Technical appendix for *BC's tax system has become fairer since 2017, richest 1% paying more*

By Alex Hemingway
Canadian Centre for Policy Alternatives, BC Office

July 2024

We use Statistics Canada's Social Planning and Simulation Database and Model (SPSD/M) to examine changes in the BC provincial tax system between 2000 and 2016, as well as between 2016 and 2023. The year 2000 is chosen as a baseline reference point before the series of extensive tax cuts introduced by the BC government under Premier Gordon Campbell starting in 2001. In turn, 2016 is the final year before BC's change of government in 2017, and 2023 is the most recent full calendar year at the time of writing.

The SPSD/M contains a database of 1,000,000 composite individuals in over 300,000 households in the ten provinces (territories not included), constructed by combining administrative data on income tax returns and unemployment claimant histories with survey data on incomes, employment and spending. This is the same database used by governments when they analyze the impact of proposed tax changes.

SPSD/M version 30.1 is used for this report, the latest available at the time of writing. The assumptions and calculations underlying the simulation results were prepared by Alex Hemingway and responsibility for their use and interpretation is entirely that of the author.

We examine income and tax distributions at the household level to allow use of the SPSD/M's household-level commodity tax variables, and to take account of the fact that individuals living together pool their resources. BC households are divided in deciles according to their total income, including employment income, other market income (including lump-sum RRSP withdrawals) and government transfers. This allows us to see how taxes have changed for households at different points on the income spectrum. We use deciles rather than fixed nominal income groups because they provide a more appropriate comparison over long periods of time since inflation and real wage growth gradually move incomes upward. The table below shows the income thresholds and average incomes of households for each decile in 2023, as modelled by SPSD/M. Note that household-level thresholds are distinct from distributions at the individual or family level.

Decile	Income thresholds for each decile	Average income for households in this group
Poorest 10%	$1-$30,684	$21,909
Decile 2	$30685-$48,515	$40,724
Decile 3	$48,516-$63,851	$56,408
Decile 4	$63,852-$80,671	$71,805
Decile 5 - middle	$80,672-$100,043	$90,088
Decile 6	$100,044-$125,417	$112,462
Decile 7	$125,418-$150,380	$137,659
Decile 8	$150,381-$186,108	$167,030
Decile 9	$186,109-$256,776	$214,980
Richest 90-95%	$256,777-$336,781	$292,306
Richest 95-99%	$336,782-$727,752	$450,720
Richest 1%	$727,753 and up	$1,780,803

Note that Statistics Canada's System of National Accounts went through a major revision in 2011 and SPSD/M commodity tax variables were adjusted to reflect the new system going back to 2009. Caution should be applied when comparing commodity tax results before and after 2009; however, this remains the best available source for examining the incidence of provincial commodity taxes. Since the tax bill of the bottom decile comes almost entirely in the form of commodity taxes, results for this decile in particular should be treated with caution, as noted in the report.

The estimate of provincial commodity taxes used in this analysis excludes the SPSD/M variable "profit on liquor commissions" because it is not actually a tax (though it's included in the estimate of taxes for the purpose of the newer System of National Accounts). The definition of "profit on liquor commissions" is:

> *the value of provincial profits on liquor commissions* associated with the household's disposable income and consumption pattern. These profits are defined as *the value of gross sales less administrative and general expenses*. The value of gross sales is, in part, a function of the markups over costs the provincial government applies.

In this analysis, BC's sales tax credit and the low income tax climate action tax credit are included in total income as government transfers instead of being subtracted from the total amount of taxes paid. Although these credits exist in recognition that PST and the carbon tax are regressive and attempt to compensate lower income families, they are actually income transfers – the government gives cheques to families who qualify for these credits based on their previous year's income and not on the actual amount of PST or carbon tax paid. Re-running the analysis with these credits subtracted from taxes paid, rather than added to income, yields very similar results.