

INDIRECT CARBON TAX COSTS REDUCED BY POLICY DESIGN

Each April, the price Canada sets for carbon emissions increases gradually. By 2030, the per tonne price will rise to \$170 from its current value of \$65. This creates an incentive for individuals and businesses to find ways to lower their emissions. But there are concerns that carbon pricing may unreasonably raise the price of important consumer staples like groceries. What does the evidence say?

The direct effect of carbon pricing on households is straightforward: gasoline for vehicles, natural gas for home heating, and other GHG-emitting fossil fuels become more expensive. But since energy is an important input into the production of most goods and services, there are indirect effects on prices as costs throughout the supply chain are affected. Estimating the magnitude of these effects is important.

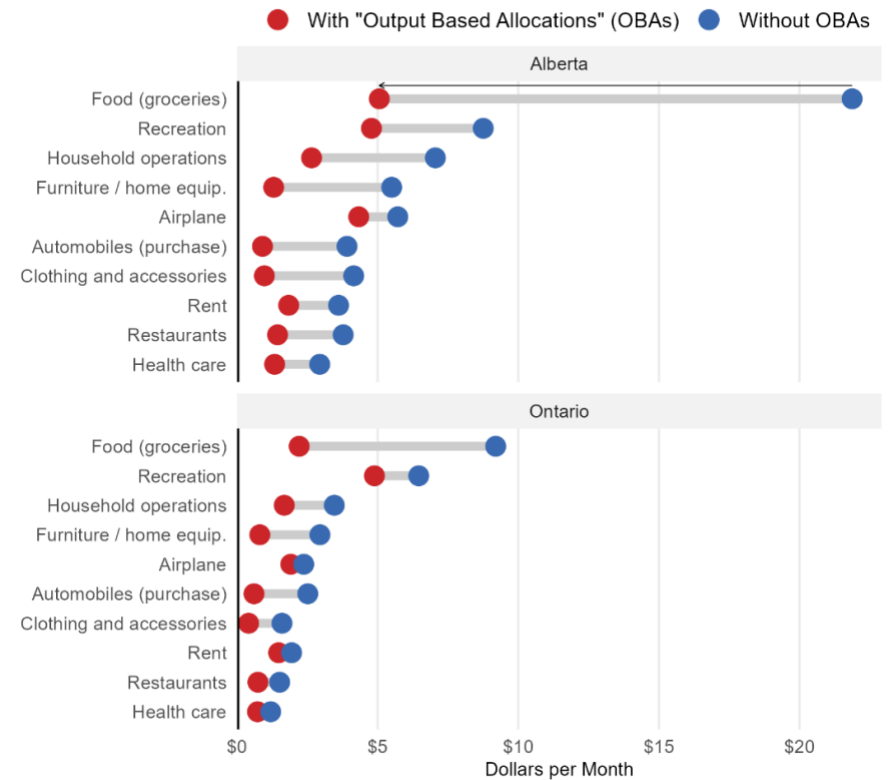
[A recent paper](#) from SPP colleagues and others uses supply chain data from across the Canadian economy (all sectors in all provinces and territories) to map out these indirect costs. The authors calculate the increase in costs attributable to every stage of the supply chain, which includes both the direct effect of carbon pricing on that sector and the indirect effect on all sectors producing inputs into that sector and all sectors providing inputs to those sectors and so on and so forth throughout the entire Canadian economy.

The evidence suggests indirect costs on households from a \$65 per tonne carbon tax vary from \$270 per year in Newfoundland and Labrador to \$641 per year in Saskatchewan. Without the subsidies paid to Canada’s large emitters, these costs would be more than twice as large.

Beyond carbon pricing, Canada’s policy includes lump-sum rebates to households, and “output-based allocations” (OBAs) for large emitters. Most households are more than compensated for both the direct and indirect costs of carbon pricing. The policy also sets up the OBAs to effectively subsidize some large emitters. This does not eliminate the incentive of those businesses to lower emissions but can dampen the effect that carbon taxes have on their costs and therefore the prices they charge. Food prices are especially dampened. At \$65 per tonne, we estimate grocery costs for the average household are approximately \$2

Indirect Costs of \$65/tonne Carbon Price

Displays the average monthly indirect cost of carbon pricing, with and without output subsidies provided to large emitters.



Source: Own calculations from Statistics Canada data table 11-10-0222 and Winter et al. (2023)'s unpublished appendix available upon request.

per month higher in Ontario (and \$5 higher in Alberta) as a result. Without OBAs, these costs would be \$9 and \$22 higher, respectively. Beyond food, the total indirect costs of carbon pricing at \$65 per tonne are \$25 per month in Ontario and \$40 in Alberta. Without OBAs, these would rise to \$50 and \$100 per month. This suggests the OBA aspect of the carbon pricing policy is significantly dampening indirect costs. The extent to which OBAs are protecting international competitiveness (another goal of the policy) while lowering carbon emissions is a matter for further policy research and consideration.