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Technical appendix for *Tax Fairness in BC? Hardly.* available at policynote.ca/unfair

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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. 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.

The SPSD/M contains a database of 200,000 representative individuals in over 80,000 families 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 in Canada when they analyze the impact of proposed tax changes.

SPSD/M version 22.3 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 Iglika Ivanova and the responsibility for the use and interpretation of these data is entirely that of the authors.

We examine income and tax distributions at the household level 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 because they provide a more appropriate comparison over long periods of time than fixed income groups (families with income under $20,000, $20,000 - $30,000, etc.) because inflation and real wage growth gradually move family incomes upward.

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 still remains the best available source for examining the incidence of provincial commodity taxes.

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 new 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 cuts 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.

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