

Family income: 25 years of stability and change

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The distribution of income changes over time, as does the proportion of total income received by different family types. This article examines the relative shares of total family income for different family groups in 1970 and 1995, along with changes in the composition of these groups (see *Definitions*). It complements the family income study published in the Winter 1998 issue of *Perspectives*.

Changes vary along the income scale

Changes in family income are generally discussed in terms of average incomes and proportions of families in various income groups. In general, the overall position of families improves if, after adjusting for changes in the prices of goods and services, average family income has increased and the proportion of families in lower income groups has decreased. In order to capture changes to both the proportions of families in different income groups and the income shares of each group over time, it helps to arrange families from lowest to highest income and divide them into equal groups. This analysis divides families into 10 equal groups, or income deciles,¹ and

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Table 1: Upper limits of family income deciles and distribution of aggregate family income by deciles

Decile	1970	1980	1985	1990	1995
Upper limit			1995\$		
First	11,968	16,343	15,786	17,549	15,158
Second	19,318	24,287	23,368	25,860	23,184
Third	25,884	32,747	31,271	34,413	31,097
Fourth	31,427	40,294	39,055	42,295	38,988
Fifth	36,622	47,404	46,433	50,111	46,951
Sixth	42,194	54,742	54,248	58,176	55,355
Seventh	48,392	63,203	62,764	67,568	64,997
Eighth	56,816	74,196	73,974	79,903	77,501
Ninth	71,318	92,745	92,725	100,751	98,253
Share of aggregate income			%		
First	1.46	1.48	1.49	1.64	1.45
Second	3.78	3.80	3.75	3.78	3.55
Third	5.48	5.38	5.18	5.27	4.96
Fourth	6.97	6.90	6.70	6.69	6.42
Fifth	8.20	8.25	8.13	8.05	7.86
Sixth	9.53	9.61	9.55	9.44	9.37
Seventh	10.96	11.09	11.09	10.95	10.91
Eighth	12.60	12.86	12.94	12.80	13.11
Ninth	15.25	15.50	15.64	15.53	15.85
Tenth	25.77	25.13	25.53	25.85	26.53

Source: Census of Canada

examines each decile's share of total income between 1970 and 1995 (Table 1).

If all families received identical total income, each decile would receive one-tenth of aggregate income. But decile shares vary considerably. The lower the decile, the smaller its share of aggregate income.² In 1970, the incomes (in 1995 dollars) of the 10% of families at the bottom of the income ladder were less than \$11,968. The incomes of the next

10% of all families (the second decile) were between \$11,969 and \$19,318. By 1995, the upper limits for the first and second deciles had increased, respectively, to \$15,158 and \$23,184.

The decile limits go up in prosperous times and down during recessionary periods. But the changes are not uniform across deciles, especially following recessions. For example, all decile limits fell in the early 1980s. However, those of the top two deciles did so

Definitions

A **census family** is a now-married or common-law couple (with or without never-married children of either or both partners), or a lone parent of any marital status, with at least one never-married child living in the same dwelling.

Family income is the sum of the total incomes of all members 15 years and over during the calendar year preceding the census. It consists of wages and salaries, net income from farm and non-farm self-employment, government transfer payments, investment income, retirement pensions and other money income.

only slightly, while those of the bottom four fell by 3 to 5 percentage points. The effect of the early 1990s recession varied even more across the deciles, affecting their share of total income.

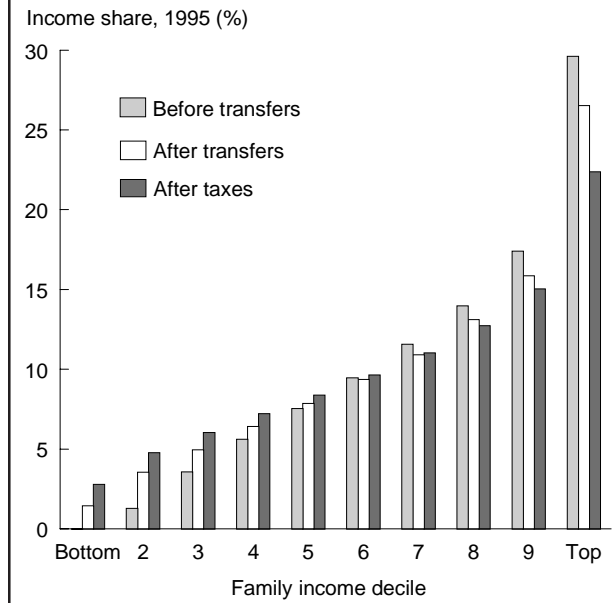
Furthermore, from the second decile up, increases in the upper limits were successively larger (in percentage terms) over the period. The effect of this phenomenon on the relative position of families in various deciles is discussed later.

Transfers and taxes change decile shares

Income shares of families are affected by two fiscal measures. On the one hand, government transfer payments augment the incomes of families at the lower end of the income spectrum, thus increasing their share of total income. On the other hand, personal income taxes reduce the income of higher income families, thus lowering their share of total income after tax.

For example, in 1995 some 10,500 families had zero income,³ while another 10,600 reported negative income (net loss).⁴ By definition, these families are included in the first decile. The remaining families in this decile had low incomes, most of which came from government transfers. Removal of these payments radically changes the income profile of the decile. The number of families with a negative income doubles but, more importantly, the number of families with no income grows to over half a million. The sum of the positive but low incomes of the remaining families is approximately equal to the total losses experienced by about 21,000 families in the decile. As a result, this decile's share of income before transfers and taxes is virtually nil (Chart A).

Chart A: Taxes and transfers tilt the income distribution.



Sources: Census of Canada; Survey of Consumer Finances

Since the rate of tax on personal income is progressive, taxes have a greater effect on upper income families and, consequently, on their relative shares of after-tax income. In 1995, individuals with a total income of \$1 to \$10,000 paid 3.4% in federal and provincial income taxes. The rate increased to 16.5% for the \$30,000-to-\$40,000 bracket, 23.6% for \$50,000 to \$100,000 and 36.3% for \$250,000 and over.⁵

Before taxes and transfers, the income share of families in the first five deciles (half of all families) was 18.0% of the aggregate in 1995. Transfer payments increased their share to 24.3%. The effect of personal income taxes further improved their position, to 29.2% of aggregate income after tax.⁶

Little change over time

The income shares of various deciles changed little between 1970 and 1995. Families in the first group received only 1.46% of aggregate income in 1970. Their share of income crept up very slowly over the years, to reach 1.64% in 1990, then slipped back in 1995 to its 1970 level. The share of families in the

second decile, after minor movements in both directions between 1970 and 1990, fell to 3.55%, below its 1970 level.

A closer examination reveals several points. First, the income shares of families in the first seven deciles decreased between 1970 and 1995 and those of the last three increased. Second, the losses and gains took place following the recessions of the early eighties and early nineties. Third, the largest losses were experienced by families in the third and fourth deciles. The third decile's share of aggregate income declined from 5.48% in 1970 to 4.96% in 1995, while the fourth decile's share declined from 6.97% to 6.42%. The largest gains were realized by families in the highest decile, whose income share increased from 25.77% to 26.53%.

While the changes in the percentage shares of various deciles may appear small, their effect is not. For example, the fourth decile's share declined by 0.55 percentage points between 1970 and 1995. Translated into dollars, this loss amounted to \$3,000 of total income per family in this decile. In contrast, the tenth decile's share increased by 0.76 percentage points. Had this not happened, the average income of families in this group would have been \$4,200 (or 3.0%) lower than it was. On the whole, between 1970 and 1995 the total change in decile shares was less than 2 percentage points. In terms of aggregate income distribution, this amounted to a total transfer of about \$8 billion from the bottom seven deciles to the top three.

Effect of declining family size

Between 1970 and 1995, real average family income increased by 32.0%. Families in the first six deciles experienced below-average increases in their family incomes, while those in the last four saw above-average gains. The increases ranged from 19.4% in the third decile to 37.0% in the ninth.

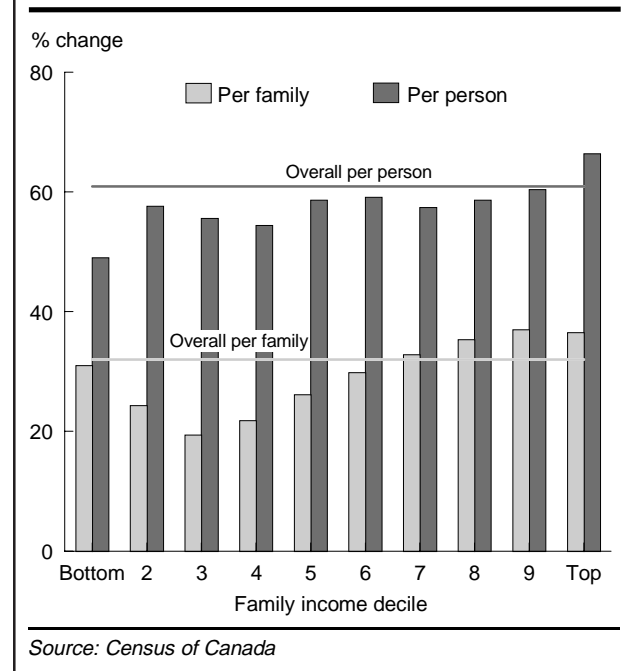
Of two families with identical family income, the smaller family will, other things being equal, enjoy a higher standard of living.⁷ Since average family size declined from 3.72 persons in 1970 to 3.05 in 1995, families were better off financially. Compared with the overall increase of 32.0% in average family income, average income per family member increased by 60.9% over the period. But the decline in family size was not uniform across deciles. Declines in average

family size were below average in the first, seventh, eighth and ninth deciles. The smallest decline occurred in the first decile, from 3.13 persons per family to 2.75, while the largest took place in the third decile, from 3.60 to 2.76.⁸ As a consequence, the degree of income change for family members across the deciles differs from the pattern for families (Chart B).

The increase in average income of families in the lowest decile (31.0%) was close to the overall change between 1970 and 1995. However, the per capita income increase for these families (49.0%) was well below the overall change, because the decline in their family size was below the average.

Although average family size declined at an above-average rate in the next four deciles, the per capita income increase in family income was below average, because the increase in average family income was below average. The only families experiencing above-average increases in both total and per capita family income were in the top decile.

Chart B: Between 1970 and 1995, families in the first six deciles had below-average increases in real income.



Changes in composition

The foregoing demonstrates the difficulty of considering income shares in isolation. Another important issue concerns changes in the composition of these deciles during the period under review.

Over time, demographic and broad economic changes can lead to significant changes in income gains or losses for various segments of society. Government policies and programs also bring about shifts in the relative position of certain groups, especially those with low incomes. As a consequence, the composition of deciles changes over time (Table 2).

Changes in family structure

During the period under review, family structure changed substantially. Families headed by female lone parents accounted for 7.3% of all families in 1970. Their proportion increased over the years, reaching 12.1% in 1995. While the total number of families increased by 55.1% over the period, female lone-parent families increased by 155.5%. These families generally have low incomes. The disproportionately large increase in their number changed the overall income distribution and led to changes in the composition of deciles by family structure, particularly in the first few deciles.

Although the lowest decile received less than 1.5% in both 1970 and 1995, the composition of the decile changed substantially over the period. Female lone-parent families made up less than one-quarter of this decile in 1970. By 1995, these families accounted for nearly two-fifths.

The proportion of female lone-parent families in the second decile increased from 14.3% in 1970 to 23.4% in 1995. Although smaller than in the first two deciles, the increase in the next three was also above average.

Changes in spousal work patterns

Major shifts also took place in spousal work patterns of husband-wife families over the period. These resulted in significant changes in income distributions and in the composition of income deciles. The number of families with both husband and wife working has risen steadily and substantially since 1970. Their proportion increased from 38.1% in 1970 to 51.2% in 1995.⁹

This had a two-fold effect on the composition of income deciles. Because such families were more numerous, they made up a larger proportion of almost every income decile. In the first decile, for example, the proportion of dual-earner families increased from 13.8% in 1970 to 16.8% in 1995. Had dual-earner families not grown so much overall, their proportion in that decile would have changed very little.

Even more important (because of their generally higher incomes) the proportion of dual-earner families in the upper deciles increased significantly. In 1970, husband-wife families with both spouses working made up 58.3% of the ninth decile and 49.5% of the tenth. By 1995, four out of five families in these two deciles were dual-earner families.

Second, and as a consequence of the above trend, the proportion of families in which only the husband worked decreased greatly over the period. In 1970, in 43.4% of all families, only the husband worked. The proportion declined by nearly 29 percentage points to 14.8% in 1995. The drop ranged from 14 points in the lowest decile to 34 points in the highest. This, in turn, translated into smaller proportions of such families in all deciles.

Third, the proportion of families in which the husband did *not* work more than doubled during the period, from 9.2% to 19.5%. This increase affected the composition of the second and third deciles in particular. These families accounted for just one-quarter of all families in the second decile in 1970, but for two-fifths in 1995. Husbands did not work in one out of 10 families in the third decile in 1970; by 1995, this was the case in one out of 3 families.

Changes in family structure and spousal work patterns had both positive and negative effects on income. While the increase in female lone-parent families depressed overall family income, the increase in dual-earner families enhanced it. If no changes in family structure and spousal work patterns had occurred, the shares of all deciles but two would have declined. The share of the ninth decile would have increased from 15.25% to 15.55% and that of the tenth would have increased from 25.77% to 27.83%.

Table 2: Distribution of family income deciles, by selected characteristics

	%																			
	All deciles		First		Second		Third		Fourth		Fifth and sixth		Seventh and eighth		Ninth		Tenth			
	1970	1995	1970	1995	1970	1995	1970	1995	1970	1995	1970	1995	1970	1995	1970	1995	1970	1995		
Family structure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Husband-wife	38.1	51.2	13.8	16.8	18.2	18.8	25.4	29.2	30.3	39.7	40.0	53.9	52.6	69.7	58.3	79.3	49.5	80.9		
Both worked	43.4	14.8	27.2	12.9	38.4	13.3	50.6	17.0	54.9	19.1	50.3	18.4	40.9	14.1	36.2	10.1	44.7	10.9		
Husband only worked	9.2	19.5	31.7	26.0	26.6	41.4	11.5	35.3	6.0	24.9	3.6	16.9	2.3	10.1	2.0	7.2	2.4	5.9		
Husband did not work	2.0	2.5	3.3	4.5	2.5	3.0	2.4	2.8	2.4	3.1	1.9	2.6	1.4	1.8	1.2	1.2	1.3	1.0		
Male lone-parent	7.3	12.1	23.9	39.7	14.3	23.4	10.1	15.8	6.5	13.2	4.2	8.2	2.7	4.2	2.3	2.2	2.1	1.4		
Female lone-parent																				
Age of husband/parent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
15 to 24	6.4	2.6	9.8	10.7	7.9	4.7	9.3	3.6	8.8	2.6	7.2	1.6	5.2	0.5	2.3	0.2	0.6	0.1		
25 to 34	23.1	18.8	18.0	26.7	18.1	18.7	22.9	18.4	26.8	20.9	27.7	21.7	27.0	19.1	22.8	14.0	13.1	7.7		
35 to 44	23.1	27.3	15.4	26.2	16.6	19.4	20.0	20.9	22.2	25.0	25.3	28.4	26.8	32.5	27.0	32.3	25.8	27.5		
45 to 54	20.7	21.8	14.0	15.9	14.4	11.5	16.6	13.8	17.4	16.4	19.1	19.6	22.4	25.2	27.6	32.2	34.8	38.9		
55 to 64	15.0	14.0	16.4	14.1	14.6	11.5	15.8	13.2	14.7	14.1	13.6	14.2	13.3	13.5	15.1	14.1	19.6	17.7		
65 and over	11.7	15.5	26.5	6.4	28.3	34.1	15.4	30.2	10.1	21.0	7.1	14.6	5.3	9.2	5.2	7.2	7.0	8.1		
Major source of income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
No income	0.3	0.1	2.9	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Wages and salaries	79.3	67.5	29.2	22.4	51.0	31.9	76.8	49.6	87.1	65.8	92.0	78.5	93.9	87.4	93.3	90.0	84.0	83.5		
Self-employment	8.0	5.0	15.4	4.7	12.5	4.8	9.9	5.3	7.1	5.4	5.0	4.5	4.3	3.7	4.7	3.9	11.4	9.5		
Government transfers	8.7	20.0	47.4	65.6	29.5	58.5	6.8	37.9	1.9	19.8	0.6	7.2	0.2	1.6	0.1	0.5	0.1	0.1		
Investment	2.0	2.2	2.9	2.7	3.2	1.7	3.0	2.0	1.8	2.2	1.3	2.2	1.0	1.9	1.2	1.9	3.1	3.6		
Miscellaneous	1.7	5.1	2.2	3.2	3.8	3.1	3.6	5.1	2.1	6.9	1.1	7.6	0.7	5.4	0.7	3.6	1.4	3.3		
Composition of income	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Wages and salaries	80.6	72.2	41.6	28.0	49.5	29.5	71.7	44.6	81.5	58.0	86.5	70.3	88.7	80.5	87.9	84.1	73.1	75.6		
Self-employment	7.9	5.9	-10.9	-2.5	10.6	3.8	8.5	4.7	6.4	4.9	4.9	4.5	4.6	4.0	5.4	4.2	15.5	10.9		
Government transfers	5.4	12.0	60.1	67.3	29.6	58.5	12.3	37.9	7.0	24.3	4.5	14.3	2.9	7.3	2.2	4.2	1.5	2.2		
Investment	4.1	4.4	5.5	2.2	5.3	3.2	4.0	4.4	2.9	4.0	2.5	3.5	2.5	3.0	3.0	3.2	7.3	7.2		
Miscellaneous	2.1	5.5	3.8	5.0	5.0	5.0	3.5	8.4	2.3	8.8	1.5	7.4	1.3	5.2	1.5	4.2	2.6	4.2		

Source: Census of Canada

Changes in social security

The social security network in Canada has expanded over the years. The overall share of government transfer payments more than doubled, from 5.4% of aggregate family income in 1970 to 12.0% in 1995. These payments include Old Age Security, the Guaranteed Income Supplement, benefits from Canada and Quebec Pension Plans, child tax benefits, benefits from Employment Insurance, and other payments such as GST credits, social assistance to the needy, the disabled and the elderly, and provincial income supplements to seniors.

The changes have affected elderly families primarily. These families dominated the lowest decile in 1970, accounting for 26.5%. By 1995, their proportion was just 6.4%. Younger families (aged 25 to 34) have since become the most common constituent of that decile, growing from 18.0% to 26.7%. These changes in the age composition of the lowest decile stem from two factors. On the one hand, they reflect the disproportionately large growth of lone-parent families headed by younger women. On the other hand, they demonstrate that the increase in government transfer payments, both federal and provincial, has been large enough to ease most of the older families out of the lowest decile.

The move of elderly families out of the first decile resulted in changes to the next two. The proportion of elderly families in the second decile increased from 28.3% in 1970 to 41.7% in 1980, then declined to 34.1% in 1995.¹⁰ In turn, the proportion of elderly families in the third decile doubled over the period, from 15.4% to 30.2%.

Role of transfer payments grows

The structural changes in the composition of various income deciles are further reflected in the distribution of families by major source of family income (Table 2). Earned income (wages and salaries and net self-employment income), though still the predominant source of family income, has declined as a proportion of the total. By 1995, it was the major source for 72.5% of families, compared with 87.3% in 1970. In contrast, government transfer payments had become the major source of income for 20.0% of families, compared with 8.7% in 1970. The latter change reflects increases in families in which the husband did not work, in female lone-parent families, and in elderly families.

The effect of increasing transfer payments on the income composition of families is particularly significant in the second, third and fourth deciles. Compared with 29.6% in 1970, transfer payments accounted for 58.5% of total income for families in the second decile in 1995. The proportions in the third and fourth deciles increased, respectively, by 26 and 17 percentage points.

Summary

Decile shares of family income changed only slightly between 1970 and 1995. The negative effect of two recessions was, however, stronger on families with lower incomes.

During the period, average family size declined. As a consequence, real average income per family member increased by 61%. This compares with 32% for total

family income. However, neither the increase in family income nor the decline in family size was spread evenly across all families: on the whole, shares of the first seven deciles declined slightly and those of the last three increased. Government transfer payments and personal income taxes played a major role in the relative shares of the deciles.

The composition of the deciles changed significantly in terms of family characteristics. The main causes were increases in the numbers of female lone-parent families and dual-earner families, and changes in social security.

Perspectives

■ Notes

1 It is common to discuss this subject in terms of income quintiles. By definition, the first two deciles form the lowest quintile. Deciles were adopted for two reasons. First, the large sample size on which census income estimates are based allows this more detailed division without compromising the reliability of changes within the deciles. Second, an analysis by quintiles would probably hide some important demographic and other changes that occurred over the period.

2 For an analysis of changes in family income inequality, see Rashid (1998).

3 These families immigrated to Canada in 1996 and had, therefore, no income from Canadian sources in 1995.

4 Most of these families operated a farm, business or professional practice from which they reported losses. The remaining families in this group reported losses from investment income.

5 These rates are calculated from data in Revenue Canada (1997) (Table 2).

6 Because the census does not collect information on personal taxes, the decile shares of income after tax have been derived from data collected by the annual Survey of Consumer Finances. While the income and family concepts are identical in the census and the survey, the latter does not cover the two Territories. However, this difference does not alter results at the national level. The survey publishes data on different income concepts in its annual publication. See, for example, Statistics Canada (1998) (text table VI).

7 This article has not taken into account the combination of adults and children in families (generally known as the "equivalence scale").

8 The reason for these differences will become clear in the discussion of the move of families from one decile to another.

9 These are dual-earner families as a proportion of all families. The proportions are higher when calculated within husband-wife families: 42% in 1970 and 60% in 1995.

10 For a discussion of changes between 1970 and 1990, see Rashid (1994).

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