The Effects of the CO$_2$ Tax on Gasoline Demand in British Columbia

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On July 1$^{st}$, 2008, the government of the province of British Columbia (B.C.), Canada, became the first jurisdiction in North America to introduce a fairly broad tax on CO$_2$ equivalent (CO$_2$ eq.) emission as a policy tool to reduce Green House Gas (GHG) emission contributing to global warming. The tax level started at 10$/ton of CO$_2$ eq. and increased 5$ a year to reach 30$/ton on July 1$^{st}$, 2012. The new tax that was accompanied by income tax reduction was intended to be revenue neutral. At 10$/ton, the tax added 2.3¢/litre to the price of gasoline, that is almost 2.0%. The new CO$_2$ tax adds to the already existing excise taxes that are collected by the provincial and the federal government. Using monthly data from 1990 to 2012, we estimate the effects of the new CO$_2$ tax on gasoline consumption. The decomposition of the gasoline price into three components, i.e., oil price, sale taxes and excise taxes, allows us to test whether B.C. users reacted to the new tax in the same way as to previous gasoline price changes.

References


