

The Effects of the CO₂ Tax on Gasoline Demand in British Columbia

By

Jean-Thomas Bernard and Grant Guenther

Department of Economics, University of Ottawa, Canada

On July 1st, 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 CO₂ equivalent (CO₂ 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 CO₂ eq. and increased 5\$ a year to reach 30\$/ton on July 1st, 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 CO₂ 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 CO₂ 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

- Dahl, C. A. (2012), “*Measuring Global Gasoline and Diesel Price and Income Elasticities*”, *Energy Policy*, 41:2-13.
- Hastings, J. and J. M. Shapiro (2012), “*Mental Accounting and Consumer Choice: Evidence from Commodity Price Shocks*”, NBER Working Paper 18248.
- Li, S., and J. Linn and E. Muehlegger (2012), “*Gasoline Taxes and Consumer Behaviour*”, NBER Working Paper, no. 17891.
- Rivers, N. and B. Shaufele (2012), “*Carbone Tax Salience and Gasoline Demand*”, manuscript, University of Ottawa, Canada, 48 pages.