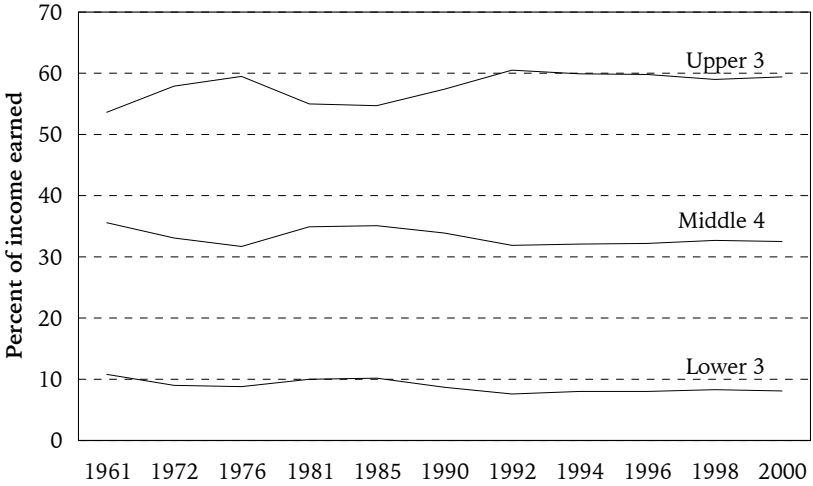
Chapter 5
The Relative Tax Burden

THE FIRST THING PEOPLE ASK ABOUT THE TAX SYSTEM is: How much do I pay? Tax Freedom Day and the Canadian Consumer Tax Index discussed in the last chapter give a rough answer to this query. The next thing people want to know is how much are others paying? Are some paying less than others? These are more complicated questions because they call for a broad view of what the tax system does. Some in the media and many social activist groups believe these questions have a clear and simple answer: the "rich" pay no taxes and the poor are getting "shafted by the system." In this chapter, we suggest that the answers are not so simple. We look at all income groups and how their relative income and tax positions have changed between 1961 and 2000. A reasonable analysis of these numbers points to a different conclusion than that presented by groups that claim Canada's tax system needs to be more progressive than it is.

The distribution of income

In order to analyze the relative income and tax positions of Canadians, we have divided all Canadian families into three broad income groups based on income deciles. The first income decile is one of 10 groups that result from arranging families according to their total income before tax, from lowest to highest, and then selecting the 10% of families with the lowest incomes; the second decile is the next 10% of families, and so on. The lowest income group includes the families in the bottom three deciles; the middle group includes the next four deciles; the upper group includes the top three deciles. The resulting groups are presented in table 5.1 and illustrated in figure 5.1.

Figure 5.1: Percent of total income before tax earned by income group, 1961-2000



Source: The Fraser Institute, 2001.

Table 5.1: Decile distribution of income (income before tax)

	Income groups		
	Lower 3 deciles (%)	**Middle 4 deciles (%)**	**Upper 3 deciles (%)**
1961	10.8	35.6	53.6
1972	9.0	33.1	57.9
1976	8.8	31.7	59.5
1981	10.0	34.9	55.0
1985	10.2	35.1	54.7
1990	8.7	33.9	57.4
1992	7.6	31.9	60.5
1994	8.0	32.1	59.9
1996	8.0	32.2	59.8
1998	8.3	32.7	59.0
2000	8.1	32.5	59.4

Source: The Fraser Institute, 2001.

Table 5.1 reveals that the relative shares of the different income groups have been remarkably constant over the period from 1961 through 2000. A note of caution: in evaluating this result, the reader should bear in mind that a number of aspects of the data make them susceptible to misinterpretation. First, the data fail to make any allowance for the age of individuals. This is important, since age is a principal determinant of income. Young people first entering the labour market typically earn wages or salaries considerably below the average and considerably below what will be their own lifetime average. Similarly, those who have passed the age of retirement are typically in a phase of their life when their incomes are considerably below their lifetime average and when they are spending the savings and pensions accumulated from their working lifetimes.

To illustrate this point, table 5.2 displays the "life-cycle average expected wage" for a Canadian male in 1997. Three sources of data on the earnings profile are available: information from the Canada Customs and Revenue Agency's *Income Statistics*, Statistics Canada's income surveys, and Statistics Canada's Social Policy Simulation Database and Model (SPSD/M). While the three sources yield different estimates, they all show the large fluctuations in income relative to the average that one is likely to experience throughout one's life.

Failure to account for the age of income earners can lead to a considerably distorted impression of how income distribution is changing because there have been dramatic changes in the age structure of the population in Canada. Birth rates have declined and mortality rates have decreased since the 1960s (World Bank 2000). In 1966, the ratio

Table 5.2: Income in age groups as a percentage of average for all age groups, Canadian males, 1997

Age	Revenue Canada taxation statistics (%)	Statistics Canada income survey data (%)	Social Policy Simulation Database and Model (%)	Mixed profile (%)
<25	32.3	36.0	31.1	33.1
25–34	86.4	98.1	91.4	92.0
35–44	119.9	123.5	125.2	122.9
45–54	137.8	131.4	138.4	135.9
55–64	119.3	108.6	119.4	115.8
>64	85.4	81.5	79.2	82.0

Source: Statistics Canada, Income Trends in Canada 1980-1997, catalogue no. 13F0022; Canada Customs and Revenue Agency, Income Statistics, 1999 edition (1997 Tax Year); Social Policy Simulation Database and Model (version 8.0); calculations by the authors.

of Canadians under 20 to Canadians over 65 was 5.5 to 1. This ratio decreased to 2.1 by 2000, and is projected to decline further to 1.1 by the year 2021 and to 0.94 by the year 2026 (see Statistics Canada 2001). In future years, as the number of people retired or nearing retirement grows, we can expect that the distribution of income will be affected. More of the population will be elderly and more of the population will have lower incomes as a result. This will not mean, however, that the population is, in a real sense, worse off.

A second important warning for those who would draw conclusions from these data about the equity of the income distribution is that they ignore income-in-kind that people receive from government. Housing, medical care, education, and other services that are received as direct benefits from government rather than as cash payments are not reflected in the income distribution. The public provision of these services represents one of the most substantial redistributive aspects of Canadian society.

For these reasons, it would be inappropriate to infer from the data in table 5.1 that there had been no change in the effective distribution of income since 1961. The data in their present form are incapable of providing meaningful answers to that question. What the data do provide is a yardstick against which to measure the distribution of taxes. This yardstick will allow us to infer whether, for example, groups of people with low incomes bear a disproportionate share of the tax burden. It will provide an indication of the progressivity or regressivity of the Canadian tax burden. In order to arrive at these results, it is necessary to combine income results with those on tax distribution.

Tax distribution and tax rates

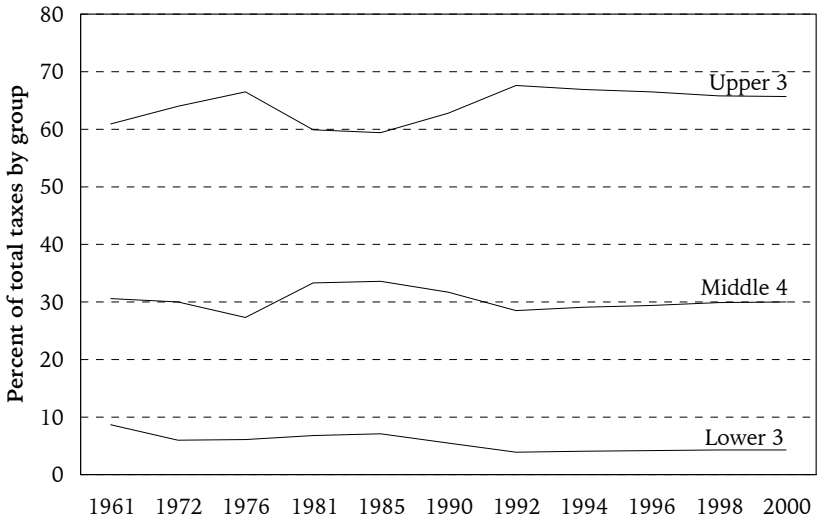
Our measurements of the distribution of the tax burden provide some interesting and, indeed, puzzling results. Whereas up until the mid-1970s there had been a more or less steady increase in the total tax burden borne by the upper income group, from 1976 to 1981 the share of the top group fell markedly. As table 5.3 and figure 5.2 indicate, during 1976 families in the top three income deciles accounted for fully 66.5% of the total tax payments. By 1981, this had fallen to 59.9% of the total, a decrease of 6.6 percentage points. The decline in the tax burden borne by the top three income deciles was nearly matched by a corresponding increase in the tax burden faced by those in the middle income deciles. For example, families in the fourth to seventh income deciles, which had borne 27.3% of the total tax burden in 1976, were bearing 33.3% by 1981, an increase of 6.0 percentage points. Between 1981 and 1992, the share of the total tax burden paid by the top income

Table 5.3: Decile distribution of taxes (%)

	Income groups		
	Lower 3 deciles (%)	Middle 4 deciles (%)	Upper 3 deciles (%)
1961	8.7	30.6	60.9
1972	6.0	30.0	64.0
1976	6.1	27.3	66.5
1981	6.8	33.3	59.9
1985	7.1	33.6	59.4
1990	5.5	31.7	62.8
1992	3.9	28.5	67.6
1994	4.1	29.1	66.9
1996	4.2	29.4	66.5
1998	4.3	29.9	65.8
2000	4.3	30.0	65.7

Source: The Fraser Institute, 2001.

Figure 5.2: Percent of total taxes paid by income group, 1961-2000



Source: The Fraser Institute, 2001.

group increased and, since 1992, has been falling. In contrast, between 1981 and 1992 the share paid by the middle four deciles dropped and, since 1992, has been increasing.

The income tax paid by the upper income group (top three deciles) has been rising since 1985 while that paid by the lower two income groups (middle four and bottom three deciles) has been decreasing. As table 5.4 shows, there had been a modest shift in the incidence of the personal income tax system away from the upper income deciles and toward the lower income deciles until the early and mid-1980s. This was reversed in the late 1980s and early 1990s. The top three income groups accounted for 62.7% of total income tax payments in 1981, down from 68.1% in 1976. By 2000, the top three income deciles accounted for 72.7% of total income tax payments.

A major factor explaining variations in the share of taxes paid by the top three deciles has been the change in the incidence of capital-related taxes. These are chiefly property taxes and taxes on corporate profits. As table 5.5 reveals, there have been relatively large fluctuations in the pattern of these capital-related taxes. Between 1976 and 1981, the burden of profit taxes for the top three deciles dropped from 72.2% to 66.9%. The burden crept up to 71.8% in 1985 and fell to 62.4% in 2000.

Analysis of the underlying factors reveals that part of the reason for the dramatic shift in the incidence of capital taxes has been the change in the distribution of capital income amongst Canadians (see table 5.6). Changes in exemptions are another probable reason why capital taxes fell for the upper income deciles in the late 1970s and early 1980s, then rose in the late 1980s. For example, in the early 1980s

Table 5.4: Decile distribution of personal income taxes (%)

	Income groups		
	Lower 3 deciles (%)	**Middle 4 deciles (%)**	**Upper 3 deciles (%)**
1976	3.2	29.5	68.1
1981	4.4	32.9	62.7
1985	4.5	34.3	61.2
1990	3.8	31.0	65.2
1992	2.0	24.3	73.7
1994	2.2	24.8	73.0
1996	2.3	25.0	72.6
1998	2.3	25.2	72.6
2000	2.1	25.2	72.7

Source: The Fraser Institute, 2001.

Table 5.5: Decile distribution of profit taxes and property taxes (%)

	Decile distribution of profit taxes		
	Income groups		
	Lower 3 deciles (%)	Middle 4 deciles (%)	Upper 3 deciles (%)
1976	10.3	17.8	72.2
1981	9.1	24.0	66.9
1985	6.7	21.6	71.8
1990	5.8	24.5	69.7
1992	6.1	28.1	65.8
1994	5.6	28.3	66.0
1996	5.8	28.8	65.4
1998	6.4	31.7	61.9
2000	6.5	31.1	62.4
	Decile distribution of property taxes		
	Income groups		
	Lower 3 deciles (%)	**Middle 4 deciles (%)**	**Upper 3 deciles (%)**
1976	10.3	17.8	72.2
1981	10.9	26.8	62.3
1985	6.6	21.6	71.8
1990	5.7	24.4	69.9
1992	5.8	27.6	66.6
1994	5.4	28.0	66.6
1996	5.6	28.5	66.0
1998	6.2	31.5	62.2
2000	6.4	31.0	62.6

Source: The Fraser Institute,2001.

Table 5.6: Decile distribution of capital income (%)

	Income groups		
	Lower 3 deciles (%)	Middle 4 deciles (%)	Upper 3 deciles (%)
1976	10.3	17.8	72.2
1981	9.1	23.9	66.9
1985	6.8	22.0	71.2
1990	5.9	24.9	69.3
1992	6.1	28.3	65.6
1994	5.7	28.6	65.7
1996	5.9	29.1	65.0
1998	6.5	32.1	61.4
2000	6.7	31.5	61.8

Source: The Fraser Institute, 2001.

Canadians took advantage of the tax preferences that the government inserted in the tax system to encourage the development of various sectors of the economy, such as oil exploration, rental housing, and Canadian films. The tax reform of 1987 effectively put an end to much of the tax preference game. The recent growth in capital income taxes in the lower and middle deciles may be due to the growth in the value of the stock market and increases in the number of people holding stocks through their mutual funds.

One factor that underlies all of the distribution series is the massive surge in the number of families in the upper income classes. In 1980, for example, only 26.1% of families had an income of $35,000 or more. By 1997, 68.8% of families enjoyed an income at least as large as that. While inflation has played a large role in this development, some of the increase in the number of families in the higher income groups is the result of the fact that an increasing number of families contain two income earners whose joint income pushes the family into the higher tax bracket.

The implication of this increase in the number of families with two income earners for the distribution of taxation amongst families is that the upper income deciles seem to be paying less and less tax because they are composed increasingly of individuals with lower incomes. As noted in chapter 2, two incomes totalling, say, $30,000 are taxed less in total than one income of $30,000. Since upper income families are increasingly composed of two income earners, this has put downward pressure on the average tax rate in this income range.

Consequently, from 1976 until 1985 the percentage of total income earned by the upper income groups had been steadily decreasing while the middle and lower income groups gained ground. This is quite clearly reflected in table 5.1, which shows the distribution of income by decile. Whereas in 1976 nearly 60% of all income was earned by those in the top three deciles, this had dropped to 54.7% by 1985. However, by 2000 the upper three deciles had rebounded to claim 59.4% of income. Whether or not this is the start of a new trend is too early to tell. One further implication of the distribution of total taxes is interesting to note: figure 5.2 shows that the decline in progressivity in the tax system that began to emerge in the late 1970s was reversed by 1985.

A look across the generations

The tables on income distribution presented above give only a snapshot of the number of Canadians who fall into various income groups at one point in time. We must look at these tables with an understanding of what they can and cannot tell us. These tables are perfectly ad-

equate for showing that our tax system is progressive and how much current upper income groups pay versus current lower income groups. What these tables do not show is that, while there is a fairly constant proportion of the population in these income groups, the composition of these groups changes significantly from year to year. What this means is that there is not a "permanent underclass" stuck in the lower income group.

From simulations of lifetime income and taxes done for previous editions of this book, we know that the average lifetime tax rate is higher than the average tax rate from the snapshot. We also know that there is less inequality in average lifetime tax rates than suggested by the snapshot. This should come as no surprise since many young families start out in the low income group and work up to the middle or high income group. There is less inequality in the long term because many families will initially have low income and low taxes followed by middle income and middle taxes and possibly high income and high taxes as they move through their life cycles.

Evidence of just how much the composition of income groups fluctuates has recently been released from Statistics Canada's *Survey of Labour and Income Dynamics*. Table 5.7 presents the shifts in a group of people's position in the overall income distribution between 1995 and 1996. This table shows that there were 3.004 million people in the third income quintile in both 1995 and 1996, that 1.031 million who were in the third quintile in 1995 had moved up to the fourth in 1996, and that 0.856 million people dropped from the third to the second quintile between 1995 and 1996.

Table 5.7: People classified by their family income quintile in 1995 and 1996 (thousands)

		Income quintile in 1996				
		First (bottom)	Second	Third	Fourth	Fifth (top)
Income quintile in 1995	First (bottom)	4,012	897	222	140	63
	Second	830	3,313	934	196	64
	Third	271	856	3,004	1,031	165
	Fourth	138	192	1,010	3,176	815
	Fifth (top)	81	75	164	790	4,221

Source: Statistics Canada, A Comparison of the Results from the Survey of Labour and Income Dynamics (SLID) and the Survey of Consumer Finances (SCF), 1993-1996, product number 75F0002MIE, 1999.

More generally, table 5.7 shows that between 1995 and 1996:

- 66.5% of families did not change quintile
- 13.8% moved up one quintile
- 13.1% dropped one quintile
- 3.2% moved up more than one quintile
- 3.5% dropped more than one quintile

Nearly one quarter (24%) of those families in the bottom two quintiles in 1995 were at least one quintile higher by 1996. Extending the study period from two to five years shows greater income mobility (Webber et al. 1999). The data show that:

- 49.1% of families did not change quintile
- 20.7% moved up one quintile
- 14.5% dropped one quintile
- 8.2% moved up more than one quintile
- 7.5% dropped more than one quintile

Of those initially in the bottom two quintiles, 45% moved up at least one quintile over the five-year period of the study.

Who pays the tax bill?

Table 5.3 shows that the largest portion of the tax burden ultimately settles on the higher income groups. In 2000, the top 30% of families earned 59.4% of all income in Canada and paid 65.7% of all taxes. The bottom 30% earned 8.1% of all income and paid 4.3% of all taxes.

To economists these figures are nothing out of the ordinary. Our tax system is progressive. It is not surprising to find that those earning lower income pay less tax as a proportion of their income than those earning higher income. This result may, however, come as a surprise to activists and reporters who claim that the "rich" in Canada pay no taxes. As tables 5.3 and 5.4 show, the rich bear *most* of Canada's taxation burden. Some critics might counter that the rich in Canada avoid taxes by holding their wealth in corporations and that corporations can avoid taxes better than individuals. We address this question in chapter 7 and present the results of a study done by the Ontario government's Fair Tax Commission, which found that corporations do pay their taxes.

Who belongs to the club of the top 30% of Canadian families? A Canadian family is included in the top 30% when its cash income exceeds $63,209. The average income in this group is $104,395.

Get it from the rich

It is often said—and all too often believed—that the key to "social welfare" or "social justice" is the redistribution of income. That is, the state should take income from those who have more and give it to those who have less. The extreme form of this prescription is "from each according to his ability [to pay] and to each according to his need"—the rule advanced in the *Communist Manifesto* (Marx and Engels 1848).

The preceding section's analysis of who pays the income tax reveals that, as a country, Canada already engages in significant taxation of those who are relatively well-off. It remains interesting, therefore, to inquire whether or not we could achieve a more equal distribution of the benefits of the Canadian good life by taxing more of the income of the richest Canadians.

How rich is rich?

The question that immediately arises is "How rich is rich?" At what income level should the government tax away all increases in the interest of "equitable" income distribution? Most so-called high-income surtaxes apply at incomes at or below $60,000. Let us, then, for the sake of illustration, select $60,000 as the maximum income that Canadians should be allowed to earn. Under this rule, all incomes above $60,000 would be subject to a 100% rate of income tax and the proceeds would be distributed to all income earners with incomes less than $60,000.

Counting the rich

In 1997, 1,674,820 persons filed tax returns reporting an income of $60,000 or more. Note that, in this section, individual and not family incomes, are the focus of the analysis. Note also that this section examines personal income tax, not the total tax burden. Total income reported by these people was $176 billion. If the government had really taxed away all income beyond $60,000, the total tax revenue in 1997 would have been $25.3 billion higher than it actually was. Redistribution of this increased tax revenue to those 19.4 million tax filers with incomes less than $60,000 would yield an average annual payment of $1,300.

Taxing the "rich" is not the source of wealth

This calculation is important because it reveals the practical impossibility of "getting it from the rich and redistributing it to the poor." A look back to table 2.6 reveals that only 7.9% of tax filers earned more than $60,000 in 1997. Those who are impatient with the speed at which the economic process improves the condition of the poorest members of society ought to reflect on the fact that the same total increase in the incomes of those earning less than $60,000 would be

achieved by about a 3.5% growth in total incomes, even if it were distributed in exactly the same way as it is now. What Canada needs are more "rich" people; imposing more taxes is not the way to increase anyone's wealth.

The rags-to-riches tax burden

In the previous sections, we have shown in general terms how our progressive tax system imposes ever increasing burdens on people as they earn more income. What about an individual who started off in 1961 with meagre earnings and has since improved his economic situation markedly? What kind of message does our tax system send to this person? Table 5.8 presents the results of a tax analysis for such an individual. We assume that when he started working in 1961 he was earning $2,750 a year in cash income, half the average income, and that his income grew steadily and at such a rate that by 2000 he was earning twice the average, or $100,358 a year.

In 1961, this person's total income before tax of $4,775 attracted a tax bill of $960 or an average tax rate on total income of 20.1%. By 1976, the hypothetical income earner had a total income before tax of $17,905 and paid taxes of $4,492, for a tax rate of 25.1%. Finally, in 2000, when his cash income was $100,358, his total income before tax was $148,377, and his taxes paid amounted to $53,047. Thus, the average tax rate on total income before tax had risen from 20.1% to 35.8%.

Over the period of 39 years from 1961 to 2000, our hypothetical income earner experienced a 3,007% increase in total income before tax. Over the same period, his taxes paid increased by 5,426% and taxes as a percentage of total income before tax increased by 77.8%.

Table 5.8: The rags-to-riches tax burden

	Cash income ($)	Total income before tax ($)	Tax ($)	Tax as a percentage of total income before tax
1961	2,750	4,775	960	20.1
1969	5,752	9,663	2,186	22.6
1976	10,969	17,905	4,492	25.1
1981	17,397	27,817	7,513	27.0
1990	39,901	61,476	18,963	30.8
2000	100,358	148,377	53,047	35.8
Increase (%) 1961–2000	3,549	3,007	5,426	77.8

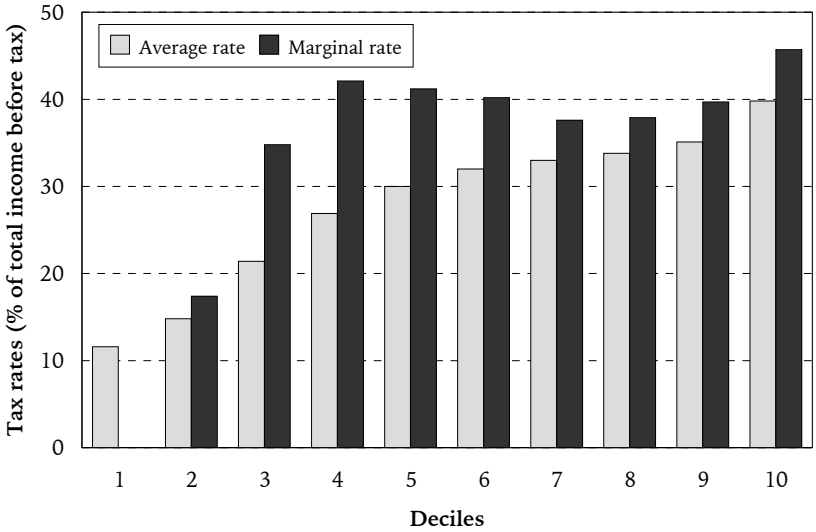
Source: The Fraser Institute, 2001.

Marginal versus average tax rates

The tax rate that one earns on the next dollar of income is referred to as the "marginal tax rate." It can differ dramatically from the average tax rate, which is the rate that we are most accustomed to thinking about. Table 5.9 shows both marginal and average rates for different income levels; figure 5.3 illustrates them.

It is this marginal rate that enters into people's decisions about how much to work. When someone decides whether or not to work an extra hour, she asks herself how much extra she will earn and how much extra tax she will pay. She does not consider how much tax on average she is paying because this does not reflect the true return to any extra effort she may wish to provide. As table 5.9 shows, these rates jump considerably as one moves from the second to the third income decile, reflecting that initially it is very costly to work because one rapidly loses social assistance. The reason for this result is that many social assistance payments are reduced (the gains are "clawed back") once the recipient starts earning income. In effect, these "claw-backs" can cause the tax rate on the first few dollars of earned income to be very high. This effect fades in the middle income brackets but rises again at higher levels of income from the effect of increasing progressivity.

Figure 5.3: Average and marginal tax rates by income decile, 2000



Source: The Fraser Institute, 2001.

Table 5.9: Average and marginal tax rates, Canada, 2000

Average tax rates (%)									
Lower income groups			Middle income groups				Upper income groups		
1	2	3	4	5	6	7	8	9	10
Income measure = cash income									
15.1%	18.9%	29.2%	38.8%	44.2%	47.3%	48.8%	49.9%	52.0%	60.9%
Income measure = total income before tax									
11.6%	14.8%	21.4%	26.9%	30.0%	32.0%	33.0%	33.8%	35.1%	39.8%

Marginal tax rates (%) faced when moving from a lower to a higher decile									
	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to10
Income measure = cash income									
	21.8%	55.8%	71.9%	65.3%	60.8%	55.6%	55.2%	60.1%	73.0%
Income measure = total income before tax									
	17.4%	34.8%	42.1%	41.2%	40.2%	37.6%	37.9%	39.7%	45.7%

Source: The Fraser Institute, 2001.