CARBON TAXES AND THE FUTURE OF GREEN TAX REFORM: A PRIMER

The United States regulates carbon emissions at a high economic cost for relatively small environmental gain. By placing a price directly on carbon, market actors can determine how best to reduce carbon emissions, and the government raises revenue to offset impacts of the tax. While the theoretical case is clear for a carbon tax, experience has shown that designing a workable carbon tax requires careful consideration.

Our paper explores key, practical issues with a carbon tax and evaluates them on complexity, economic impact, distributional burden, and neutrality. Next, we use the Tax Foundation's Taxes and Growth model to compare three options for recycling the revenue from a $50 per ton carbon tax.

Incentives for Innovation: There's no addressing climate change without technological innovation. A carbon tax further incentivizes carbon-reducing technologies. Research finds the impacts from a carbon tax would accelerate investment in developing energy-efficient technology. A carbon tax, if well-designed, would also create an even playing field for all different green investment, unlike the status quo of a hodgepodge of different subsidies.

Administrative and Design Questions: Two factors determine the cost of carbon: damages from carbon and the discount rate. Some calculations use the global costs from carbon, while others only consider domestic costs. Different assumptions lead to varying costs, but $50 per ton falls within most reasonable estimates. Policymakers must also consider where in the production process to administer the tax: "upstream" collection, where fossil fuels are initially produced and refined, imposes smaller administrative and compliance costs.

Distributional impact: It is true that low-income individuals consume a larger share of their income than high-income individuals. But there is an important caveat: other environmental policies often have similar distributional concerns. Regulations place disproportionate costs on low-income households, while tax subsidies for green technologies go to the wealthy. And furthermore, distributional concerns can be addressed with a relatively small portion of the revenue going to universal cash payments.

Modeling the Impact of Carbon Tax

By returning revenue to the taxpayers, a carbon tax has a significant advantage over regulations. If designed well, the revenue can be used to offset other, more economically-harmful taxes to boost the economy. Lower corporate rates and better cost recovery contribute to higher growth while payroll tax offsets and dividends offer more muted impacts but target relief to lower-income households.

It is possible to use part of the revenue for growth provisions and another portion to help low-income individuals. And the experience in other countries shows that most carbon tax revenue is allocated to several different purposes including low-income support, labor and business tax reductions, and deficit reduction.

Using our proprietary model, we estimated the growth, distributional, and revenue impact of three options to recycle the revenue from a carbon tax. The first package demonstrates the potential of a pro-growth reform that also includes a small cash rebate, while the second focuses on redistribution, with a small pro-growth tax cut. The third mixes pro-growth elements while also reducing the deficit.

	Option 1: A $50 per Ton Carbon Tax Paired with Full Expensing for All Capital Investments, Small Dividend	Option 2: A $50 per Ton Carbon Tax Paired with Expensing for R&D/ Bonus, Larger Dividend per Month	Option 3: A $50 per Ton Carbon Tax Paired with Expensing for R&D/ Bonus, Deficit Reduction
GDP	+1.8%	+0.2%	+0.2%
GNP	+1.9%	+0.1%	+0.6%
Capital Stock	+3.8%	+0.7%	+0.7%
Wage Rate	+1.8%	+0.5%	+0.5%
10-Year Conventional Revenue	+$0.9 billion	-$2.1 billion	$1,412.7 billion
10-Year Dynamic Revenue	+$297.0 billion	-$137.5 billion	$1,286.8 billion
Long-run Annual Revenue, Conventional (in 2022 dollars)	+$135.9 billion	+$62.8 billion	+$258.0 billion
Long-run Annual Revenue, Dynamic (in 2022 dollars)	+$284.7 billion	+$72.3 billion	+$267.5 billion
Full-Time Equivalent Jobs	+122,000	-190,000	-191,000

Source: Taxes and Growth Model, May 2022

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