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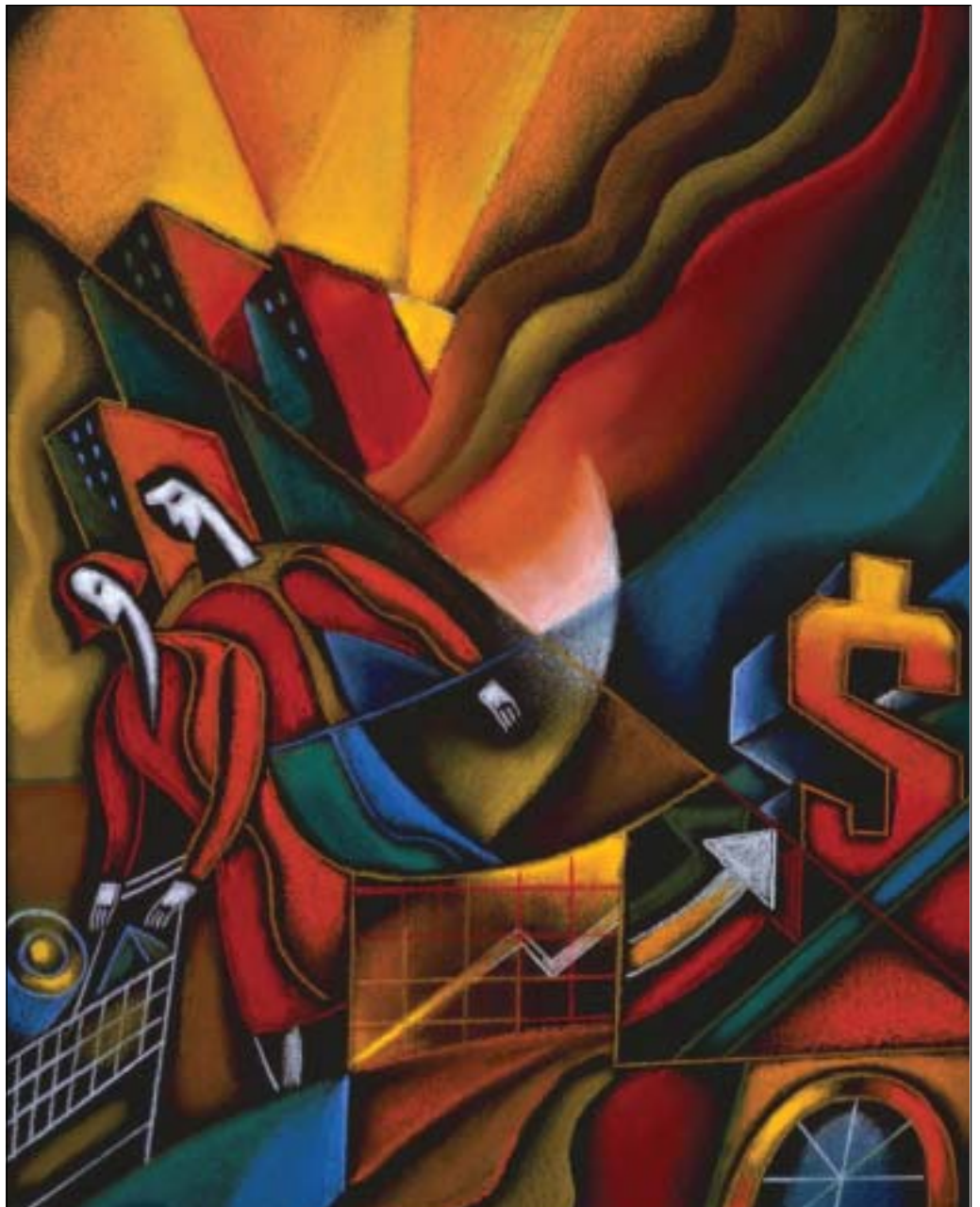
ON LABOUR AND INCOME

FEBRUARY 2002

Vol. 3, No. 2

■ WEALTH INEQUALITY

■ FARMERS LEAVING THE
FIELD



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Perspectives on Labour and Income

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- ... not applicable
- p preliminary
- r revised
- x confidential
- E use with caution
- F too unreliable to be published

Highlights

In this issue

■ Wealth inequality

- The growth in wealth inequality between 1984 and 1999 was associated with substantial declines in real average and median wealth for some groups, such as young couples with children and recent immigrants.
- Only families at the top end of the wealth distribution increased their share of total net worth between 1984 and 1999.
- Wealth inequality increased more among non-elderly couples with children and among lone-parent families than among unattached individuals and non-elderly couples with no children.
- Real median wealth and real average wealth rose much more among families whose major income recipient was a university graduate than among other families; they both fell among families whose major income recipient was aged between 25 and 34, and increased among those whose major income recipient was 55 or over.
- The aging of the Canadian population over the period had two important effects: it tended to increase average wealth and to reduce wealth inequality.

■ Farmers leaving the field

- In 1999, farm employment as a main job plummeted 6% from 1998. In 2000, it dropped a further 13%. This was followed by another decline in 2001, so that by the end of the year farm employment was 313,000, a drop of 26% in three years.

- While farm employment has fallen, output has not. In fact, the number of hectares planted with major crops has never been higher. Poultry, egg and milk production has increased in recent years. Only cattle and pig inventories have decreased since 1998.
- Although widespread, the decrease in farm employment did not touch all provinces equally. Most affected were Alberta, Saskatchewan and Ontario, where main-job farm employment fell by 30% or more from 1998 to 2001.
- Between 1998 and 2000, as main-job employment fell in agriculture, it rose in transportation (11%), manufacturing (12%), trade (11%), health and social assistance (9%), and education (4%)—the industries most likely to employ the skills of people living on farms.
- Not only have principal farm operators switched out of farming as their main activity, but spouses and children appear to have moved to off-farm work as well. In 1998, in every 100 farming households, about 143 people were mainly employed on the farm. By 2001, this number had dropped to 131.
- Farmers, in general, have not seen an increase in profits since 1996. Operating expenses have risen to all-time highs, offsetting the modest gains in cash receipts. As a result, net farm income was \$2.6 billion in 2000, about the same as in the previous three years and only a fraction of the \$11.1 billion high set in 1975. While some are undoubtedly being pushed off the farm by rising costs and low profits, farm bankruptcies have declined in recent years.
- As a group, farmers are relatively old, with a large proportion approaching retirement.

Perspectives

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Wealth inequality

René Morissette, Xuelin Zhang and Marie Drolet

THE DISTRIBUTION OF INCOME has attracted considerable interest in most OECD countries including Canada. In this country, individual earnings inequality has risen since the beginning of the 1980s, at least among male workers (Morissette, Myles and Picot, 1994; Beach and Slotsve, 1996). In contrast, inequality in family disposable income did not increase between the mid-1970s and the mid-1990s (Wolfson and Murphy, 1998). Wealth inequality, however, has not received much attention.

Using the 1984 Assets and Debts Survey and the 1999 Survey of Financial Security, this article examines changes in wealth inequality between 1984 and 1999. Most of the analysis uses three different samples: all families, all families except those in the top 1% of the wealth distribution, and all families except those in the top 5% of the distribution (see *Data sources and definitions*).

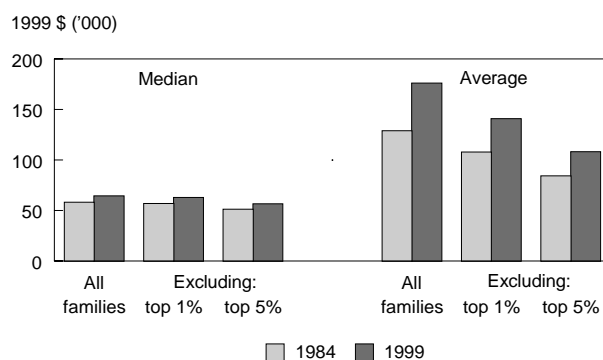
Average and median wealth

Between 1984 and 1999, real (that is, adjusted for inflation) median wealth grew by roughly 10% (Chart A). Real average wealth rose between 28% and 37%, depending on the sample. Excluding the top 1% of families lowered the growth rate of average wealth from 37% to 31%, indicating that the choice of sample is important. The growth in median and average wealth occurred despite an increase in the percentage of families with zero or negative wealth (11% in 1984 versus 13% in 1999).

Because older families have had more time to accumulate savings, wealth increases with the age of the major income recipient, at least until age 65 (Table 1). Shift-share analysis reveals that between 30% and 39%

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Chart A: Median and average wealth grew despite an increase in families with zero or negative wealth.



Sources: *Assets and Debts Survey; Survey of Financial Security*

of the growth in average wealth appears to be related to the aging of families. The rest is caused by growth in average wealth within age groups.

Did wealth inequality increase?

Although some segments of the population enjoyed increases in real wealth, others did not—with the result that between 1984 and 1999, wealth distribution became more unequal.⁴ Real median wealth fell in the bottom three deciles but rose at least 30% in the top three (Table 2). Only families in the upper two deciles of the wealth distribution increased their share of total net worth (Chart B). For the other eight deciles, the share of total net worth fell. These results imply that only families in the upper two deciles saw their average wealth increase faster than overall average wealth.

Wealth inequality did not rise uniformly. As measured by the Gini coefficient, it increased much more among non-elderly couples with children and among lone-parent families than among unattached individuals and non-elderly couples with no children (Table 3). Among

Table 1: Average wealth by age of major income recipient

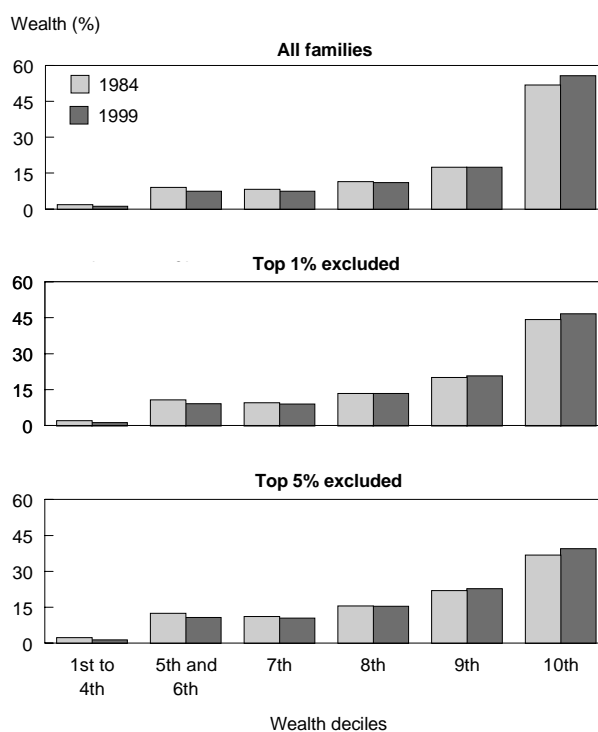
	Average wealth		
	1984	1999	Change
	1999 \$		%
All families	128,900	176,100	36.6
Less than 25	32,300	32,900	2.0
25 to 34	69,900	67,300	-3.8
35 to 44	137,600	151,900	10.4
45 to 54	202,400	247,800	22.4
55 to 64	210,300	302,900	44.0
65 or over	140,700	211,900	50.5
Top 1% excluded	107,900	140,900	30.5
Less than 25	31,700	24,600	-22.5
25 to 34	61,900	58,500	-5.5
35 to 44	114,000	118,500	3.9
45 to 54	158,800	190,100	19.7
55 to 64	176,400	234,200	32.8
65 or over	122,600	185,100	50.9
Top 5% excluded	84,300	108,100	28.2
Less than 25	24,100	16,500	-31.8
25 to 34	51,400	49,400	-3.9
35 to 44	93,100	97,700	4.9
45 to 54	125,100	141,900	13.4
55 to 64	129,700	167,900	29.5
65 or over	97,000	147,200	51.7

Sources: Assets and Debts Survey; Survey of Financial Security

non-elderly couples with children under 18, real average wealth fell roughly 15% in the second quintile but rose about 20% in the fourth quintile and even more in the fifth quintile (Table 4).

Changes in the wealth structure

The growth of wealth inequality occurred in conjunction with substantial changes in the wealth structure. Real median wealth and real average wealth evolved very differently for different families. First, both rose much more among families whose major income recipient was a university graduate (Table 5). Second, both fell among families whose major income recipient was aged 25 to 34 and increased among those whose major income recipient was aged 55 to 64. The rise was even greater among families whose major income recipient was 65 or over. Third, both increased among Canadian-born families and foreign-born ones living in Canada for 20 years or more, but fell among foreign-born families living in Canada for less than 10

Chart B: Only families in the upper two deciles increased their share of wealth between 1984 and 1999.

Sources: Assets and Debts Survey; Survey of Financial Security

Table 2: Changes in median net worth, by net worth decile

	Median net worth		
	1984	1999	Change
	1999 \$		%
Bottom	-1,800	-5,700	...
Second	700	100	-85.0
Third	6,700	5,900	-12.2
Fourth	21,400	22,700	6.2
Fifth	45,400	49,600	9.3
Sixth	72,200	81,500	12.9
Seventh	104,800	129,000	23.1
Eighth	147,800	192,500	30.3
Ninth	222,900	299,400	34.3
Top	464,400	628,100	35.3

Sources: Assets and Debts Survey; Survey of Financial Security

Table 3: Gini coefficient by family type

	1984	1999	Change
			%
Unattached individuals			
Elderly	0.647	0.655	1.2
Non-elderly	0.853	0.868	1.8
Non-elderly couples			
No children or other relatives	0.666	0.695	4.4
With children under 18*	0.647	0.707	9.3
With children 18 and over or other relatives**	0.540	0.614	13.7
Elderly couples with no children or other relatives	0.540	0.541	0.2
Lone-parent families	0.807	0.897	11.2
Other family types	0.667	0.650	-2.5

Sources: Assets and Debts Survey; Survey of Financial Security

* At least one child of the major income recipient is under 18.

Other relatives may also be in the family.

** No children are under 18.

years. Fourth, both increased faster among non-elderly couples with no children than among non-elderly couples with children under 18.

In many population sub-groups, real median wealth grew much more slowly than average wealth. For instance, among families whose major income recipient was aged 25 to 34, real median wealth fell 36% while real average wealth fell only 4%. Similarly, non-elderly couples aged 25 to 54 with children under 18 experienced almost no change in their real median wealth but enjoyed an increase of 30% in their real average wealth (Chart C).⁵

Young couples with children under 18 with a major income earner aged 25 to 34 experienced drastic changes. Their real median and average wealth fell 30% and 20%, respectively. The percentage of these couples with zero or negative wealth rose from 9.5% in 1984 to 16.1% in 1999. The decline in median wealth reflects a 39% decrease in net equity on the principal residence, which more than offset a 12% increase in financial wealth.⁶

Among families whose major income recipient was between 25 and 34, the decline in real median wealth was unlikely caused solely by a decrease in real median after-tax income. While the former dropped by 36%, the latter fell by only 7%.⁷ However, growth rates of average wealth and average after-tax income diverge

Table 4: Changes in average net worth of non-elderly couples with children under 18*, by quintile

	Average net worth		
	1984	1999	Change
			%
	1999 \$		
All non-elderly couples with children under 18			
Bottom	100	-3,300	...
Second	34,800	29,800	-14.4
Third	77,900	80,500	3.4
Fourth	141,000	170,200	20.7
Top	493,000	703,500	42.7
Top 1% excluded			
Bottom	-100	-3,400	...
Second	34,300	29,200	-14.9
Third	76,600	78,800	2.8
Fourth	137,700	165,600	20.3
Top	383,200	494,400	29.0
Top 5% excluded			
Bottom	-700	-4,000	...
Second	32,000	26,800	-16.1
Third	71,800	72,400	0.7
Fourth	126,200	149,000	18.1
Top	269,500	349,300	29.6

Sources: Assets and Debts Survey; Survey of Financial Security

* At least one child of the major income recipient is under 18.

to a much lesser extent (-4% and 1%, respectively). Inheritances and *inter vivos* transfers (for example, parental financing of education or of a house down payment) are unlikely to be factors since the parents in 1999 are unlikely to be poorer than those in 1984.

In contrast, the dramatic increase in real median wealth and average wealth (56% and 51%, respectively) of families whose major income recipient was 65 or older likely reflects a combination of factors: larger inheritances possibly received by the 1999 respondents; higher income from private pensions; and higher income from the Canada or Quebec Pension Plan, Guaranteed Income Supplement, or Old Age Security.

In summary, families whose major income recipient was a new entrant to the labour market—that is, a young individual or a recent immigrant—lost ground relative to older families. Furthermore, within a given age group, families whose major income recipient did not have a university degree lost ground relative to families headed by a university graduate.⁸

Wealth inequality

Table 5: Median and average wealth by characteristics of the major income recipient, all families

	Median wealth			Average wealth		
	1984	1999	Change	1984	1999	Change
	1999 \$	1999 \$	%	1999 \$	1999 \$	%
Education						
Not a university graduate	52,800	54,100	2.4	119,300	145,300	21.7
University graduate	99,600	118,000	18.4	189,300	289,500	52.9
Age						
24 or younger	3,100	200	-95.1	32,300	32,900	2.0
25 to 34	23,400	15,100	-35.5	69,900	67,300	-3.8
Not a university graduate	21,200	11,100	-47.6	62,600	49,800	-20.3
University graduate	41,200	30,900	-25.0	102,100	112,100	9.8
35 to 54	88,400	78,400	-11.4	164,900	194,300	17.8
Not a university graduate	80,500	65,800	-18.2	153,200	156,000	1.8
University graduate	130,300	144,700	11.1	218,700	312,300	42.8
35 to 44	73,500	60,000	-18.4	137,600	151,900	10.4
45 to 54	124,000	115,200	-7.1	202,400	247,800	22.4
55 to 64	129,100	154,100	19.4	210,300	303,900	44.5
65 or older	80,800	126,000	56.0	140,700	211,900	50.5
Immigration status						
Canadian-born	53,900	60,500	12.1	122,900	168,700	37.3
In Canada 20 years or more	120,000	171,300	42.7	194,800	285,600	46.6
In Canada 10 to 19 years	68,000	44,500	-34.6	114,400	140,800	23.1
In Canada less than 10 years	17,600	13,100	-25.7	90,100	75,700	-16.0
Family type						
Unattached individuals						
Elderly	41,400	70,000	69.2	78,700	138,100	75.5
Non-elderly	5,800	6,000	4.0	47,200	63,900	35.3
Couples						
No children	71,500	101,600	42.1	151,200	244,200	61.5
Children under 18	77,900	77,800	-0.1	149,300	195,900	31.2
Children 18 and over	155,800	167,400	7.5	251,500	312,500	24.3
Elderly couples, no children	121,100	177,500	46.6	198,500	280,500	41.3
Lone-parent	1,900	3,700	95.5	39,400	63,800	61.8
Other family types	74,200	112,700	51.9	145,100	210,200	44.9

Sources: Assets and Debts Survey; Survey of Financial Security

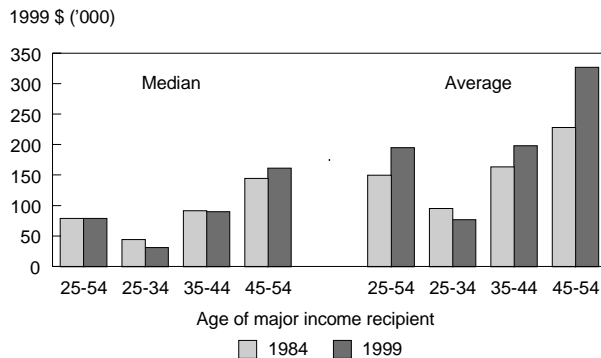
Aging and wealth inequality

The substantial changes in family structure over the last two decades may have affected wealth inequality. Specifically, the growing proportion of unattached individuals and lone-parent families, which generally have lower-than-average wealth, may have contributed to the growth of wealth inequality. Accordingly, the 1999 data were re-weighted so that the relative importance of various types of families was equal to that observed in 1984.⁹ The inequality measures resulting from this re-weighting were then calculated.

The inequality measures used were the Gini coefficient, the coefficient of variation (CV), and the exponential measure. While the Gini coefficient is sensitive to changes in the middle of the wealth distribution, the coefficient of variation is sensitive to changes at the top, and the exponential measure is sensitive to changes at the bottom (Table 6).

Whether or not changes in family structure tended to increase wealth inequality cannot be said with certainty. When all families are considered, the effect is ambiguous. Applying the 1984 family structure to the

Chart C: For non-elderly couples with young children,* median wealth increased less than average wealth.



Sources: Assets and Debts Survey, Survey of Financial Security
* At least one child of the major income recipient is under 18.

1999 data decreases the Gini coefficient and the exponential measure, but increases the CV (compared with their 1999 actual values). For the sample in which the top 1% of the wealth distribution is excluded, wealth inequality would have been lower in 1999 if the composition of families had remained the same as in 1984. For this sample, changes in family structure accounted for 14% to 22% of the growth in wealth inequality.¹⁰ For the sample in which the top 5% of the wealth distribution is excluded, changes in family structure accounted for 25% and 23% of the growth in the Gini coefficient and the CV, respectively.¹¹

The aging of the population may also have affected wealth inequality. However, its effect is unclear since it is associated with a decline in the relative importance of young families, who have lower-than-average wealth, and an increase in the relative importance of older families, which tend to have higher-than-average wealth. To assess the effect of aging, the 1999 data were

re-weighted with the 1984 age structure, using six age groups. If the 1984 age structure had prevailed in 1999, wealth inequality would have been higher than it was in 1999. Hence, the aging of the population tended to reduce wealth inequality.

What would wealth inequality have been in 1999 if permanent income¹² and other attributes of families had remained at their 1984 levels and families had kept their 1999 net worth? The other attributes to be considered are age of major income recipient (five age groups), education level of major income recipient (two levels), a lone-parent family indicator, family size, provincial controls, and a rural-urban indicator.¹³ For all three samples, the hypothetical inequality measures for 1999 are always higher than the actual inequality measures. This means that if the distribution of permanent income and other family attributes had remained at their 1984 level and families had kept the net worth observed in 1999, wealth inequality would have been higher than it was in 1999. At the very least, this suggests that permanent income and other socio-demographic characteristics as measured with cross-sectional data are not major factors behind the growth of wealth inequality.

Table 6: Levels of wealth inequality

	Actual data		1999 based on 1984		
	1984	1999	Family type	Age structure	Income and other family characteristics
All families					
Gini	0.691	0.727	0.724	0.750	0.740
CV	2.325	3.146	3.157	3.261	3.244
Exponential	0.531	0.560	0.558	0.590	0.603
Top 1% excluded					
Gini	0.646	0.675	0.669	0.702	0.695
CV	1.429	1.517	1.498	1.613	1.597
Exponential	0.542	0.556	0.554	0.612	0.676
Top 5% excluded					
Gini	0.605	0.637	0.629	0.668	0.661
CV	1.169	1.255	1.235	1.341	1.326
Exponential	0.906	0.838	0.848	1.074	1.312

Sources: Assets and Debts Survey; Survey of Financial Security

Data sources and definitions

The 1984 **Assets and Debts Survey (ADS)** was a supplement to the May 1984 Survey of Consumer Finances. The 1999 **Survey of Financial Security (SFS)** was conducted from May to July 1999. For both surveys, the sample was based on the Labour Force Survey frame and represents all families and individuals in Canada except residents of the territories, members of households located on Indian reserves, full-time members of the Armed Forces, and residents of institutions.¹ Data were obtained for all family members aged 15 and over.

Some differences between the two surveys are worth noting. First, in ADS, all information on components of assets (except housing) and debts were collected for each member of the family aged 15 years and over and then aggregated at the family level. In contrast, in the SFS, information was collected directly at the family level. Second, unlike ADS, the SFS contained a supplementary 'high-income' sample (consisting initially of about 2,000 households), which was included to improve the quality of wealth estimates.² The final sample of ADS included 14,029 families, and the SFS sample 15,933. Families include unattached individuals.

Because records of the current value of assets and debts are not as readily available as records of income, the quality of wealth data is viewed as lower than the quality of income data. Also, the value of real assets (such as housing and vehicles) is judged to be of higher quality than that of financial assets.

To make the concept of wealth comparable between the two surveys, contents of the home, collectibles and valuables, annuities, and registered retirement income funds, which were not included in the 1984 survey, were excluded from the 1999 data.

The wealth of a family is defined as the difference between the value of its total assets and the amount of its total debts. Excluded are the value of work-related pension plans, and future entitlements to social security provided by the government in the form of Canada or Quebec Pension Plan

benefits or Old Age Security. Also excluded are the family's human capital, measured in terms of the value of the discounted flow of future earnings for all family members.

One particularly difficult issue with wealth data is the measurement of the upper tail of the wealth distribution. Using a variety of data sources, Davies (1993) estimates that, using ADS, the share of total wealth held by the top 1% of families in 1984 could increase from 17% to between 22% and 27% after adjustments. Similarly, the share of total wealth held by the top 5% of families could increase from 38% to between 41% and 46%.

Since this article compares wealth at two points in time, a further complication is that the degree of truncation of the wealth distribution may change over time. More precisely, assume that the true wealth distribution was unchanged between 1984 and 1999. Extending the argument of Davies (1993,160) to the analysis of changes in the wealth distribution, if no Canadian family with wealth over \$10 million consented to an interview in 1984, and if no Canadian family with wealth over \$50 million consented to an interview in 1999, ADS and SFS would show an (incorrect) increase in wealth inequality—which could simply be due to the use of better interviewing techniques in the later survey than in the earlier one.³ For these reasons, most of the analysis described in this article uses three different samples: all families, all families except those in the top 1% of the wealth distribution, and all families except those in the top 5%.

The **Gini coefficient** and the **exponential measure** are two measures of inequality, which would equal one if one family owned the total wealth of society while all others had zero wealth. Both measures would equal zero in the case of perfect equality—that is, if all families had the same wealth. The **coefficient of variation**, defined as the ratio of standard deviation to the mean, would also equal zero in the case of perfect equality. It would increase—but not necessarily equal one—if one family owned the total wealth of society while all others had zero wealth.

Explaining wealth inequality

Several factors may have contributed to the growth of wealth inequality. First, young people have been staying in school longer before entering the labour market, thus decreasing the number of years over which they have had significant incomes. This and the greater debt load of students (Finnie, 2001) probably account for part of the decrease in their real median wealth.¹⁴ Second, the booming stock market of the 1990s likely contributed to the rapid revaluation of financial assets observed in Canada over the last decade (Yan, 2001). Since financial assets are held predominantly by families at the top of the wealth dis-

tribution, this revaluation is likely to have contributed to the growth of wealth inequality. Third, easier access to credit or changes in preferences may have induced some low-wealth families to accumulate debt to finance expenditures, thereby decreasing their net worth. Fourth, increases in contributions to RRSPs made by families in the middle of the wealth distribution could have widened the gap between them and poorer families *if* these greater contributions caused an increase in their savings rate. Fifth, differences between low-wealth and high-wealth families in the growth of inheritances and *inter vivos* transfers may also have played a role. These factors cannot be quantified with existing data sets.

Summary

Wealth inequality increased between 1984 and 1999. The growth was associated with substantial declines in real average and median wealth for some groups, such as young couples with children and recent immigrants.

Only the 10th decile (and for some samples, the 9th decile) increased their share of total net worth between 1984 and 1999. Wealth inequality increased more among non-elderly couples with children and lone-parent families than among unattached individuals and non-elderly couples with no children.

Real median wealth and real average wealth rose much more among families whose major income recipient was a university graduate than among other families; both fell among families whose major income recipient was aged 25 to 34 and increased among those whose major income recipient was 55 or over.

The aging of the population between 1984 and 1999 had two important effects: it tended to increase the average wealth of Canadians and to reduce wealth inequality.

Young couples with children experienced a 30% decline in their median wealth. This led to a substantial decrease in their net equity on principal residence. Furthermore, a growing proportion had zero or negative wealth and therefore could not rely on savings to provide liquidity in periods of economic stress.

Perspectives

■ Notes

1 These include institutions such as penal institutions, mental hospitals, sanatoriums, orphanages and seniors residences.

2 Having a high-income supplement in 1999 increased the precision of wealth statistics (for example, average, median, and inequality measures) compared to ADS, while still leaving them unbiased (like those of ADS).

3 Weighting procedures cannot correct this problem since no family with wealth over \$10 (\$50) million would be observed in the sample.

4 More precisely, if the bottom 0.5% of the wealth distribution is excluded, one can say unambiguously that wealth inequality rose between 1984 and 1999—that is, the 1999 Lorenz curve lies below the 1984 Lorenz curve at all points of the wealth distribution. See Morissette, Zhang and Drolet (2002) for a detailed analysis.

5 Couples with children under 18 are defined as couples with *at least* one child of the major income earner under 18.

6 Financial wealth is net worth minus net equity in housing and net business equity. Median financial wealth of young couples with children under 18 rose from \$7,200 in 1984 to \$8,000 in 1999. Their median net equity on principal residence fell from \$26,000 in 1984 to \$16,000 in 1999.

7 This statement must be made with caution since changes in wealth depend, among other things, on changes in the set of annual after-tax incomes received in the past, and not only on changes in current after-tax income measured by cross-sectional data. In other words, while current after-tax income dropped by 7%, *accumulated* after-tax income could have dropped by more than 7%.

8 Since there is evidence that financial assets were better reported in 1999 than in 1984 (Morissette, Zhang and Drolet, 2002), the growth rates of wealth observed for groups with growing wealth must be interpreted with caution. They likely represent an upper bound for the true growth rates of wealth of these groups.

9 Families were defined according to 14 categories.

10 If the 1984 family structure had prevailed, the coefficient of variation in 1999 would have been 1.498 rather than 1.517. Hence, 22%—that is, $(1.517-1.498)/(1.517-1.429)$ —of the growth in the coefficient of variation can be accounted for by changes in family structure.

11 The decrease in the exponential measure for this sample (in the actual data) occurs because the Lorenz curves for 1984 and 1999 cross below the bottom 0.5% of the wealth distribution.

12 A family's permanent income is defined as the predicted income of this unit when the major income recipient is aged 45 and the spouse (if present) age is set equal to what it would be when the major income recipient is aged 45. See Morissette, Zhang and Drolet (2002) for further details.

13 To implement this approach, the 1984 and 1999 data were first pooled. Second, a logit model was estimated in which the dependent variable equals 1 if a family unit with a given level of permanent income and other given attributes was observed in 1984, 0 if it was observed in 1999. Third, the 1999 data were re-weighted by the factor $(P_{i84}/P_{i99}) \cdot (K_{99}/K_{84})$, where P_{i84} and P_{i99} are the probability of family i being observed in 1984 and 1999, respectively, and K_{99} and K_{84} are the sum of weights for 1999 and 1984, respectively. Fourth, after the 1999 data were re-weighted, the inequality measures were calculated. The explanatory variables used in the logit model include permanent income and other attributes defined above. For further details, see DiNardo, Fortin and Lemieux (1996).

14 Young individuals now get married later, thereby delaying the benefits from the economies of scale associated with cohabitation. However, this may be offset by some young individuals staying longer with their parents or cohabiting in other ways. Similarly, the downward shift in the age-earnings profile of young men (Beaudry and Green, 1997) may have tended to reduce real wealth of young men. However, its effect may have been partly offset by the growing number of dual-earner couples among young families.

■ References

- Beach, C.M. and G.A. Slotsve. *Are We Becoming Two Societies?: Income Polarization and the Myth of the Declining Middle Class in Canada*. Social policy challenge series, vol. 12. Toronto: C.D. Howe Institute, 1996.
- Beaudry, P. and D.A. Green. "Cohort patterns in Canadian earnings and the skill-biased technical change hypothesis." University of British Columbia Department of Economics Discussion Paper: 97/03. British Columbia: University of British Columbia, 1997.
- Davies, J.B. "The distribution of wealth in Canada." *Research in Economic Inequality*, Vol. 4, E. Wolff (ed.). Greenwich, CT: JAI Press, 1993, 159-180.
- DiNardo, J., N.M. Fortin and T. Lemieux. "Labour market institutions and the distribution of wages, 1973-1992: A semiparametric approach." *Econometrica* 64, no. 5 (September 1996): 1001-1044.
- Finnie, R. "Student loans: the empirical record." *The Canadian Journal of Higher Education*, 2001 (forthcoming).
- Morissette, R., J. Myles and G. Picot. "Earnings inequality and the distribution of working time in Canada." *Canadian Business Economics* 2, no. 3 (Spring 1994): 3-16.
- Morissette, R., X. Zhang and M. Drolet. "The evolution of wealth inequality in Canada, 1984-1999." Analytical Studies Branch research paper, no. 187. Statistics Canada, Ottawa, 2002.
- Wolfson, M.C. and B.B. Murphy. "New views on inequality trends in Canada and the United States." *Monthly Labor Review* 121, no. 4 (April 1998): 3-23.
- Yan, X. "Understanding saving and wealth accumulation." Working paper. Income and Expenditure Accounts Division, Statistics Canada, 2001.

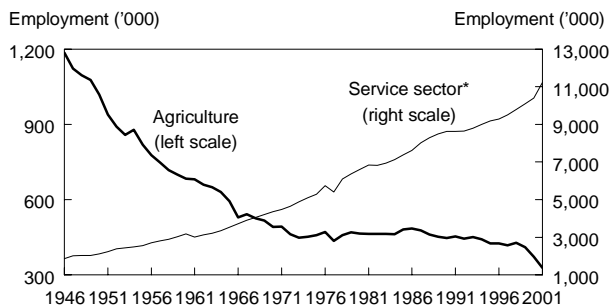
Farmers leaving the field

Geoff Bowlby

FARMING IS EMPLOYING FEWER and fewer Canadians over time. Where once the labour market was centred around goods-producing industries such as farming and manufacturing, today Canadians are more likely to be employed in the service sector.

Among other factors, rising farm productivity, along with added opportunities in the cities, led to a large exodus from the farm beginning shortly after World War II. In 1946, about 1.2 million people worked on a farm as a main job. Thirty years later, that number had dropped to a little under half a million. The decline slowed for the rest of the century, but employment in other parts of the economy, most notably the service sector, continued to rise (Chart A).

Chart A: Farm employment declined dramatically after World War II as Canada moved to a services-based economy.



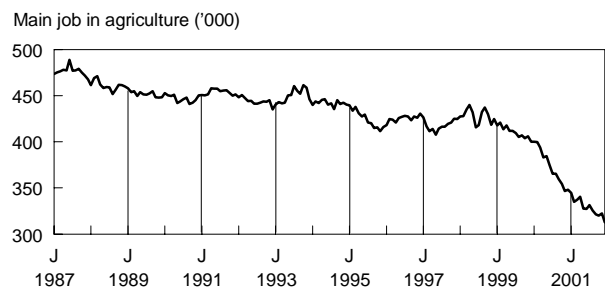
Source: Labour Force Survey
* Excludes public administration.

The year 1999 marked the beginning of a more pronounced downward trend when farm employment as a main job plummeted 6% from 1998 (Chart B). In 2000, the rate of decline accelerated, dropping employment by a further 13%. This was followed by

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another decline in 2001, so that by the end of the year farm employment was 313,000, 26% below where it had been only three years earlier—the largest drop in about 35 years.

Chart B: Farm employment dropped sharply from 1999 to 2001.



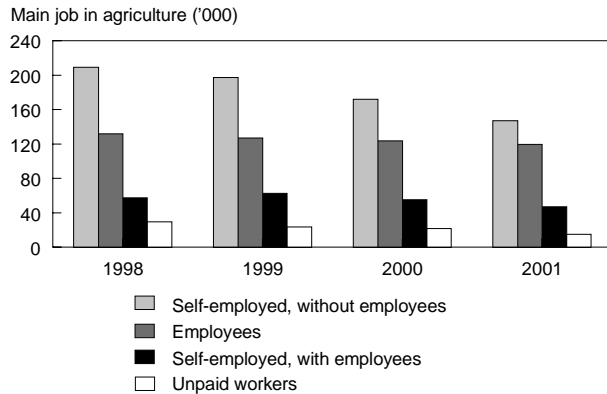
Source: Labour Force Survey, seasonally adjusted

However, falling farm employment has not resulted in the large-scale abandonment of farmland. In fact, the experience has been the opposite (Table). The number of hectares planted with major crops such as corn, wheat and hay has never been higher. Between 1998 and 2001, 1.1% more hectares of land were planted with major crops. In general, total production rose, reflecting the seeding of more land and new higher-yielding crop varieties. Poultry meat, egg and milk production has also increased in recent years.

Not all farm output has increased, however. Cattle and pig production have decreased slightly, although these declines are nowhere near the drop in farm employment.

This article has two parts. First, it shows where the decline in farm employment has occurred, and which types of farms and farm workers have been most affected. Second, a number of theories are presented as to why main-job farm employment has declined so dramatically while farm output has not.

Chart E: Employment on farms with no employees fell fastest.



Source: Labour Force Survey

Fewer but larger farms, rising farm labour productivity

One would assume that dramatically falling farm employment would result from a large drop in the number of farms. The number of farms fell sharply between 1951 and 1976 and then more slowly for the rest of the century, following the same pattern as farm employment (Chart F).

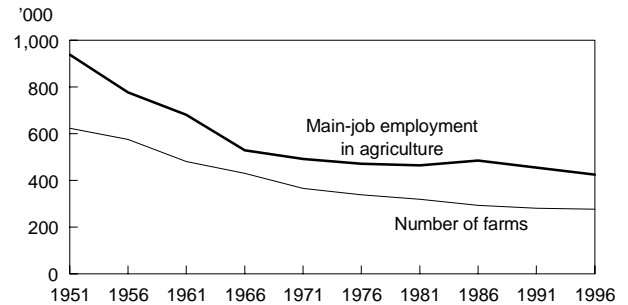
However, as the number of farms declined, the average farm size increased. In effect, individual farmers have been farming more land and producing more food. Past trends show a correlation not only between the number of farms and main-job farm employment, but also between main-job farm employment and labour productivity.

In the mid 1990s leading up to the decline in main-job farm employment, new farm and machinery investment increased substantially, resulting in some substitution of capital for labour (Chart G). As farmers invested, the total value of farm machinery and equipment began to rise sharply in 1994. By 2000, the value had risen 53%, the largest increase since the 1970s.

More second-job farming activity

Although farm productivity has probably increased, it would seem unlikely that farms could produce a similar amount as three years earlier with 26% fewer workers. While productivity increases contributed to the downward trend in the Labour Force Survey (LFS) measurement of farm employment, it is also likely that many individuals are increasingly operating their farms as second jobs. The LFS industry and occupation data

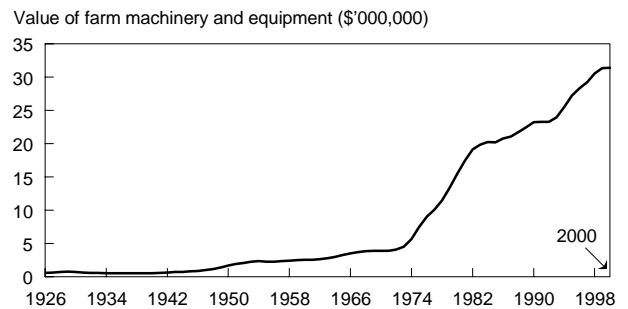
Chart F: Labour Force Survey farm employment declines mirrored Census farm counts.



Sources: Labour Force Survey and Census of Agriculture

are based on a person's main work activity. When the LFS shows a decrease in agricultural employment, it means that fewer people are employed on farms as their main job. The farm may still operate but as the farm operator's second job. As opportunities for farmers to work more hours in other jobs increase, some farm operators may find that their main job becomes, for example, truck driver instead of farmer, even though the farm continues to produce the same amount of beef, milk or poultry.

Chart G: Farmers mechanized in the years leading up to accelerated drops in main-job farm employment.

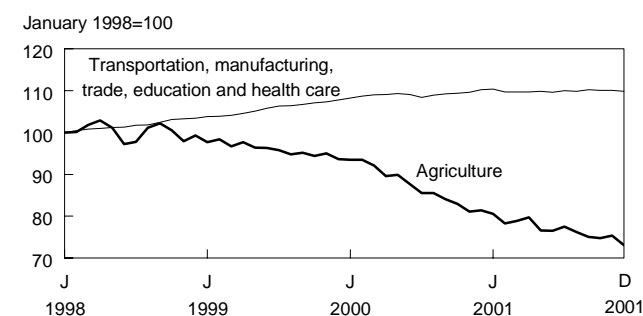


Source: Agriculture Division

Certainly employment growth outside agriculture was very strong between 1998 and 2000. If farm operators had switched their main activity from farming, one would expect relatively strong employment

growth in industries that require similar skills (Chart H). According to the 1998 Survey of Labour and Income Dynamics, roughly 15% of people employed in agriculture had an off-farm job—one of the highest rates of multiple job-holding of any industry. Of the farmers who held multiple jobs, over half worked in transportation and warehousing (12%), manufacturing (12%), retail and wholesale trade (11%), health care and social assistance (10%), or educational services (9%).

Chart H: As main-job employment fell in farming, it rose in the five industries that employ similar skills.



Source: Labour Force Survey, seasonally adjusted

Between 1998 and 2000, as main-job employment fell in agriculture, it rose in transportation (11%), manufacturing (12%), trade (11%), health and social assistance (9%), and education (4%). This suggests that off-farm job opportunities for farm owners improved dramatically—at least during 1999 and 2000.

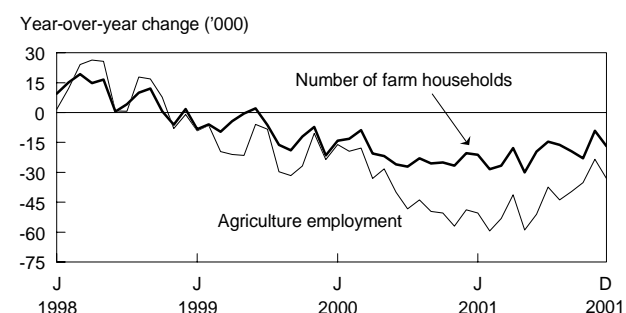
In 2001, labour market conditions took a turn for the worse. Opportunities for off-farm work diminished, but still agricultural employment continued to decline—albeit at a reduced pace from 2000. Although important, rising off-farm work is clearly not the only factor that determines the number of main-job farmers.

Fewer main-job farmers per household as spouses less likely to combine their efforts

Not only have principal farm operators switched out of farming as a main activity, but spouses and children appear to have moved to off-farm work as well. While the number of farming households (households in which at least one person is mainly employed in

agriculture) fell, it fell less than overall employment in the industry (Chart I). As a result, the number of people mainly employed in agriculture per farming household dropped as well. In 1998, in every 100 farming households, about 143 people were mainly employed on the farm. By 2001, this number had dropped to 131.

Chart I: Main-job employment in agriculture fell faster than the number of farming households.



Source: Labour Force Survey, not seasonally adjusted

Most of the drop was caused by fewer spouses combining their efforts on the farm (Chart J). In 1998, approximately 36% of farmers had a spouse who was also employed in agriculture, a figure that dropped to 27% by 2001. At the same time, the percentage of farmers with a spouse mainly employed off the farm climbed from 22% to 24%.

Chart J: Fewer spouses are combining their efforts on the farm.



Source: Labour Force Survey

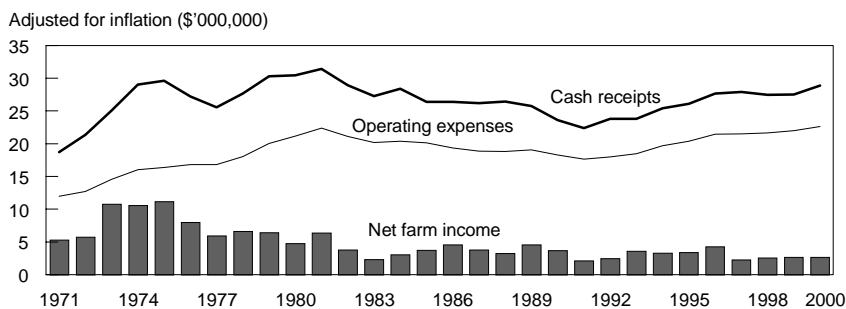
Lack of profit growth

So far this article has suggested that main-job farm employment is falling because farms are consolidating and mechanizing, because farm owners are accepting more non-farm employment and changing their main job from agriculture to something else, and because fewer spouses are combining their farming efforts. Are these trends a result of farmers being pushed out of farming, or is this group being pulled to more attractive opportunities in other areas? Probably the main ‘pull’ factor has been the very strong demand for workers in industries such as manufacturing and transportation where farmers can apply their skills.

One of the key ‘push’ factors could be that, in general, farmers have not seen an increase in profits since 1996 (Chart K). Farm operating expenses have risen to all-time highs, offsetting the modest gains in cash receipts. As a result, net farm income was \$2.6 billion in 2000 (adjusted for inflation), about the same as in the previous three years and only a fraction of the \$11.1 billion high set in 1975.

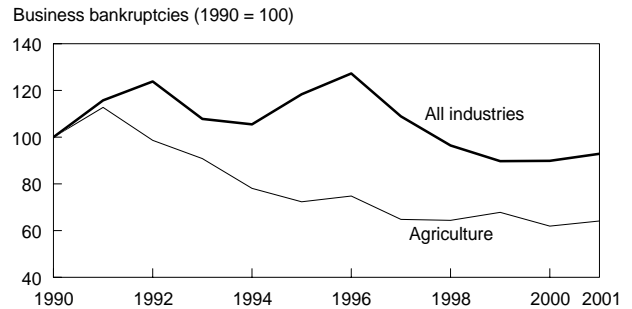
While some are undoubtedly being pushed off the farm by rising costs and low profits, farm bankruptcies have declined in recent years (Chart L). After hitting 471 in 1991, by 2001 the number of farms declaring bankruptcy was 271. Weak net incomes are not leading to more bankruptcies. Farmers appear to be coping with current economic conditions by making an orderly exit from the sector, or rebalancing their employment by switching their main job to something other than agriculture.

Chart K: Lack of farm profit growth may be pushing some people off the farm...



Sources: Agriculture Division, Consumer Price Index

Chart L: ...but farm incomes do not seem to be pushing people into bankruptcy.



Source: Industry Canada

An aging field

One factor that is neither ‘push’ nor ‘pull’ is age. The median retirement age in agriculture is 66 (Chart M). Even though this is much higher than the overall median retirement age of 62, a much higher proportion of farmers are approaching or have surpassed the normal retirement age.

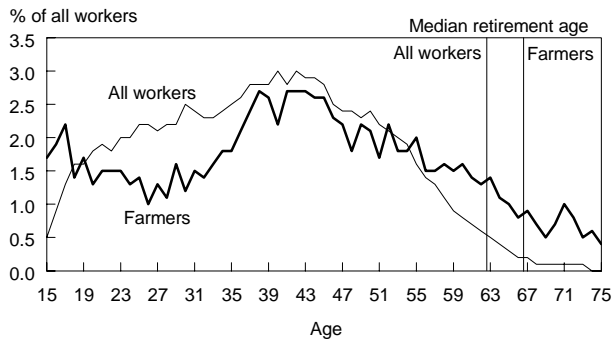
Summary

Farm size and farm labour productivity have undoubtedly increased, but probably not to an extent that would explain all the drop in farm employment. The other source of the decline is probably more second-job farm activity as farmers increased their hours of non-farm employment between 1999 and the end of 2001.

This likely move to more second-job farming has coincided with fewer spouses and children working on the farm as their main job. So, while fewer and fewer households have at least one member employed on the farm as their main job, the number of farming couples mainly employed has also fallen sharply.

The factors driving falling farm employment as measured by the Labour Force Survey are complex. The decision to enter or leave farming is complicated but is likely a

Chart M: Farmers are older than average and more are approaching or have surpassed the normal retirement age.



Source: Labour Force Survey

function of a number of ‘push’ and ‘pull’ factors, as well as a person’s age. Employment opportunities in industries where farmers can easily apply their skills have grown in recent years, luring workers off the farm. Farm profits have remained unchanged

Defining farm employment

This analysis is based on the monthly Labour Force Survey (LFS). Designed primarily to count the number of people who are employed, unemployed or not in the labour force, the LFS asks additional questions on the industry and occupation of the respondent’s main job (the one in which most time is spent per week).

Therefore, a farm worker is someone who works on a farm as a main job. A farm operator who runs or works on a farm as a second job is not included. Such individuals would be assigned to the industry of their main job.

(and historically low) for a number of years, perhaps forcing some into other work. Age may also be playing a part in the decision to leave farming as a main activity. Farmers as a group are relatively old, with a large proportion approaching retirement age in an occupation that is often dangerous and physically demanding.

Perspectives