NEW PERSPECTIVES ON INCOME INEQUALITY IN BC

By Marc Lee

DECEMBER 2004

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CANADIAN CENTRE
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ABOUT THE AUTHOR

Marc Lee is an economist in the BC office of the CCPA. He is the author of numerous CCPA publications, including *Tall Tales about Taxes in BC, Who's Cutting Classes? Untangling the Spin about K-12 Education in BC*, and *State of the BC Economy 2004*, and is a frequent media commentator on economic policy issues.

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Any errors and the opinions presented in this paper are those of the author, and do not necessarily reflect the views of the Canadian Centre for Policy Alternatives.

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CCPA
CANADIAN CENTRE
for POLICY ALTERNATIVES
BC Office

www.policyalternatives.ca

CCPA BC Office
1400 – 207 West Hastings Street
Vancouver, BC V6B 1H7
tel: 604-801-5121
fax: 604-801-5122
email: info@bcpolicyalternatives.org

CCPA National Office
410 – 75 Albert Street
Ottawa, Ontario K1P 5E7
tel: 613-563-1341
fax: 613-233-1458
email: ccpa@policyalternatives.ca

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Summary

This paper looks at income inequality in BC in the 1990s, drawing on two new data sources, tax data and census data, in addition to conventional survey data. These new data sources give us a clearer picture of inequality changes and enable a more detailed look at the top and bottom of the income distribution.

The paper focuses on changes in family income inequality measured by three income measures: market income, total income and after-tax income. We consider the changes in BC inequality in a number of different ways: broad trends using the gini coefficient (the most common summary index of inequality); changes in incomes for different income groups; the shares of income accruing to each income group; and, the ratio of incomes at the top, bottom and middle of the distribution.

Key findings

Tax and census data show a rise in income inequality in BC over the 1990s:

- While survey data show no significant increase in income inequality in the 1990s, based on the gini coefficient, tax data for 1992 to 2000 show a steady and significant rise in inequality, whether measured by market income, total income or after-tax income.
- While the tax and transfer system in general reduces inequality, it did not abate the rise in market income inequality over the 1992 to 2000 period. Increases in the gini coefficient for market incomes translate almost one-for-one to increases in the after-tax income gini coefficient.
- Census data are limited to five-year intervals and to the total income measure. Census data support the finding that inequality, on a total income basis, rose in the 1990s, with most of the increase in the 1990 to 1995 period.
- The most recently available survey data point to a statistically significant rise in the gini coefficient from 2000 to 2002 on all three income measures. Updated tax data, when available, will enable a better understanding of post-2001 inequality changes.

Tax and census data confirm the adage that the rich got richer over the 1990s, while the poor got poorer:

- For the bottom 5%, average market income was 30.6% lower in 2000 than in 1992, and average after-tax income was 41.7% lower. Over the 1992–2000 period, there was a steady decline in the incomes of the bottom 5% for both market income and after-tax income.
- The top 5% experienced large gains in both market and after-tax income. Average income of the top 5% in 2000 was 14.2% higher than in 1992, and average after-tax income was 11.5% higher.
- The bottom half of the distribution experienced income declines in 2000 relative to 1992.
- The top 10% of families increased their share of the market income pie by two percentage points, from 28.0% in 1992 to 30.0% in 2000. On an after-tax basis, the top 10% increased their share of income by 1.5 percentage points, from 23.3% in 1992 to 24.8% in 2000.
- As a result of the gains at the top and losses at the bottom, the ratio of market incomes of the top 5% to the bottom 5% grew dramatically over the 1992–2000 period. In 1992, the top 5% made 57 times the income of the bottom 5%. By 2000, this had grown to 94 times.
- The ratio of after-tax income at the top and bottom 5% of the distribution grew from 21 in 1992 to 40 in 2000. A large part of the increase in inequality stems from the near-collapse of incomes at the bottom of the distribution.
- For both tax and census data, the incomes of the top 5% grew relative to median income, while the incomes of the bottom 5% fell relative to the median.

BC inequality increases were "less worse" over the 1990s than in Canada as a whole:

- Both BC and Canada had declining market and after-tax incomes for the bottom 5% over this period. Income levels at the bottom for Canada not only fell more in percentage terms than for BC, they started off at a lower level in 1992 for both market and after-tax income.
- The 1990s expansion increased inequality more for Canada as a whole even as the overall economy performed at a faster clip. Gains were more concentrated at the top, but at the same time spread their way further down the income distribution. British Columbians in the middle of the distribution fared worse than their counterparts for Canada as a whole.
- Government policy, at the macroeconomic level and in terms of the tax and transfer system, contributed to rising inequality in both Canada and BC. Rising inequality is consistent with a number of policy measures implemented in the 1990s with regard to labour markets, monetary policy, fiscal policy and changes to social safety nets.

Since 2001, BC's policy landscape has been transformed. Early signs suggest a rise in market inequality that has been reinforced by income tax cuts. The combination of income tax cuts favouring high-income earners, and higher consumption taxes and medical service plan premiums that place a higher burden on low-income earners, will likely show up as higher inequality when the statistics come in.

Introduction

From Canada's poorest postal code in Vancouver's Downtown Eastside, to the middle class neighbourhoods around the province, to the lavish, get-away "cabins" of Whistler and the Gulf Islands, inequality is a visible feature of BC's landscape. But just how large is inequality in BC, and how has it changed over time?

An analysis of wealth inequality by Steve Kerstetter (2001) found that BC had the largest wealth gap in Canada. The richest 10% of families had 54.6% of net worth (total assets minus total liabilities), while the bottom 10% had negative wealth of -0.3%. The top half of families had 95.7% of total wealth compared to a mere 4.3% for the bottom half.

This paper looks at *income inequality*, the distribution of each year's economic pie, for BC. It draws on two new data sources, tax data and census data, in addition to conventional survey data to assess changes in income inequality in the 1990s, and to a lesser extent, the 1980s. These new data sources provide a better picture of what is really happening with income inequality because of much higher coverage rates than standard surveys.

BC data were generated for the CCPA as special runs of a Statistics Canada paper analyzing income inequality in Canada based on the three data sources. In the resulting paper, by Marc Frenette, David Green and Garnett Picot (2004:3), the authors found that:

> Based on census and tax data, there appears to have been higher levels of inequality and much stronger increases in market income inequality in the 1990s than has been previously acknowledged. Further, in contrast to the 1980s, the tax and transfer system did not offset these inequality increases. Indeed, changes in the tax and transfer system may have increased the ultimate level of post tax and transfer family income inequality.

This paper analyzes similar data to investigate changes in inequality in BC, and provides benchmark data for assessing dramatic policy changes instituted by the BC government beginning in 2001. The next section reviews the data and methodology employed in this paper. *Rising Inequality in the 1990s* then examines the rise in inequality in BC over the 1990s based on the new data. The *BC vs. Canada* section compares changes in BC to those for Canada as a whole. *Explaining Rising Income Inequality* considers changes in the policy landscape that contribute towards rising inequality. This paper then concludes with some thoughts on policies to combat rising inequality.

Data and Methodology[1]

There is no one accepted way of analyzing income inequality. There are different data sources and techniques for examining changes over time. This section reviews and compares the data sources used in this paper, and provides detail on the concepts and methods used to analyze inequality.

The conventional source for data on inequality is through surveys. Statistics Canada's Survey of Consumer Finances (SCF) provided data up to 1995. In 1996, the SCF was replaced by the Survey of Labour and Income Dynamics (SLID), a panel survey with linkages to tax data to ensure more accurate income estimates. Surveys, by definition, do not interview the entire population, but instead estimate population averages based on a random sample—in the case of SCF and SLID, consisting of about 30,000 to 35,000 households nationally. The sample size for BC, based on the province's share of the Canadian population, is about 4,500 households.

Even though this is statistically considered to be a generous sample for a province the size of BC, there are dangers that the sample may not be truly representative. This could be the case if low-income people are under-represented in the sample because they cannot be contacted by telephone (the usual means of conducting surveys), or similarly, if very high income people are under-represented because they are less willing to provide information about their incomes over the phone. Frenette et al. (2004) hypothesize that under-coverage of low-income individuals could explain why average incomes at the bottom of the distribution are considerably higher for survey data than for tax data.

The SCF and SLID data in this report are drawn from Statistics Canada's CD-ROM, *Income Trends in Canada, 1980–2002*. This is the most complete of the data series in terms of time trends. However, the 1995 to 1996 transition from SCF to SLID creates a "seam" in the data that requires some caution in interpretation.

A disadvantage of survey data is that the sample for BC must then be divided into smaller units of analysis. SCF/SLID data present breakdowns of income inequality at the quintile level (a quintile is an equal fifth of the population, ranked in order from bottom to top, or from the bottom 20% to the top 20%).

This paper builds on SCF/SLID data by considering taxfiler data and census data. The advantage of these data sources is that they are more comprehensive in coverage than survey data because of legal requirements to file taxes and return census questionnaires. Tax data are drawn from the T1 Family File (T1FF) created by Statistics Canada from personal income tax forms (T1s). It has a coverage rate of 95–96%, compared to 80-85% for survey data. The census, in theory, covers the entire Canadian population, although in practice it has a coverage rate of 96-98%.

We have data for the T1FF from 1992 to 2000. In addition, we have census data for 1980, 1985, 1990, 1995 and 2000. Hence, while these data sources have higher coverage rates, the number of years of data is more limited than the SCF/SLID. These data were calculated for the CCPA by Statistics Canada from the same microdata files used by Frenette et al. (2004).

Using tax and census data allows us, for the first time, to examine changes among the top and bottom 5% groups. Traditional survey data are generally limited for provinces such as BC to 20% groupings that mask changes at the top and bottom of the distribution.

Tax and census data have been created at the *census family* level, what generally corresponds to a "nuclear family" or "immediate family." A census family is defined as a married or common-law couple with or without children, or a lone-parent family. Unattached individuals are also considered to be census families of size one for the purposes of this study so that the entire population is covered.

Data have been adjusted by family size. This is a standard procedure that adjusts income to account for differences in family size across households in a way that recognizes economies of scale at the household level (i.e. that two people living together can do so at less expense than two people living each on their own). The adjustment (or "equivalence scale") divides income by the square root of the number of family members. For example, a $90,000 income for a family of four would be divided by the square root of four, or two, for an adult-equivalent income of $45,000—this says an income of $90,000 for a family of four is "equivalent" to an income of $45,000 for a single individual.

The family size adjustment means that average incomes in this paper appear smaller than they actually are, as the example above illustrates. However, given that family size is generally uniform across the income distribution, relative measures (i.e. the ratio of the top 5% to the bottom 5%) should be about the same as if the calculations were done on unadjusted family incomes. Income figures are also adjusted for inflation, and are reported in 2000 constant dollars.

In terms of methods, we consider income inequality using three stages of income: *market income*, which includes employment earnings, net self-employment income, and other income such as pensions and investment income; *total income*, which includes market income plus government transfer payments (such

as social assistance, unemployment insurance and old age pensions); and *after-tax income*, which is total income less income taxes. These measures, then, provide estimates of income before and after the impact of the tax and transfer system.[2] Census data are available only on a total income basis.

Based on these distinctions, inequality can be measured in a number of ways. One standard way of looking at changes over time is by using the *gini coefficient*, which ranges from 0 (absolute equality, i.e. everyone has the same income) to 1 (absolute inequality, i.e. one unit has all of the income). In practice, the range of "real-world" gini coefficients is from 0.25 to 0.65. Statistics Canada considers a movement of the gini coefficient by 0.01 to be statistically significant at the 1% level. The gini coefficient is more sensitive to changes in the middle of the distribution. If changes in inequality appear more at the top or bottom of the distribution, they may not be adequately captured by the gini.[3]

This paper also examines changes in the average income of different income groups over time, and the ratio of the average income at the top, bottom and middle of the distribution. For tax and census data, the population has been split into 20 equal-sized groupings known as *vingtiles*. Each vingtile represents 5% of the population. The bottom 5% is referred to as the bottom vingtile or the first vingtile. The next 5% is the second vingtile, and so on, all the way up to the twentieth vingtile, more commonly referred to as the top vingtile, or the top 5%.

Using tax and census data allows us, for the first time, to examine changes among the top and bottom 5% groups. Traditional survey data are generally limited for provinces such as BC to 20% groupings (quintiles) that mask changes at the top and bottom of the distribution.[4]

Rising Inequality in the 1990s

There is no one correct approach to analyzing income inequality. In this section, we consider changes to BC inequality in a number of different ways. First, we look at broad trends using the gini coefficient and new perspectives on inequality changes offered by tax and census data. Next, we look in more detail at the tax data, considering the changes over the 1990s in incomes for different income groups. We then look at the shares of total income accruing to each income group and the ratio of incomes at the top, bottom and middle of the distribution. Finally, we examine census data for an additional perspective on changes going back to 1980. Data for this analysis are provided in detail in the Appendix.

Inequality Trends: Gini Coefficient

We first compare the 1992–2000 period for which we have both survey and tax data. Tax data are a useful addition to our knowledge, due to higher coverage rates than survey data, and because there is a "seam" in the survey data between 1995 and 1996, reflecting the transition from the SCF to the SLID. Figure 1a shows gini coefficients for market income, comparing survey data with tax data, while Figure 1b shows the same for after-tax income.

Survey data on market incomes in BC show relatively little change in inequality (not statistically significant) from 1992 to 2000, albeit with some annual fluctuations. However, it is difficult to draw conclusions due to the transition from the SCF to the SLID in 1996. The jump in the gini from 1995 to 1996 could be the result of this transition, rather than an actual increase in inequality. Looking only at the SLID data for 1996 to 2000, there is a significant decline in inequality.

On an after-tax basis, survey data show a statistically significant increase in the gini coefficient between 1992 and 1996, which then stays at about the same level for the remainder of the decade. Again, it is

not clear whether the post-1996 pattern we see is a real increase in after-tax inequality or simply the impact of the SCF-to-SLID transition (i.e. because of the change in the underlying data, SLID ginis may be slightly higher than SCF ginis).

Tax data tell a different story than survey data about changes in inequality over the 1992–2000 period. Tax data show a steady and statistically significant increase in both market income inequality (Figure 1a) and after-tax income inequality (Figure 1b). Market income inequality rose by .039 points on the gini scale between 1992 and 2000. After-tax income rose by slightly less, by .037 points (an increase of 0.01 or greater is considered a statistically significant movement).

Hence, while it is clear that the tax and transfer system in general reduces inequality, the tax and transfer system did not abate the rise in market income inequality over the 1992 to 2000 period. Increases in the gini coefficient for market incomes translate almost one-for-one to increases in the after-tax income gini coefficient.

Figure 1a: Comparison of gini coefficients on market income

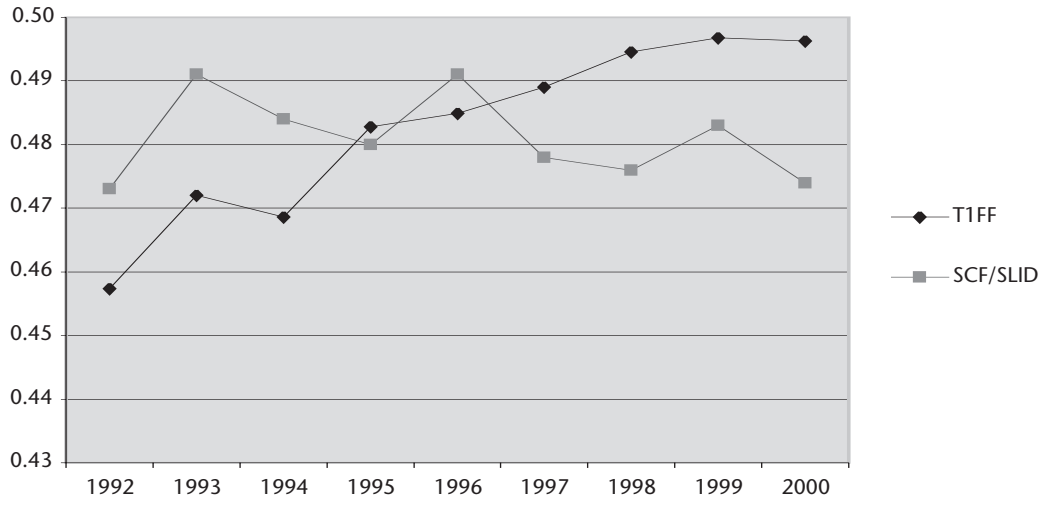
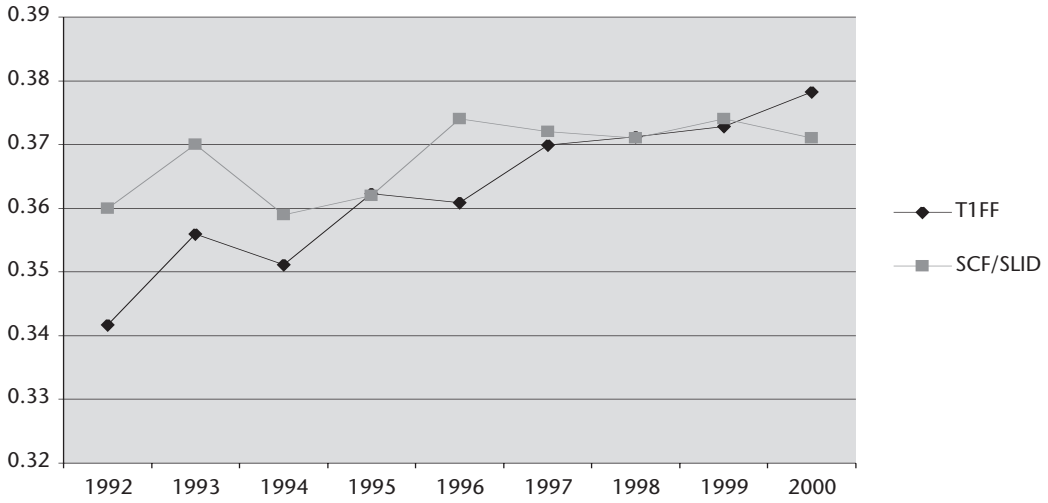


Figure 1b: Comparison of gini coefficients on after-tax income



Sources: SCF/SLID data from Statistics Canada, Income Trends in Canada, 1980–2002 CD-ROM; tax data calculated by author from Statistics Canada special runs. See Appendix for detailed data.

Figure 2 looks at the entire 1980–2002 period for which we have data and plots all three data sources (survey, tax and census) for market income, total income and after-tax income. Survey data provide the baseline figures over the entire period. Tax and census data are overlaid on top of the survey data. For the census, we have data on total income only for five years (1980, 1985, 1990, 1995 and 2000).

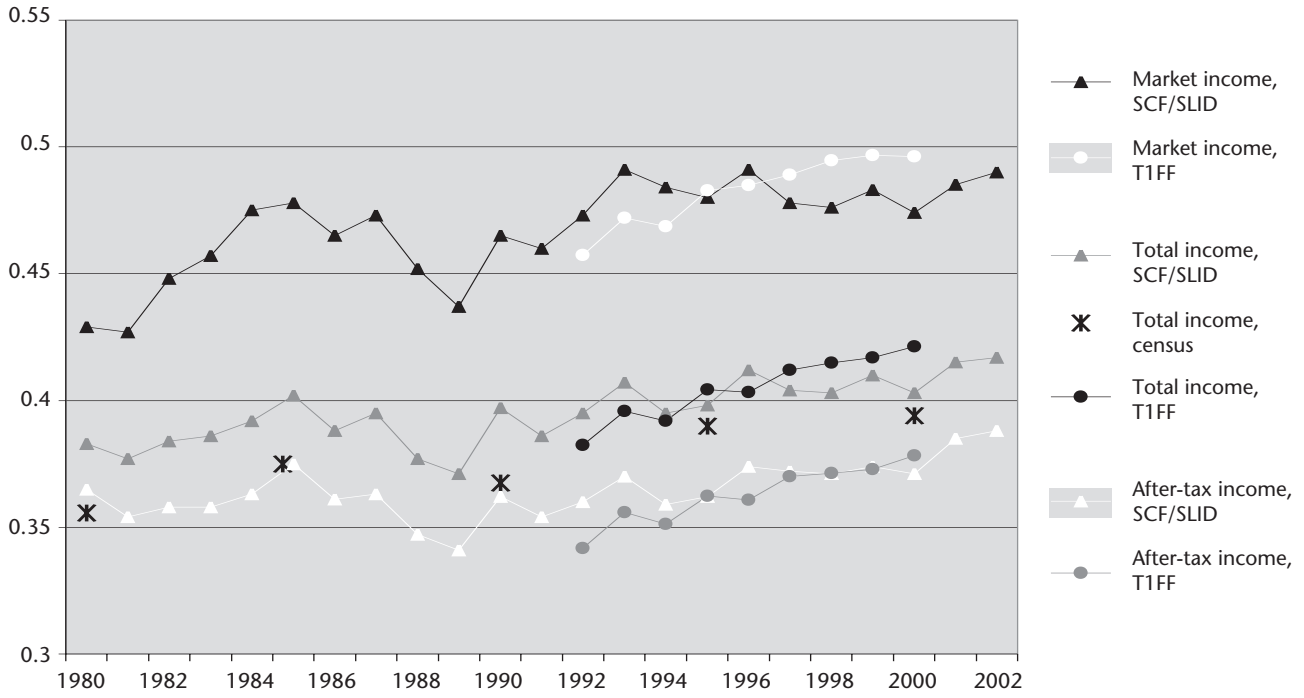
Census data support the finding based on tax data that inequality, on a total income basis, rose in the 1990s, although most of this increase occurred in the 1990 to 1995 period, with a much smaller increase between 1995 and 2000. Census ginis are generally lower, for the years available, than the ginis for total income based on survey and tax data.

Tax data show that inequality rose for each of the three income measures. Both survey and tax data also show how inequality is reduced on the gini scale by the inclusion of transfers, and then is further reduced by the impact of progressive income taxes. Most of the "work" in reducing inequality stems from the impact of transfers, rather than taxes.

Figure 2 also shows the 1990s pattern that is different from that observed for the 1980s. Income inequality moved cyclically in the 1980s, rising up to the mid-1980s then falling in the late-1980s in accordance with a stronger economy. Frenette et al. (2004) hypothesize that inequality should rise in recessions due to increases in unemployment, which will show up as lower average incomes in the bottom part of the distribution. In expansions, the opposite should occur, as new employment increases average incomes closer to the bottom (although it may take some time for these effects to work their way down the ladder). For the 1990s expansion, however, the pattern is different: inequality rose but did not fall later in the decade, even though unemployment rates fell to two-decade lows.

The most recently available survey data point to a statistically significant rise in inequality from 2000 to 2002 on all three income measures. The magnitude of the change in inequality is greater for after-

Figure 2: Comparison of gini coefficients, 1980–2002



Sources: SCF/SLID data from Statistics Canada, Income Trends in Canada, 1980–2002 CD-ROM; tax and census data calculated by author from Statistics Canada special runs. See appendix for detailed data.

tax gini (.014 points) than the market income gini (.011 points). This suggests that the rise in inequality was driven primarily by market income changes, likely a consequence of the near-recession in 2001. Income tax cuts, however, appear to have reinforced the rise in market inequality. More years of data, and updated tax data, will enable a better understanding of post-2001 inequality changes.

Average Incomes by Vingtile

While it is almost cliché these days to say that the rich got richer and the poor got poorer in recent years, this is indeed what happened over the 1990s according to tax data. Figures 3a and 3b show the percentage change in market and after-tax income (in constant 2000 dollars) broken down by vingtile (or 5% groups, ranked from lowest to highest) over the 1992–2000 period.[5]

Figure 3a: Per cent change in market income by vingtile, tax data, 1992–2000

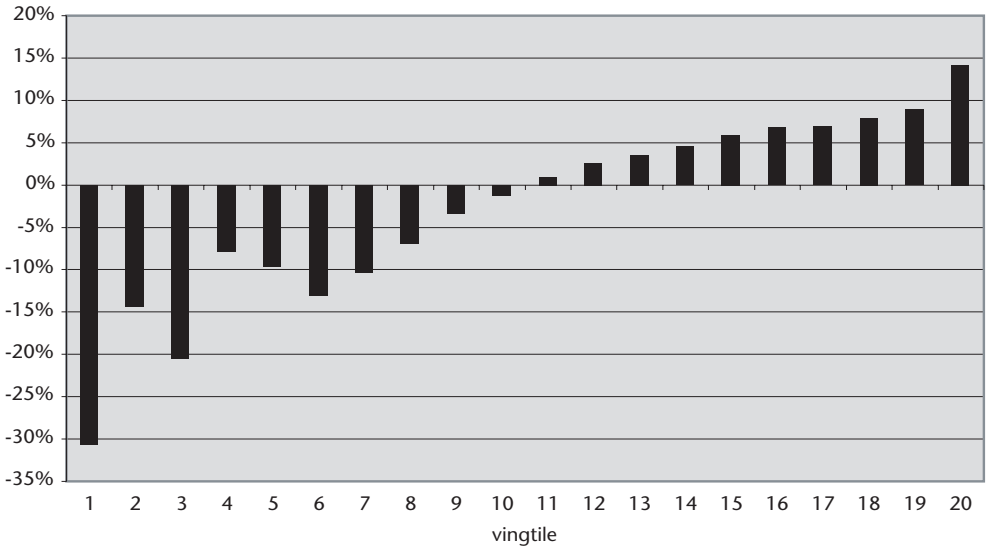
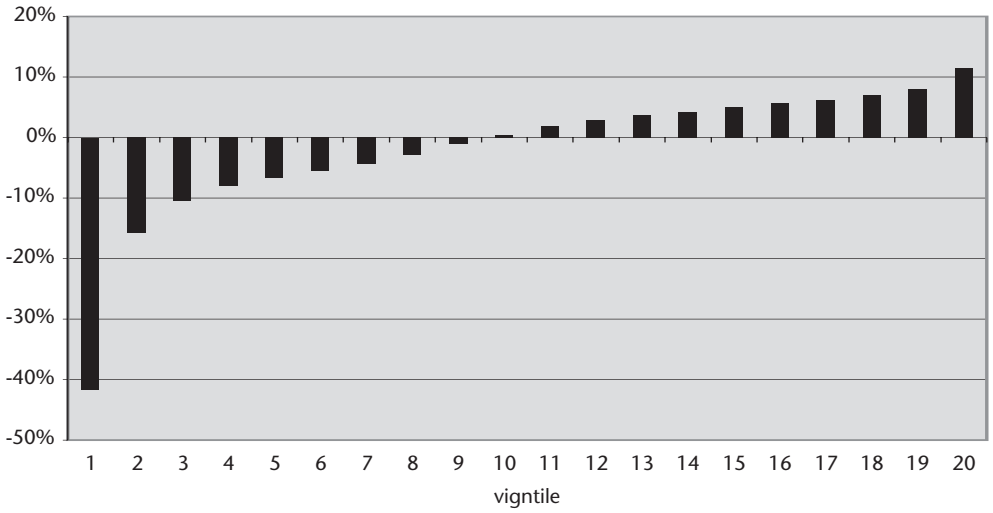


Figure 3b: Per cent change in after-tax income by vingtile, tax data, 1992–2000



Note: Calculations are based on income figures in constant 2000 dollars.
Source: Authors calculations based on special runs for CCPA conducted by Statistics Canada.

If income gains were distributed equally among income groups, we would expect to see a "picket fence" pattern, but if gains accrue more to the top of the distribution, we would see a "staircase" pattern (Krugman 1994). Both figures clearly show a staircase pattern.[6] Average market income of the bottom vingtile was 30.6% lower in 2000 than in 1992 (Figure 3a), and average after-tax income was 41.7% lower (Figure 3b). The second and third vingtiles had after-tax income drops of 15.7% and 10.4% respectively. At the top end, average market income of the top vingtile in 2000 was 14.2% higher than in 1992, and average after-tax income was 11.5% higher.

The entire bottom half of the distribution experienced income declines in 2000 relative to 1992. For the bottom five vingtiles (25% of the population), the absolute decline in income (not shown) was greater after taxes and transfers than it was for market income.[7]

To further illustrate the changes over time, Figure 4a shows that the changes in average income for the bottom vingtile are not aberrations for the year 2000. Over the 1992–2000 period, there is a steady decline in the incomes of the bottom vingtile for both market income and after-tax income. Figure 4b shows that the opposite trend is taking place for the top vingtile, with large gains in both market and after-tax income.

Figure 4a: Changes in average income of bottom 5%

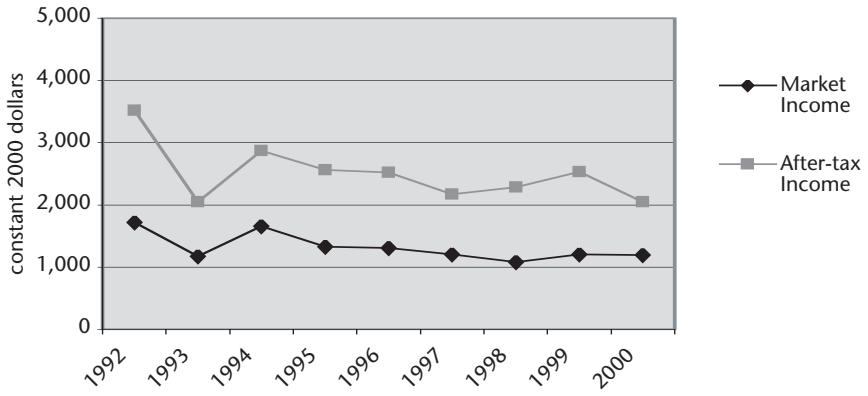
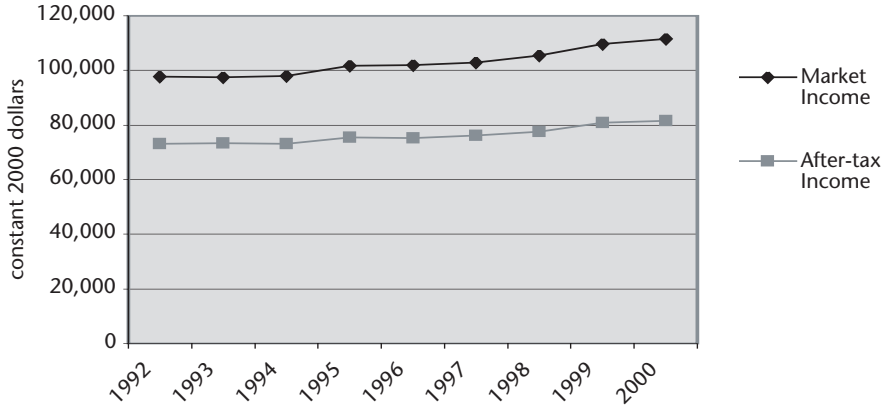


Figure 4b: Changes in average income of top 5%



Note: Income figures have been adjusted for family size—actual family incomes will be higher. Figures are in constant 2000 dollars.
Source: Author's calculations based on special runs for CCPA conducted by Statistics Canada.

Shares of the Income Pie

Another way of analyzing the data is to examine trends in how each year's income pie is carved up. Figures 5a and 5b show the percentage of income accruing to each vingtile for market income and after-tax income respectively. As might be expected from the analysis of income changes above, income groups closer to the top gained a bigger share of the income pie by 2000 relative to 1992.

The top vingtile received 17.0% of market income in 1992, while the next vingtile received 11.0%. By 2000, this rose to 18.6% for the top vingitle and 11.4% for the next vingtile. Put another way, the top 10% of families increased their share of the income pie by two percentage points, from 28.0% in 1992 to 30.0% in 2000.

The next four vingtiles also increased their income share, but by relatively small amounts. Vingtile 14 maintained its share of income, while the bottom 13 vingtiles (the bottom 65%) each received a smaller share of market income in 2000 than they did in 1992. The bottom vingtile received a mere 0.3% of market income in 1992, and this fell to 0.2% in 2000.

On an after-tax basis, the story is only somewhat better. The top vingtile increased its share of after-tax income from 13.7% in 1992 to 14.8% in 2000, while the next vingtile went from 9.6% to 10%. Together, the top 10% increased their share of after-tax income by 1.5 percentage points, from 23.3% in 1992 to 24.8% in 2000.

Figure 5a: Share of market income by vingtile, 1992 and 2000

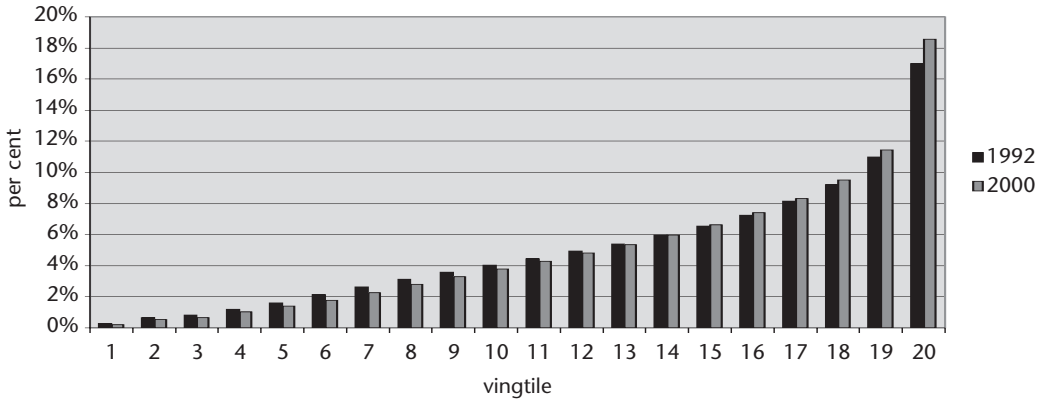
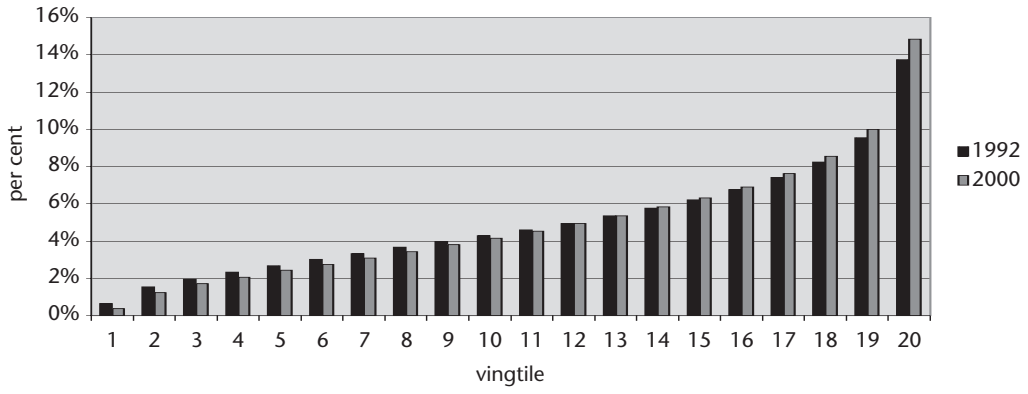


Figure 5b: Share of after-tax income by vingtile, 1992 and 2000



Source: Author's calculations based on special runs for CCPA conducted by Statistics Canada..

The next few vingtiles also gained a greater share of after-tax income between 1992 and 2000. The turning point for after-tax income happens between vingtiles 12 and 13—that is, the bottom 12 vingtiles (the bottom 60% of families) received a smaller share of the after-tax income pie in 2000 compared to 1992.

As a result of the gains at the top and losses at the bottom, the ratio of market incomes of the top vingtile to the bottom vingtile grew dramatically over the 1992–2000 period. In 1992, the top vingtile made 57 times the income of the bottom vingtile. By 2000, this had grown to 94 times. Even considering the bottom and top 10%, the growing gap is significant: the top 10% earned 30 times more than the bottom 10% in 1992, growing to 41 times by 2000.

The ratio of after-tax income for the top and bottom vingtiles grew from 21 in 1992 to 40 in 2000. A large part of the increase in inequality stems from the near-collapse of incomes at the bottom of the distribution.

Another way to consider these changes is to examine the change in income at the top and bottom relative to the middle. The data indicate a widening gap between the top and the middle, as well as between the bottom and the middle. Median[8] market income was 24.9% of the top vingtile in 1992. This dropped to 21.8% in 2000. A similar pattern holds for after-tax income, as median after-tax income was 32.4% of the top vingtile in 1992, then dropped to 29.4% in 2000.

The ratio of after-tax income for the top and bottom 5% grew from 21 in 1992 to 40 in 2000. A large part of the increase in inequality stems from the near-collapse of incomes at the bottom of the distribution.

The gap between the middle and the bottom has a larger impact on overall income distribution. In 1992, the bottom vingtile had average market income that was 7.0% of the median. This fell to 4.9% in 2000. After-tax income of the bottom vingtile dropped from 14.8% of the median in 1992 to 8.6% in 2000.

Both higher incomes at the top and lower incomes at the bottom contributed to rising inequality in BC in the 1990s. The findings, however, suggest that the large decline in incomes at the bottom contributed more to rising inequality than the increase in incomes at the top.

Evidence from the Census

Census data confirm the findings above from tax data, and also allow a look back at the 1980s. While we are limited to five-year intervals for total income with census data, the census is the most complete in terms of coverage rates. Fortunately, we have census data for years that correspond to business cycle peaks in 1980, 1990 and 2000, thus making the data highly comparable.

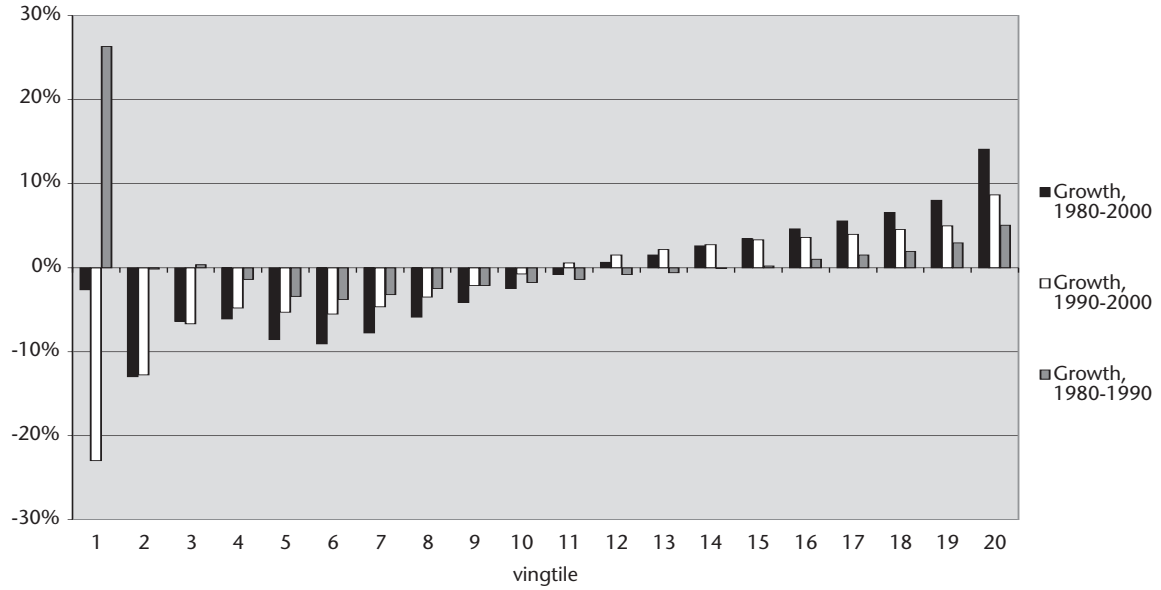
The same staircase picture seen above with tax data also emerges with census data. Figure 6 shows that the bottom half of the distribution lost income over both the entire 1980–2000 period and the 1990–2000 sub-period, while the situation improves as one moves higher up the distribution. The losses at the bottom and the gains at the top are both larger for the 1990–2000 cycle than for the 1980–1990 cycle. One finding of note is that total income of the bottom vingtile *rose* 26.3% from 1980 to 1990, but from 1990 to 2000, total income fell by 22.9%. As a result, total income in 2000 was 2.7% lower than in 1980.

For the top vingtile, average total income grew by 8.6% over the decade of the 1990s and 14.0% over the two-decade frame. The 1990s gain for the top vingtile based on the census is smaller than the 1992–2000 gain based on tax data. This may be because the census data are approximately on a peak-to-peak basis, whereas the 1992–2000 period for tax data may be omitting a fall in average income between 1990 and 1992 (perhaps due to a decline in the returns to investment in assets held by the top vingtile).

Based on census data, the average income of the top vingtile was 39 times greater than the bottom vingtile in 1980, fell to 32 times in 1990 on the strength of gains at the bottom, then rose to 45 times in 2000 due to the collapse of incomes at the bottom and gains at the top.

Median income declined over the entire period as a share of the income of the top vingtile, falling from 30.9% of top vingtile income in 1980 to 29.0% in 1990 and 26.6% in 2000. The rise in income for the bottom vingtile between 1980 and 1990 meant the income of the bottom vingtile grew from 8.4% of the median in 1980 to 10.8% in 1990. But by 2000, the income of the bottom vingtile fell back to 8.3% of the median.

Figure 6: Per cent changes in total income, 1980–2000 Census data, by vingtile



Source: Author's calculations based on special runs for CCPA conducted by Statistics Canada.

BC vs. Canada

The emergence of a growing gap is not particular to BC, but characteristic of Canada as a whole. This section compares similarities and differences of the BC experience with Canada. Tax data for Canada are drawn from Frenette et al. (2004). Overall, BC did "less worse" than Canada with regard to the top and bottom of the distribution: inequality worsened in both BC and Canada, but gains at the top and losses at the bottom were both smaller in BC. Canadians in the middle of the distribution, however, did better than their BC counterparts.

Figure 7a shows the percentage change in market income for the bottom vingtile, the tenth vingtile and the top vingtile, based on tax data for 1992–2000, while Figure 7b shows the same for after-tax income. Data are available in the Appendix.

Both BC and Canada had declining market and after-tax incomes for the bottom vingtile over this period. For both, the decline in percentage terms was larger on an after-tax basis. This suggests that declines in transfer income at the bottom reinforced declines in market incomes over the 1990s. Interestingly, income levels at the bottom for Canada not only fell more in percentage terms than for BC—declines of 56.5% for Canada and 30.6% for BC for market income, and declines of 61.3% for Canada and 41.7% for BC for after-tax income—Canadian incomes started off at a lower level in 1992 for both market and after-tax income.

At the top of the distribution, the opposite occurred. The top vingtile gained for Canada and BC over the 1992–2000 period in terms of both market income and after-tax income. But the gains were stronger for Canada than for BC—about double the BC rate for market income (28.1% for Canada to 14.2% for BC) and after-tax income (23.5% for Canada to 11.5% for BC). Average income for the top vingtile was higher in BC in 1992 for both market and after-tax income, but lower than Canada by 2000. After-tax income for Canada at the top vingtile was about $4,000 lower than BC in 1992, but was more than $4,000 higher in 2000.

In the middle of the distribution, Canada fared better than BC. Market income in the tenth decile was 7.9% higher in 2000 over 1992 for Canada, but in BC was 1.2% lower. BC gained a mere 0.4% in the tenth decile for after-tax income, compared to a gain of 4.9% for Canada.

Together, this suggests that the 1990s expansion increased inequality more for Canada as a whole even as the overall economy performed at a faster clip. Gains were more concentrated at the top, but at the same time spread their way further down the income distribution. While BC had absolute losses for the bottom half of the distribution over this period, Canada had gains from the fourth vingtile all the way up, despite the bigger drop in incomes at the very bottom. The same story holds for after-tax income.[9]

Figure 7a: Per cent change in market income, tax data, 1992–2000

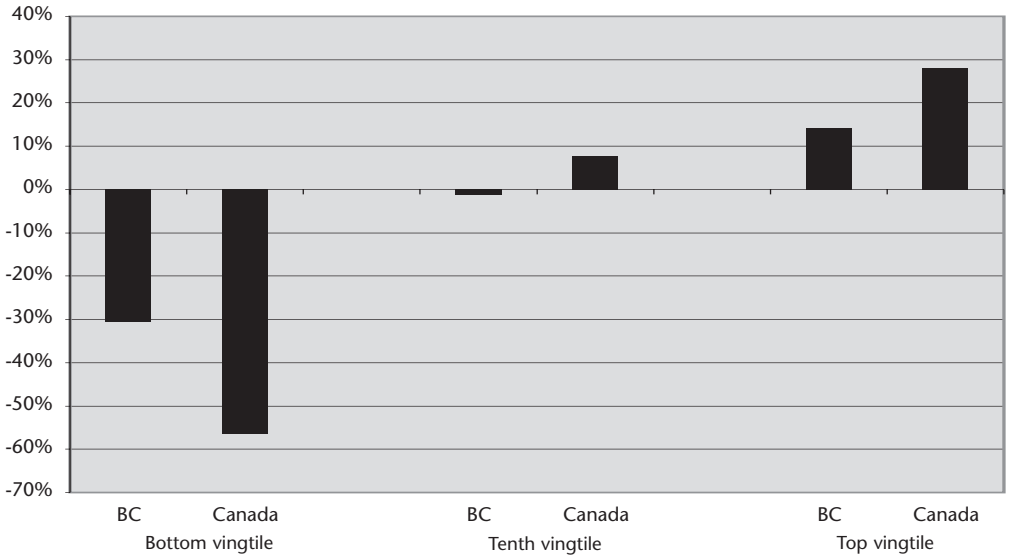
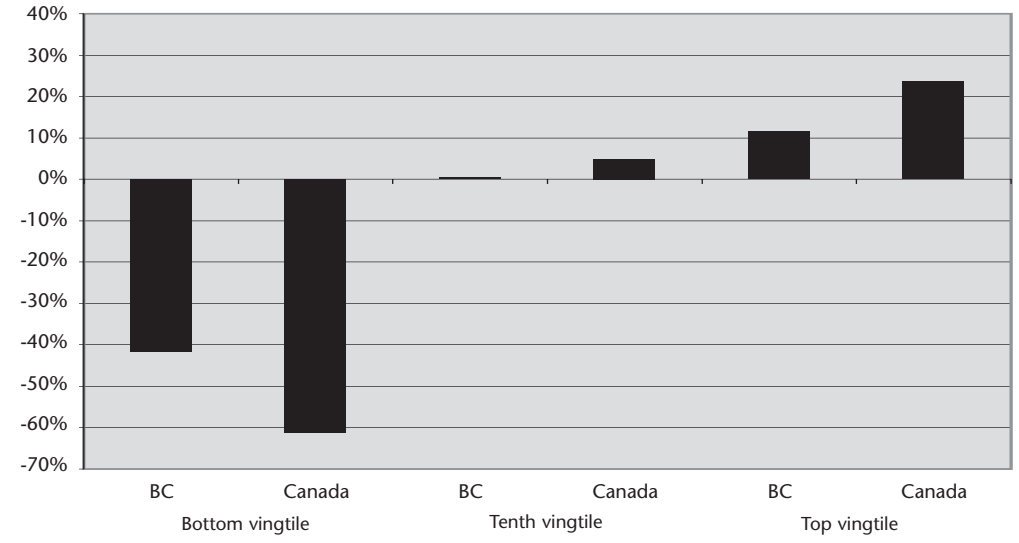


Figure 7b: Per cent change in after-tax income, tax data, 1992–2000



Note: Calculations are based on income figures in constant 2000 dollars.
Source: Special runs for CCPA conducted by Statistics Canada.

Explaining Rising Income Inequality

This section considers possible explanations for rising inequality in BC. While a more detailed analysis is beyond the scope of this paper, changes in the economy and in economic policy in three broad areas may be responsible for rising inequality: labour markets and related policy changes; fiscal and monetary policies; and tax and transfer policies.

In terms of labour markets, a number of features stand out:

- Unionization rates in both BC and Canada declined over the 1990s.
- Minimum wages, after accounting for inflation, declined over the 1990s, while CEO and other executive compensation skyrocketed.
- More workers are in "flexible" work arrangements as opposed to full-time, paid employment. Both self-employment and part-time work increased over the 1990s in BC.
- Participation rates in post-secondary education have risen, leading to a greater supply of skilled workers, while structural changes due to technology have increased the demand for skilled workers.
- Structural adjustments arising from the 1989 Canada-US Free Trade Agreement, the 1994 North American Free Trade Agreement and the 1995 World Trade Organization agreements.

Each of these factors may be contributors to rising market income inequality, and have common features with the experiences in other industrialized countries.

Governments have also played a more direct role in the rising inequality story. The role of trade and investment liberalization cited above was a major plank of the more market-oriented policy-making that characterized the 1990s. Perhaps more importantly, contractionary macroeconomic policies and changes in the tax and transfer system also characterize the 1990s policy landscape.

Monetary policy in Canada at the start of the 1990s was contractionary, as high interest rates prevailed in a bid by the Bank of Canada to stamp out inflation. The result was a deeper and longer recession in Canada than in the US, with a slow recovery characterized by "jobless growth" up to the mid-1990s

(Fortin 2001). Only when interest rates came down later in the decade, amid a booming US economy, did employment pick up. Mostly this occurred in the 1997–2000 period, although during this time, BC faced a setback in the form of the late-1997 to early-1999 Asian financial crisis.

Tight monetary policy was accompanied by contractionary fiscal policy, as deficit reduction played a major role as a focus of policy in the 1990s. The 1995 federal budget was a watershed in cuts to program spending, largely through denying benefits to a greater share of the unemployed (cynically renamed "Employment Insurance"), plus cuts in transfer payments to the provinces.

In the wake of seven consecutive federal surpluses, starting in 1997/98 and reaching a staggering $20 billion by 2000/01, combined with a forecasting record that has massively underestimated the size of those surpluses, it seems clear that mid-1990s concerns over the deficit were overstated, and the federal government cut too much too quickly.

In response to federal cuts to transfers, many provincial governments responded with spending cuts of their own. BC was an exception, with broad support (and even funding increases) for health care and education, at a cost of increased provincial debt. In every province, however, and BC was no exception, social services and welfare programs drew the short straw. In 1996, BC cut social assistance rates, reduced allowable asset levels, and cut back hardship and crisis grants. The system itself became more punitive and mean-spirited, blaming the poor for their condition, without providing a meaningful way out.

In BC, the combination of income tax cuts favouring high-income earners and higher consumption taxes and medical service plan premiums that place a higher burden on low-income earners will likely show up as higher inequality when the statistics come in.

In addition, since the mid-1990s income tax cuts have been implemented by both provincial and federal governments. In the late-1990s, BC also pursued tax cuts, although much more modestly than governments in Ontario and Alberta. A great deal of the benefit of income tax cuts has gone to high-income earners, relative to more modest benefits for low- and middle-income earners.

Since 2001, BC's policy landscape has been transformed. As pointed out above, early signs suggest a rise in market inequality in 2001 and 2002 that has been reinforced by income tax cuts. The combination of income tax cuts favouring high-income earners and higher consumption taxes and medical service plan premiums that place a higher burden on low-income earners will likely show up as higher inequality when the statistics come in. The same is true for reductions in benefit levels and eligibility for social assistance, the introduction of a $6 per hour training wage and changes to employment standards that make it easier to decertify unions.

When data become available, the impact of these policies on BC inequality will become clearer. Such policy changes move more towards the market as the arbiter of social outcomes; their effect is likely to increase inequality in society.

Conclusion: Towards a More Unequal Society?

Economist Andrew Sharpe (2003) notes that: "if the goal of society is greater equality, it is unrealistic to expect that market forces will automatically generate this result. Government intervention through social programs to protect and support the economically weak will generally be needed, although a fully employed economy with strong demand for unskilled labour will certainly contribute to greater equality." In other words, the degree of inequality in a society really comes down to a matter of democratic debate and choice.

A large number of government interventions have historically played a role in mitigating inequality in BC and Canada, although many have been eroded during the 1990s. These include: income supports or social assistance at adequate levels; access to high quality education, health care and other public services; publicly-funded social housing; and, currently in development, a publicly-funded child care system. In addition to these services, governments affect labour markets in numerous ways. Policy tools are available to increase minimum wages, emphasize employment creation over inflation through lower interest rates, and enhance labour legislation around collective bargaining to support unionization.

This, of course, raises the issue of taxation. The current trend towards lowering taxes for the most well-off, through lower income tax rates and more preferential treatment for capital gains and dividends, not only increases inequality, but undermines the ability of governments to fund social programs.

The key issue is whether we want an inclusive or exclusive society. To this end, we should resist pressure for more tax cuts, while rolling back the newly granted perks for the elite. Canada might also consider a wealth tax or an inheritance tax to level the playing field (or at least reduce disparities). Canada had estate and gift taxes, of which 75% were transferred to the provinces, up to 1971 (Gillespie 1991).

Evidence from other countries demonstrates that tax and transfer policies can have a great effect on poverty rates. Countries like Sweden have done an excellent job in ensuring that the benefits of the economy are widely shared. And the Scandanavian countries also demonstrate that it is possible to have more egalitarian societies, with much less poverty, without coming at the expense of economic performance (Lindert 2004).

This report covers the period up to 2000, with some preliminary figures for 2001 and 2002. Yet, the new BC government has implemented a broad package of neoliberal reforms over the past three and a half years. At this point in time, assessing the income inequality effects of these policies will have to wait for the data to catch up. Future research will be required to tell the story of the dramatic restructuring that has taken place in BC.

Notes

[1] This section draws heavily from Frenette et al. (2004), from which the tax and census data for this paper were derived.

[2] This is not the end of the story. The receipt of public services, paid for by taxes, is a form of "social income" not accounted for in this analysis, one that serves to decrease inequality. Stanford (2001) calculates that the ratio of top to bottom quintiles drops from about 8 on an after-tax basis to 4 if we take into account the value of public services. Capital gains are not included in market income, but income taxes paid on capital gains factor into after-tax income. Also, after-tax incomes do not count taxes other than income taxes. To the extent that these other taxes are regressive, this means inequality will be understated in this paper.

[3] For a sensitivity analysis, two alternative indicators of inequality, based on Frenette et al. (2004), were examined: the exponential measure, which is bottom sensitive, and the coefficient of variation squared, which is top sensitive. Findings based on these measures do not materially change the results presented.

[4] There may still be distinctions that appear when we look within vingtiles. For example, Saez and Veall (2003) find that, for Canada as a whole, most of the increased income share going to the top 10% is actually due to gains made by the top 1%.

[5] These vingtiles are distributions for each year, hence the same people are not necessarily in each vingtile, as some people gained higher incomes over the course of the decade, while others saw their incomes fall or fluctuate. However, there is a remarkable persistence of incomes over time—people in a given income group in one year are highly likely to be in the same group the next year. See Lee (2002) for more on income mobility and dynamics.

[6] A word of caution here: incomes in the bottom of the distribution tend to be more volatile, and dropped dramatically from 1992 to 1993. Frenette et al. (2004) suggest that 1993 may be a better point of comparison, due to low-income people filing taxes in order to qualify for the federal Child Tax Benefit, which started in 1993. The coverage rate of the tax data improved somewhat from 95% in 1992 to 96% in 1993. However, incomes rebounded in 1994. Because of this, if 1993 is taken as the point of comparison, declines at the bottom are smaller. The trend is clearly downward for the bottom vingtile up to 2000.

[7] More caution here: vingtiles were created independently for each of market income and after-tax income, so it is not necessarily the same people in the bottom vingtile for both income concepts in any given year.

[8] The median is the census family exactly in the middle of the distribution, i.e. half of census families have higher income, half lower income. Because the median was not calculated in the original data series, I use a "simulated" median that averages incomes of vingtiles 10 and 11.

[9] Summary indicators of inequality generally uphold this result. The gini coefficient, which is more sensitive to the middle of the distribution, shows that BC and Canada tracked each other quite closely over the 1992–2000 period. BC market inequality was slightly below Canada in 1992 and slightly above Canada in 2000. After-tax ginis show BC with higher inequality over the period, but with a narrowing gap by 2000. The top-sensitive CV-squared indicator shows Canada with higher inequality than BC for both market and after-tax income over the entire period, and with a widening gap (Canadian inequality grew at a faster clip). Canada also has higher inequality over the entire period based on the exponential measure, which is bottom-sensitive, for both market and after-tax income. Inequality rose, on the exponential measure, at about the same rate for Canada and BC for market income, but at a faster rate for Canada for after-tax income.

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Appendix

Table 1: Mean adult-equivalent census family total income by vingtile ($2,000) – BC, Census					
vingtile	1980	1985	1990	1995	2000
1	2,652	2,175	3,350	2,097	2,582
2	9,418	7,747	9,401	7,570	8,198
3	12,634	10,762	12,674	10,916	11,824
4	15,540	13,158	15,322	13,517	14,584
5	18,574	15,470	17,940	16,018	16,985
6	21,353	17,837	20,541	18,445	19,407
7	23,758	20,201	22,990	21,023	21,912
8	26,025	22,519	25,371	23,575	24,482
9	28,230	24,688	27,634	26,080	27,045
10	30,440	26,904	29,906	28,556	29,676
11	32,681	29,095	32,228	31,111	32,406
12	35,033	31,370	34,741	33,719	35,247
13	37,638	33,861	37,417	36,511	38,207
14	40,413	36,609	40,377	39,509	41,461
15	43,594	39,639	43,662	42,927	45,105
16	47,160	43,199	47,605	46,895	49,324
17	51,588	47,434	52,354	51,816	54,438
18	57,575	53,309	58,676	58,211	61,349
19	66,926	62,362	68,873	68,240	72,300
20	102,188	94,979	107,292	106,281	116,539
Source: Special runs for CCPA conducted by Statistics Canada.					

Table 2: Mean adult-equivalent census family market income by vingtile ($2,000) – BC, T1FF									
vingtile	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	1,713	1,172	1,659	1,330	1,303	1,200	1,080	1,199	1,189
2	3,741	3,584	3,864	3,489	3,632	3,274	3,214	3,254	3,204
3	4,831	4,420	4,591	4,261	4,342	3,923	3,913	4,004	3,841
4	6,822	5,574	5,752	5,252	5,031	5,825	5,560	5,702	6,284
5	9,238	8,202	8,439	8,027	7,781	7,646	8,042	8,071	8,347
6	12,168	10,793	11,101	10,485	10,268	10,113	10,121	10,409	10,571
7	15,138	13,925	14,216	13,592	13,426	13,441	13,027	13,353	13,567
8	18,048	17,010	17,137	16,674	16,566	16,405	16,150	16,435	16,789
9	20,511	19,749	20,023	19,701	19,516	19,336	19,173	19,461	19,821
10	23,098	22,478	22,932	22,525	22,437	22,132	21,989	22,494	22,813
11	25,503	25,065	25,543	25,239	25,194	24,945	24,922	25,452	25,747
12	28,270	27,772	28,231	28,156	28,113	28,026	27,926	28,368	29,002
13	31,051	30,573	31,298	31,212	31,075	31,106	31,034	31,723	32,140
14	34,256	33,768	34,341	34,421	34,413	34,472	34,527	35,185	35,813
15	37,646	37,266	38,075	38,155	38,067	38,152	38,437	39,067	39,857
16	41,598	41,332	42,203	42,461	42,413	42,646	42,765	43,489	44,419
17	46,661	46,053	47,146	47,627	47,624	47,913	48,080	48,974	49,888
18	53,011	52,587	53,765	54,394	54,444	54,799	55,347	56,325	57,211
19	63,056	62,451	64,040	64,949	65,092	65,704	66,280	67,511	68,697
20	97,646	97,515	97,906	101,680	101,845	103,007	105,518	109,777	111,479
Source: Special runs for CCPA conducted by Statistics Canada.									

Table 3: Mean adult-equivalent census family total income by vingtile ($2,000) – BC, T1FF									
vingtile	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	3,741	2,379	3,266	2,955	3,026	2,856	2,836	3,100	2,833
2	8,339	7,516	8,014	7,605	7,774	7,207	7,273	7,511	7,124
3	10,833	10,146	10,479	10,036	10,258	9,720	9,782	10,002	9,634
4	13,043	12,127	12,355	11,866	12,070	11,609	11,756	11,999	11,862
5	15,352	14,284	14,549	13,993	14,105	13,722	13,933	14,195	14,102
6	17,722	16,611	16,853	16,299	16,351	15,982	16,045	16,350	16,342
7	20,148	19,062	19,329	18,755	18,789	18,620	18,325	18,670	18,776
8	22,507	21,579	21,838	21,363	21,313	20,998	20,880	21,149	21,396
9	24,759	23,988	24,330	23,940	23,874	23,587	23,496	23,793	24,048
10	27,108	26,484	26,891	26,503	26,462	26,143	26,103	26,475	26,819
11	29,429	28,922	29,397	29,104	29,068	28,807	28,842	29,270	29,583
12	31,977	31,470	31,997	31,817	31,841	31,677	31,690	32,128	32,632
13	34,707	34,186	34,857	34,705	34,694	34,603	34,643	35,213	35,712
14	37,728	37,145	37,793	37,791	37,790	37,782	37,949	38,513	39,135
15	40,999	40,517	41,322	41,322	41,310	41,338	41,639	42,231	42,975
16	44,843	44,410	45,301	45,448	45,433	45,603	45,840	46,605	47,352
17	49,697	49,048	50,089	50,485	50,505	50,742	50,989	51,879	52,694
18	55,854	55,348	56,475	57,038	57,123	57,388	57,988	58,897	59,739
19	65,708	65,042	66,478	67,330	67,444	67,951	68,637	69,916	70,994
20	100,268	100,071	100,237	103,857	104,029	105,895	107,762	112,066	113,673

Source: Special runs for CCPA conducted by Statistics Canada.

Table 4: Mean adult-equivalent census family after-tax income by vingtile ($2,000) – BC, T1FF									
vingtile	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	3,518	2,044	2,874	2,557	2,522	2,171	2,282	2,535	2,052
2	8,175	7,348	7,808	7,448	7,457	7,020	7,066	7,319	6,890
3	10,505	9,897	10,167	9,770	9,977	9,457	9,561	9,784	9,412
4	12,404	11,691	11,884	11,463	11,671	11,156	11,361	11,618	11,406
5	14,300	13,452	13,648	13,199	13,333	12,953	13,151	13,460	13,349
6	16,082	15,242	15,445	15,022	15,102	14,739	14,841	15,180	15,191
7	17,823	17,048	17,267	16,842	16,896	16,544	16,541	16,910	17,046
8	19,523	18,845	19,089	18,701	18,706	18,404	18,369	18,751	18,958
9	21,168	20,612	20,888	20,564	20,536	20,274	20,256	20,654	20,934
10	22,853	22,388	22,700	22,414	22,400	22,155	22,168	22,614	22,953
11	24,589	24,204	24,553	24,322	24,307	24,117	24,158	24,640	25,036
12	26,458	26,101	26,487	26,297	26,317	26,170	26,243	26,761	27,220
13	28,499	28,143	28,532	28,407	28,433	28,337	28,443	29,014	29,540
14	30,741	30,372	30,793	30,725	30,754	30,669	30,854	31,429	32,054
15	33,180	32,859	33,352	33,304	33,321	33,296	33,525	34,178	34,857
16	36,015	35,739	36,294	36,339	36,363	36,381	36,601	37,347	38,072
17	39,509	39,191	39,848	40,007	40,071	40,109	40,397	41,250	41,981
18	44,027	43,782	44,492	44,774	44,869	44,945	45,398	46,282	47,125
19	50,936	50,743	51,567	52,057	52,169	52,343	52,881	54,059	55,010
20	73,238	73,262	73,054	75,393	75,124	76,245	77,466	80,951	81,670
Source: Special runs for CCPA conducted by Statistics Canada.									

Table 5: Gini coefficients for different income concepts and data sources

	Market income, SCF/SLID	Market income, T1FF	Total income, SCF/SLID	Total income, census	Total income, T1FF	After-tax income, SCF/SLID	After-tax income, T1FF
1980	0.429		0.383	0.356		0.365	
1981	0.427		0.377			0.354	
1982	0.448		0.384			0.358	
1983	0.457		0.386			0.358	
1984	0.475		0.392			0.363	
1985	0.478		0.402	0.375		0.375	
1986	0.465		0.388			0.361	
1987	0.473		0.395			0.363	
1988	0.452		0.377			0.347	
1989	0.437		0.371			0.341	
1990	0.465		0.397	0.367		0.362	
1991	0.460		0.386			0.354	
1992	0.473	0.457	0.395		0.382	0.360	0.342
1993	0.491	0.472	0.407		0.396	0.370	0.356
1994	0.484	0.469	0.395		0.392	0.359	0.351
1995	0.480	0.483	0.398	0.390	0.404	0.362	0.362
1996	0.491	0.485	0.412		0.403	0.374	0.361
1997	0.478	0.489	0.404		0.412	0.372	0.370
1998	0.476	0.495	0.403		0.415	0.371	0.371
1999	0.483	0.497	0.410		0.417	0.374	0.373
2000	0.474	0.496	0.403	0.394	0.421	0.371	0.378
2001	0.485		0.415			0.385	
2002	0.490		0.417			0.388	

Sources: SCF/SLID data from Statistics Canada, Income Trends in Canada, 1980-2002 CD=ROM; tax and census data calculated by author from Statistics Canada special runs.

Table 6: BC and Canada										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	1992-2000
Mean adult-equivalent census family market income ($2,000), T1FF										
Bottom vingtile										
BC	1,713	1,172	1,659	1,330	1,303	1,200	1,080	1,199	1,189	-30.6%
Canada	1,294	904	689	667	613	685	744	542	563	-56.5%
Tenth vingtile										
BC	23,098	22,478	22,932	22,525	22,437	22,132	21,989	22,494	22,813	-1.2%
Canada	21,248	20,708	20,590	20,940	20,830	21,105	21,825	22,581	22,925	7.9%
Top vingtile										
BC	97,646	97,515	97,906	101,680	101,845	103,007	105,518	109,777	111,479	14.2%
Canada	93,518	93,833	94,822	97,428	10,0431	10,5073	11,0741	11,5411	11,9773	28.1%
Mean adult-equivalent census family after-tax income ($2,000), T1FF										
Bottom vingtile										
BC	3,518	2,044	2,874	2,557	2,522	2,171	2,282	2,535	2,052	-41.7%
Canada	3,341	1,946	1,743	1,749	1,645	1,787	1,825	1,559	1,293	-61.3%
Tenth vingtile										
BC	22,853	22,388	22,700	22,414	22,400	22,155	22,168	22,614	22,953	0.4%
Canada	21,789	21,251	21,364	21,338	21,274	21,351	21,954	22,445	22,860	4.9%
Top vingtile										
BC	73,238	73,262	73,054	75,393	75,124	76,245	77,466	80,951	81,670	11.5%
Canada	69,532	69,516	69,940	71,490	73,130	75,471	79,438	82,887	85,901	23.5%

Sources: Canada data from Frenette et al. (2004); BC data from special runs for CCPA conducted by Statistics Canada.

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National Office
410 – 75 Albert Street
Ottawa, Ontario K1P 5E7
tel: 613 563 1341
fax: 613 233 1458
ccpa@policyalternatives.ca

Saskatchewan Office
2717 Wentz Avenue
Saskatoon, SK S7K 4B6
tel: 306 978 5308
fax: 306 922 9162
ccpasask@sasktel.net

Nova Scotia Office
P.O. Box 8355, 6175 Almon St.
Halifax, NS B3K 5M1
tel: 902 477 1252
fax: 902 484 6344
ccpans@policyalternatives.ca

BC Office
1400 – 207 West Hastings Street
Vancouver, BC V6B 1H7
tel: 604 801 5121
fax: 604 801 5122
info@bcpolicyalternatives.org

Manitoba Office
309 – 323 Portage Avenue
Winnipeg, MB R3B 2C1
tel: 204 927 3200
fax: 204 927 3201
ccpamb@policyalternatives.ca