.

The economic impact of size is undeniable and the cutoff for potential economic viability seems to be around \$250,000. Below that, the majority of farm family income came from off-farm sources. For farms with revenue of \$250,000 and over, on-farm income and government payments were the major earning sources for the farm families (Figure 2). Above \$499,999 in annual revenue, net farm income became the largest contributor to family income.

Figure 2 Income sources for Canadian farms, 2005



Note: Net farm income excludes government payments.
 Source: Statistics Canada, Farm Financial Survey, 2006.

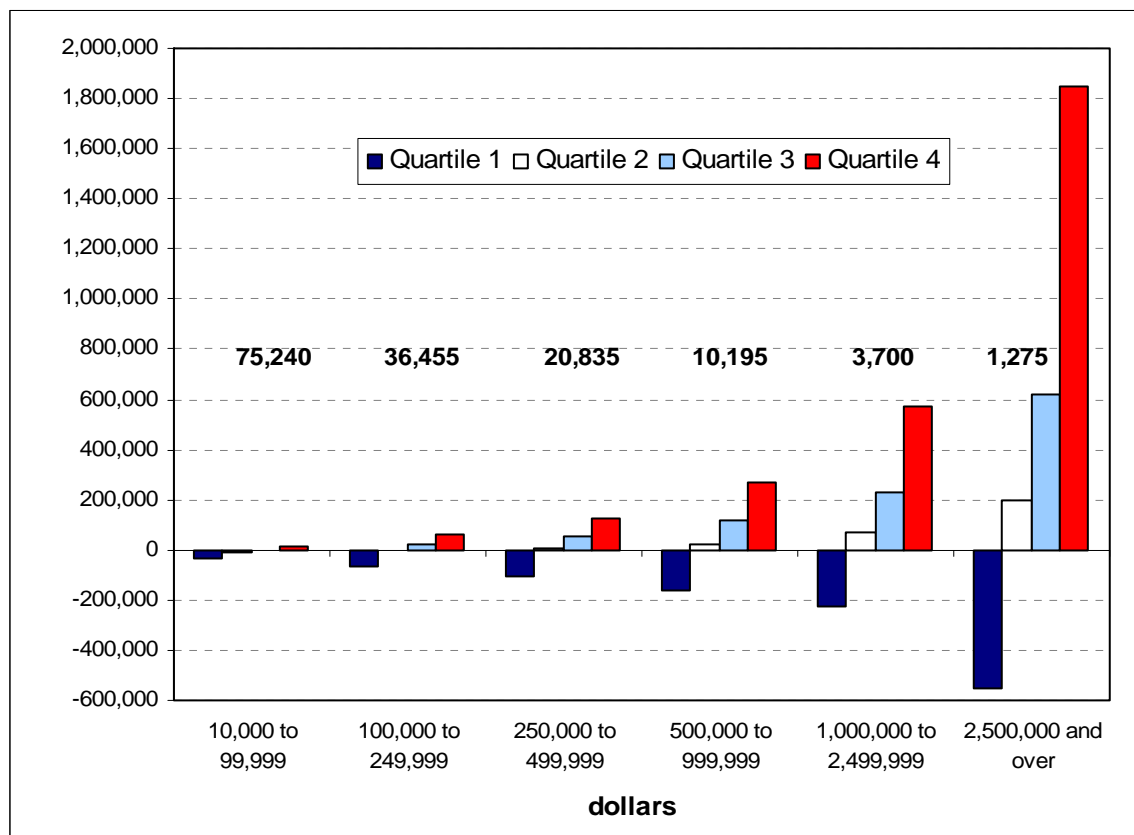
Note that the share of income from government payments does not fall dramatically with size, especially for farms with revenues up to \$2,499,999. However, it declines for each successive revenue class above \$499,999. Farms in the \$100,000-\$249,999 revenue class obtained about 38% of their income from government programs, but government support still contributed 30% for farms in the \$1,000,000 to \$2,499,999 class in 2005.

The greatest proportion of government payments went to large farms because of their sales volumes although smaller farms received a greater percentage of payments relative to revenue. In 1999, the smallest farms typically received 6.5 cents/sales dollar and the largest received 1.1 cents/sales dollar. In 2005, the smallest received 15 cents/sales dollar and the largest received 3.4 cents. However, of the \$2.8 billion in government payments received by farms in 2005, \$1.5 billion went to farms with revenues greater than or equal to \$250,000.

More large farms are profitable and they earn more

While making money was a challenge for most small farms, many of the largest farms fared reasonably well. In Figure 3, each data point represents the mean level of net income for a particular quartile and revenue class. In every revenue class, farms in the first net income quartile lost money in 2005. However, as revenue increased above \$499,999, farms in the top two quartiles earned net incomes in excess of \$100,000. For farms earning at least \$2.5 million, net incomes for the upper three quartiles were at least \$200,000.

Figure 3 Average net farm income by income quartile, 2005



Note: The farm population for each revenue class is provided in bold.
 Source: Statistics Canada, Farm Financial Survey, 2006.

Net incomes varied widely by farm type

There were marked differences in incomes by farm type. Table 2 shows average net farm income, excluding government payments for the bottom and top income quartiles in each revenue class above \$250,000. Beef farms in the first quartile experienced the greatest average losses in 2005 across all revenue classes while dairy was the only sector to experience any positive earnings. Among the top performing quartile, several types of farms in the two highest revenue classes enjoyed net farm

incomes exceeding \$499,999. Interestingly, beef farms earned the most in both \$1,000,000-\$2,499,999 and \$2.5 million and over classes.

Table 2 Average Canadian farm income for the bottom and top net income quartiles, by farm type and revenue class, 2005

Farm type	Average income for the bottom net income quartile by revenue class			
	dollars			
	250,000 to 499,999	500,000 to 999,999	1,000,000 to 2,499,999	2,500,000 and over
Grains and oilseeds	-148,615	-221,846	-379,085	x
Vegetable	-77,608	-150,127	-263,895	x
Greenhouse and nursery	-39,902	-62,714	-171,107	-274,836
Beef	-158,948	-255,273	-290,887	-1,376,903
Dairy	8,796	20,920	-69,653	x
Hog and pig	-51,458	-144,825	-206,316	-439,977
Poultry	-41,834	-22,484	-21,709	x

Farm type	Average income for the top net income quartile by revenue class			
	dollars			
	250,000 to 499,999	500,000 to 999,999	1,000,000 to 2,499,999	2,500,000 and over
Grains and oilseeds	78,572	271,730	421,120	x
Vegetable	126,556	178,692	x	x
Greenhouse and nursery	x	268,298	592,943	1,893,128
Beef	114,967	218,786	603,330	2,072,422
Dairy	153,113	292,940	592,167	x
Hog and pig	116,985	163,914	340,678	1,571,624
Poultry	141,388	255,821	523,287	x

Note: Suppression for sample size and/or coefficient of variation.

Source: Statistics Canada, Farm Financial Survey 2006.

Margins, while falling, fell the least among large farms

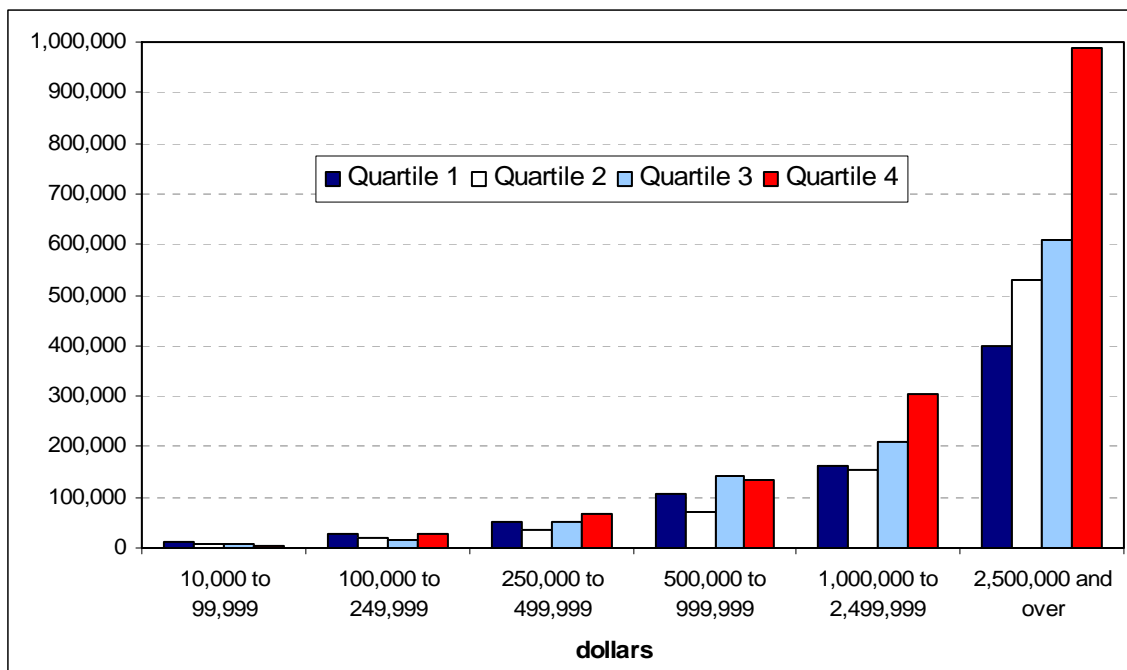
Operating margins have fallen for all farms but they have fallen less in percentage terms among the large farms. Average margins in 2005 were 6.5% for farms in the \$250,000-\$499,999 revenue class, 9.9% for farms with revenue from \$500,000 to under \$1 million, 12.1% for farms in the \$1 million to under \$2.5 million revenue class and 10.1% for farms with revenue of \$2.5 million and over. These percentages have fallen from 16.7%, 14.6%, 14.0%, and 11.2% respectively in 1999. The change in

margins was inversely related to farm size, with the largest class experiencing the smallest decline in operating margins.

The differences between large and small grow as large farms invest more

Figure 4 shows average net investment levels in 2005 by revenue class and quartile. One of the surprises is the general consistency of investment across quartiles for the first four revenue classes. Investment was fairly flat across quartiles, though there was some variability from one to the next. For farms with at least \$1 million in revenues though, there is a clearer trend towards greater capital investment for the upper quartiles. Overall, the significant difference in investment between large and small farms may make it increasingly difficult for smaller firms to compete in the future.

Figure 4 Average net farm investment by income quartile, 2005



Source: Statistics Canada, Farm Financial Survey, 2006.

Key ratios highlight higher debt as well as higher turnover and profitability for large farms

Large farms had sizeable levels of debt and high debt to equity ratios, but they also had more efficient sales to asset ratios and a higher return on equity, as illustrated in Table 3. The ratio of sales to assets shows a big increase with revenues of \$2.5 million and higher. The largest farms are much more efficient in generating revenue from their assets than smaller farms. Note that on every measure excepting debt to equity for \$250,000-\$499,999 farms, ratios deteriorated between 1999 and 2005. This was a difficult period for Canadian farms of all sizes.

Table 3 Key ratios by farm size, 1999 and 2005

	1999				2005			
Dollars	Debt to equity	Asset turnover	Return on assets	Return on equity	Debt to equity	Asset turnover	Return on assets	Return on equity
	percentage							
250,000 to 499,999	26.2	19.6	3.3	4.1	26.2	16.4	1.1	1.3
500,000 to 999,999	31.1	26.3	3.8	5.0	33.5	20.1	2.0	2.7
1,000,000 to 2,499,999	34.7	36.6	5.1	6.9	36.9	25.8	3.1	4.3
2,500,000 and over	37.8	56.9	6.4	8.8	41.0	45.1	4.5	6.4

Note: Net income excludes government payments.

Source: Statistics Canada, Farm Financial Survey, 2000 and 2006.

Conclusions

The trend toward larger farms seems to be strongly reinforced by the financial results achieved by those farms. Debt appears to be an essential component of growth but for most farms, the payoff resulting from investment is significant. Higher incomes and higher investment may ensure the trend continues. Although many worry that these larger operations will increasingly become non-family farms, results from the Census of Agriculture (Statistics Canada 2007) indicate that the opposite is occurring: while there are a growing number of corporate farms, the proportion of those corporations owned by families is increasing. The family farm of the future may be corporate, multi-generational and focused on growth and profitability. That in turn may be beneficial for the both competitiveness of Canadian agriculture and for farming families.

Reference

Statistics Canada 2007. Selected Historical Data from the Census of Agriculture: Data tables. Available at: <http://www.statcan.ca/english/freepub/95-632-XIE/2007000/histmenu-en.htm#i>