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ADMINISTRATIVE COSTS OF A CARBON TAX

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Key Takeaways

- A variety of factors could influence the level of administrative costs of a tax, including the tax base; the tax rate; the exemptions, deductions or credits; and other factors.
- Given the limited empirical evidence available on the administrative burden of a carbon tax, it is helpful to draw insights from other tax policies, such as traditional excise taxes or a value-added tax.
- The administrative costs of an excise tax as a proportion of its revenue are generally lower than that of an income tax or a value-added tax, as an excise tax can be levied upstream on a small number of taxpayers.
- As a type of excise tax, a carbon tax's total administrative costs may be relatively low. However, there are other design features that may make it slightly more complex to administer than a typical excise tax, such as its tax base and its border adjustment.
- The closest proxy available for the administrative cost of a carbon tax's border adjustment is the cost estimated for the administration of imports and exports in GAO's modeling of a U.S. VAT — approximately 1 percent of the total administrative costs. This suggests that the administrative burden of a broad-based border adjustment under a carbon tax may not be as onerous as skeptics believe.

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Introduction

A well-designed carbon tax is generally believed to be the most economically efficient policy to combat climate change. A carbon tax has gained more support from the business community recently. Doug McMillon, the CEO of Walmart and chairman of the Business Roundtable, announced the group’s support for a carbon price in September, declaring that “a national market-based emissions reduction policy is critical to reducing greenhouse gas emissions to levels designed to avoid the worst effects and mitigate the impacts of climate change.”¹

Policy analysis of a carbon tax typically focuses on several main components: the tax base (type of greenhouse gases taxed), the tax rate, the tax revenue and its distribution, the tax’s net effect on the economy, the implications for existing regulations, etc.

There is scant literature, however, on the likely administrative burden of a U.S. carbon tax. This is not surprising as administrative costs are difficult to measure, and there has not been a federal carbon price policy in the United States.

1. Valerie Volcovici, “Business Roundtable CEO group announces its support for carbon pricing to help fight climate change,” Reuters, September 16, 2020.

This paper analyzes the administrative burden of a U.S. carbon tax by offering a conceptual analysis of the complexity of taxation in general, comparing that complexity across common types of taxes, and drawing insights from the administrative burden of traditional excise taxes and a value-added tax.

The complexity of a tax: administrative and compliance costs

The complexity of a tax system can be defined as the sum of administrative costs and compliance costs, which “provides a quantitative measure by which different tax systems can be compared.”²

Administrative costs are “the costs to the government (ultimately borne by taxpayers) of administering and collecting the taxes.”³ The general categories of administrative costs of tax collection include the “budgetary costs of revenue department(s),” “costs incurred by other departments in providing information,” “judiciary and other costs related to dispute resolution,” and “interest costs.”⁴

Compliance costs are “the costs expended by taxpayers in complying (or sometimes not complying) with their tax obligations.”⁵ The correlation between compliance costs and administrative costs of a tax could be inverse or direct. In some cases, reducing administrative costs may transfer the burden to taxpayers and cause an increase in compliance costs. In others, compliance costs and administrative costs are both low under a simplified tax system, or both high due to an inefficiently operated tax system.⁶

Administrative and compliance costs of a particular tax are not easy to measure and estimate. Sources for administrative costs are primarily published data by the government, whereas compliance costs data typically are derived from surveys, interviews, case studies, simulation exercises, etc.⁷

Factors that determine the administrative costs of a tax

A variety of factors could influence the level of administrative costs of a tax, including the tax base; the tax rate; the exemptions, deductions or credits; and other factors.⁸

Tax base

Common tax bases include income, wages, and consumption.⁹ Two characteristics of the tax base

2. William Gale and Janet Holtzblatt, “The Role of Administrative Issues in Tax Reform: Simplicity, Compliance, and Administration,” in *United States Tax Reform in the Twenty-First Century*, eds. George R. Zodrow and Peter Mieszkowski (Cambridge UP: 2002).

3. Christopher Evans, “Taxation Compliance and Administrative Costs: An Overview,” (January 2008).

4. Luca Barbone et al., *The Costs of VAT: A Review of the Literature*, International Center for Public Policy, Andrew Young School of Policy Studies, Georgia State University (April 2012).

5. Evans, “Taxation Compliance and Administrative Costs.”

6. Ibid.

7. Cedric Sandford, Michael Godwin, and Peter Hardwick, *Administrative and Compliance Costs of Taxation* (Bath, U.K.: Fiscal Publications, 1989), pg. 52.

8. Gale et al., “Administrative Issues in Tax Reform;” Sjak Smulders et al., “Green Taxes and Administrative Costs: The Case of Carbon Taxation,” National Bureau of Economic Research (August 1999).

9. Gale et al. “Administrative Issues in Tax Reform.”

affect the tax's administrative costs. First, the number of taxpayers or tax units: In general, a tax that covers more taxpayers has a higher administrative cost than a tax that applies to fewer taxpayers. However, administrative costs benefit from economies of scale and applying a tax to a broad base of taxpayers can reduce total administrative cost per taxpayer. In other words, as the number of taxpayers increases, the total administrative costs would increase, but the additional cost per taxpayer would fall.¹⁰

A second characteristic that affects administrative costs is the “measurability” of the tax base. Intuitively, a tax base that is easier to measure for tax liability calculation would incur a lower administrative cost than a tax base that is harder to measure. For example, carbon emission levels are more difficult to measure and report than input or output levels. As a result, the more heterogeneous that production processes and technologies are across the industries, the higher the administrative costs would be, as more resources would be needed to examine, monitor, and validate each industry's emissions.¹¹

Tax rate

Tax rates that are uniform across the tax base are easier to administer than those that change depending on characteristics of the taxpayer (e.g., income level) or the specific activity being taxed.¹² A sales tax with a single rate on all goods and services is easier to administer than a sales tax that has different rates on different products.

Exemptions, deductions, or credits

Exemptions, deductions, or credits do not necessarily increase the complexity of a tax. If the provisions are universal, they should be simple to implement. However, if the provisions are targeted at certain eligible taxpayers and activities, they could increase administrative and compliance burdens.¹³ For example, to give a tax rebate to certain eligible industries would require additional administrative resources to process and validate the claims.¹⁴

Other factors that impact the administrative costs of a tax

Other features of the tax code can indirectly impact administrative costs. For example, higher tax rates and overall tax burdens can indirectly increase administrative costs. Larger tax liabilities and higher tax rates create more incentives for taxpayers to evade paying tax and require the government to allocate resources to reducing tax evasion.¹⁵

Levying a new tax on a base that is being taxed by existing taxes rather than enacting an entirely new tax would reduce administrative costs, especially the fixed costs required to set up the new tax. The new tax could piggyback on the existing tax's administrative system to collect tax payments.¹⁶

10. Smulders et al. “[The Case of Carbon Taxation.](#)”

11. Ibid.

12. Gale et al. “[Administrative Issues in Tax Reform.](#)”

13. Ibid.

14. Smulders et al., “[The Case of Carbon Taxation.](#)”

15. Smulders et al., “[The Case of Carbon Taxation.](#)”; Gale et al., “[Administrative Issues in Tax Reform.](#)”

16. Smulders et al., “[The Case of Carbon Taxation.](#)”

Tax complexity across common types of taxes

Given the differences in the base, rate, and other characteristics, the administrative costs of different taxes can vary quite a bit. Although there is a rich literature on the administrative and compliance costs of taxation in general, there are limited empirical estimates of such costs. In 1989, scholars in the United Kingdom provided a comprehensive comparison of the administrative and compliance costs of four major tax types: individual income tax, value-added tax, corporate income tax, and excise taxes.¹⁷

The complexity of a tax, measured as the sum of administrative and compliance costs as a share of a given tax's revenue, can be used as a metric to compare different types of taxes.¹⁸ Table 1 shows the administrative and compliance costs as a percentage of the revenue raised through a tax, or its cost-to-revenue ratio, across the four tax types analyzed in the 1989 study. Readers are advised to view the cost-to-revenue ratio data with caution.¹⁹

As shown in Table 1, the individual income tax and the value-added tax have similar cost-to-revenue ratios (total operating cost as a percentage of revenue), at 4.9% and 4.7% respectively. The corporate income tax has a lower cost-to-revenue ratio at 2.7%. The excise taxes have the lowest cost-to-revenue ratio at 0.5%. Income taxes (both individual and corporate income taxes) and value-added taxes are more costly to administer and comply with than excise taxes, since an income tax and a value-added tax apply to much broader bases than an excise tax that targets production of certain products and services.

The individual income tax, the value-added tax, and the corporate income tax have higher compliance cost-to-revenue ratios than administrative cost-to-revenue ratios. A tax's compliance costs are generally higher than its administrative costs. This echoes findings from other scholars. Sjak Smulders and Herman Vollebergh, for example, found that “on average, compliance costs are 3 times higher than administrative costs.”²⁰

Excise taxes have the lowest administrative cost-to-revenue ratio at 0.3%. The individual income tax, the value-added tax, and the corporate income tax have higher ratios at 1.5%, 1%, and 0.5%. Overall, the administrative costs of all four types of taxes account for a small amount of their total revenue.²¹

17. Sandford et al., *Administrative and Compliance Costs of Taxation*.

Note that the cost-to-revenue ratios of these taxes may have changed over the last several decades due to different reasons. For example, the costs of data reporting and storage may have changed due to the use of more advanced technologies, which may affect the cost-to-revenue ratio. Other factors may also affect the cost-to-revenue ratio — see footnote 19.

18. Gale et al., “[Administrative Issues in Tax Reform](#).”

19. Important caveats are noted in Sandford et al., *Administrative and Compliance Costs of Taxation*: The cost-to-revenue ratio data is not a perfect metric to measure efficiency in administering a tax. The ratio is largely dependent on the tax rate. A change in the tax structure, such as changed tax thresholds, may also affect the ratio. In some cases, changes in the ratio may not reflect changes in the administration efficiency of a tax due to increased national income or consumption of certain taxed products. As the tax revenue gets closer to the maximum potential revenue, it would cost more to yield an additional unit of revenue, which would affect the cost-to-revenue ratio.

20. Smulders et al., “[The Case of Carbon Taxation](#).”

21. Smulders et al., found that using administrative costs only to rank different types of taxes did not bias the results compared to using both administrative and compliance costs. Smulders et al., “[The Case of Carbon Taxation](#).”

TABLE 1:
Administrative and compliance costs of a tax relative to its total revenue across common taxes, United Kingdom, 1986-1987

	% of the Tax's Total Revenue		
	Administrative Cost	Compliance Cost	Total Operating Cost
Individual Income tax	1.5	3.4	4.9
VAT	1.0	3.7	4.7
Corporate Income tax	0.5	2.2	2.7
Excise Tax	0.3	0.2	0.5

Source: Cedric Sandford, Michael Godwin, and Peter Hardwick, *Administrative and Compliance Costs of Taxation* (Bath, U.K.: Fiscal Publications, 1989), pg. 192.

Note: Excise taxes include hydrocarbon oils, tobacco, and alcoholic drinks.

Administrative costs of a carbon tax

Unfortunately, there is little empirical evidence on the administrative burden of a carbon tax. It is difficult to measure the administrative costs of any tax policy in general. Additionally, a carbon tax has not been widely adopted around the world, which makes empirical data very limited.²²

However, a carbon tax is a type of excise tax. As suggested in the previous section, excise taxes appear to have a relatively low administrative cost-to-revenue ratio, implying that a carbon tax's total administrative costs may be relatively low. However, there are other design features that may make a carbon tax slightly more complex to administer than a typical excise tax, such as its tax base and its border adjustment.

Carbon tax is an excise tax

Excise taxes are “narrowly based taxes on consumption, levied on specific goods, services, and activities.”²³ U.S. federal excise taxes are levied on a variety of products, such as alcohol, tobacco, gasoline, or firearms. There are four types of excise taxes: sumptuary taxes, regulatory or environmental taxes, benefit-based taxes, and luxury taxes. Both sumptuary (e.g., tobacco tax) and regulatory or environmental taxes (e.g., tax on industrial use of ozone-depleting chemicals) are used to discourage consumption of certain commodities which impose externalities on society. Benefit-based taxes, such as the gasoline tax, are levied on drivers for their use of the federal highways. Luxury taxes are imposed on luxury goods mainly to raise revenue.²⁴

22. Ibid.

23. The Tax Policy Center, “[Briefing Book](#),”

24. “[Federal Excise Taxes: An Introduction and General Analysis](#),” Congressional Research Service (August 2013).

As an environmental tax, a carbon tax is “a broad-based excise tax that increases the price of goods and services in the economy.”²⁵ Through taxing carbon emissions — the externalities imposed on society from burning fossil fuels — a carbon tax discourages consumption of carbon-intensive goods.

A common way of implementing an excise tax is to levy the tax “per individual unit produced, purchased, or sold.”²⁶ Applying a carbon tax to carbon emissions is similar to levying excise taxes on alcohol, tobacco and petroleum products, as the taxes are assessed per unit of quantitative measurement of the taxed item.²⁷

As discussed in the previous section, the administrative costs of an excise tax as a proportion of its revenue are generally lower than those of an income tax or a value-added tax, as an excise tax can be levied upstream on a small number of taxpayers.

Limited data is available on the estimated administrative costs for carbon taxes in foreign countries. However, estimates do suggest administration costs could be low. For the carbon tax implemented in Australia from July 2012 to July 2014, it is estimated that approximately 1 percent of the revenue was allocated to administrative costs.²⁸ Sweden’s carbon tax has been in place since 1991, and it’s generally seen as a complement to the Swedish energy tax. Total administrative costs of Sweden’s carbon tax and energy tax are “estimated at 0.1 percent of total revenues.”²⁹

In the United States, Citizens’ Climate Lobby has estimated that it would cost about \$4 billion to \$5 billion per year to administer the carbon tax proposed in the Energy Innovation and Carbon Dividend Act, which is equivalent to about 6 percent of revenue raised in year one and 1.4 percent by year 10, as the revenue grows.³⁰

Carbon tax design considerations and administrative costs

Designing a carbon tax requires policymakers to make decisions on a variety of matters for each of these components: the tax base, the tax rate, the point of taxation, and border adjustment. The tax base determines what type of greenhouse gases would be subject to the tax. The tax rate is the price levied per ton of greenhouse gas emissions. The point of taxation indicates at which point of the supply chain the tax payment would be collected. A border adjustment is the most common mechanism in carbon tax proposals for addressing the international trade aspect.³¹ The design of these components, particularly the tax base, the point of taxation, and border adjustment, would affect the administrative costs of a carbon tax.

25. Kyle Pomerleau and Elke Asen, “[Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications](#),” Tax Foundation (November 2019).

26. “[Federal Excise Taxes](#),” CRS.

27. Smulders et al., “[The Case of Carbon Taxation](#).”

28. Jeremy Carl and David Fedor, “[Tracking Global Carbon Revenues: A Survey of Carbon Taxes Versus Cap-and-Trade in the Real World](#),” Energy Policy 96 (September 2016): 50-77.

29. Ibid.

30. Citizens’ Climate Lobby “[Administrative Cost](#).”

31. Pomerleau et al., “[Carbon Tax and Revenue Recycling](#).”

Tax base

The type of greenhouse gases included in the tax base would impact the administrative burden of a carbon tax. CO₂ accounted for approximately 81.3 percent of all greenhouse emissions from human activities in the United States in 2018. A majority of these carbon emissions come from the combustion of fossil fuels. Certain industrial processes and land use changes also produce carbon emissions.³² Fossil fuel emissions accounting for the majority of the tax base makes the administration of a carbon tax relatively straightforward. The regulator does not need to measure the actual carbon emissions from fossil fuel combustion. Instead, the tax can be assessed on carbon emissions imputed from the total units of fossil fuels burned, since the amount of emissions produced from burning the same type of fossil fuel stays constant.³³

Adding nonfuel emissions to the tax base would increase the administrative burden, as most of the nonfuel emissions “are generally not directly linked to a readily observed output or input.”³⁴

Point of taxation

Similar to other traditional excise taxes, the point of taxation of a carbon tax would significantly affect its administrative costs. Excise taxes can be collected at different stages along the supply chain of a product, including at the production, manufacturing, wholesale, or retail level. “Generally, an excise tax that is levied at earlier stages in the production process has lower administrative costs and fewer opportunities for tax evasion.”³⁵ For example, of the 303 billion cigarettes purchased in the United States in 2010, 85 percent were manufactured by three companies.³⁶ Levying the tobacco tax on producers instead of the vast number of retailers saves a significant amount of administrative costs.

A carbon tax could be levied at different points along the supply chain, such as “at the point of fuel production (upstream), at the point of fuel consumption (downstream), or at different points in between (midstream).”³⁷ Metcalf and Weisbach concluded that an upstream carbon tax would be an efficient way to tax carbon emissions in the United States. They found that an upstream U.S. carbon tax would cover 80 percent of the country’s emissions by levying the tax on fewer than 3,000 companies.³⁸ Obviously, an upstream carbon tax levied on a small number of producers would incur a significantly smaller administrative burden than a downstream carbon tax that collects taxes from a vast number of retailers.

Border adjustment

Implementing a border adjustment in a carbon tax may affect its administrative costs in a slightly more complex way. As an important component of a well-designed carbon tax, a border adjustment would reduce companies’ incentive to shift carbon-intensive production from a jurisdiction

32. “Overview of Greenhouse Gases,” U.S. Environmental Protection Agency.

33. Pomerleau et al., “Carbon Tax and Revenue Recycling.”

34. John Horowitz et al., “Methodology for Analyzing a Carbon Tax,” Office of Tax Analysis, Department of the Treasury (January 2017).

35. “Federal Excise Taxes,” CRS.

36. Ibid.

37. Pomerleau et al., “Carbon Tax and Revenue Recycling.”

38. Gilbert Metcalf and David Weisbach, “Design of a Carbon Tax,” (January 8, 2009), Univ of Chicago Law & Economics, Olin Working Paper No. 447 (January 2009).

with a carbon tax to a jurisdiction without a carbon tax. It would also help preserve U.S. manufacturers' competitiveness against foreign manufacturers.³⁹

A border adjustment works by levying a tax on imports and giving a rebate on exports. Under a carbon tax, an ideal border adjustment would cover all goods based on their carbon content. However, it may not be administratively feasible to border-adjust all goods. Existing carbon tax proposals typically only make certain products eligible for border adjustment. For example, primary products such as aluminum tend to be eligible for border adjustments, but not consumer goods, such as cars.⁴⁰

Border-adjusting primary goods but not consumer goods might incentivize companies to shift their production overseas to avoid taxes. A simple example below explains how this could happen. Assume there were a domestic carbon tax in the United States with border adjustments that only covered primary goods (e.g., steel), but not consumer goods (e.g., cars). A manufacturer could export steel overseas to get an export rebate, make a car using the steel in a country with no carbon prices, and then import the car back into the United States without paying any import tax for the car. In this scenario, the manufacturer takes advantage of the narrowly-based border adjustment mechanism to avoid paying the carbon tax for both the steel and the car, even though the car is sold for domestic consumption in the United States.

Border-adjusting imported and exported goods is not easy, as the regulator needs to determine the carbon emissions associated with imported and exported goods, which are not readily observable.⁴¹ One way to design a carbon tax's border adjustment is to develop an administrative structure similar to that of a VAT. A VAT is "paid in stages by producers along the production process. Each producer's VAT liability is equal to their sales times the VAT rate minus any VAT previously paid on the inputs to production."⁴² Much as under the administrative structure of a VAT, a border adjustment under a carbon tax would require a mechanism for businesses to track the carbon emissions added at each stage of the production process so it could ultimately be rebated at the border.

Brian Flannery and colleagues propose a framework that is analogous to the method used in VAT to track cumulative carbon emissions along the production process. There are two important components of the framework: "first, to specify how GHG emissions from upstream suppliers and on-site operations contribute to determine cumulative GHG emissions required to produce products; and second, to determine how GHG emissions from entire facilities (and operations) can be apportioned to the products they produce."⁴³

39. Shuting Pomerleau, *Border Adjustments in a Carbon Tax*, Niskanen Center (July 2020).

40. Ibid.

41. Ibid.

42. Ibid.

43. Brian Flannery et al., "*Framework Proposal for a U.S. Upstream Greenhouse Gas Tax with WTO-Compliant Border Adjustments*," Resources for the Future (October 2018)

Currently, EPA's Greenhouse Gas Reporting Program requires carbon-intensive facilities to report their facility-level emissions yearly.⁴⁴ However, product-level emissions data of companies' facilities are required for assessing border adjustments. And the emissions data ideally needs to be most up-to-date to account for any changes in production technologies, which is important for calculating the right amount of import tax or export rebate. Therefore, it would require additional administrative resources to examine and audit product-level emissions at each facility. It is unclear how many additional administrative resources would be required as carbon emission tracking standards are being developed. Carbon accounting and reporting standards and guidelines have been established by public-private partnerships and regulatory authorities for tracking carbon emissions at the facility or product level.⁴⁵ Technology companies have also started to develop software solutions to help firms monitor emissions in their supply chains.⁴⁶

The Flannery framework can be used to track exported goods' added carbon emissions for their rebates.⁴⁷ Researchers have proposed different approaches to determine the carbon emissions associated with imported goods for levying import taxes. A "like-product" approach would significantly reduce the administrative burden of implementing the import taxes under a border adjustment. "This approach would levy a tax on an imported product that is equivalent to the carbon tax on a 'like' domestically manufactured product."⁴⁸ Instead of dedicating significant administrative resources to examine and validate reported emissions associated with imported products from foreign countries, the like-product approach reduces the administrative burden by matching an imported good with a comparable domestically produced good to determine the imported good's emissions.⁴⁹

The costs of administering the border adjustment itself are difficult to estimate directly. But existing VAT administrative-cost estimates offer useful insights. The closest proxy available is the cost associated with the administration of imports and exports in a Government Accountability Office model of the VAT — approximately 1 percent of the total administrative costs (see Figure 1). According to GAO, the costs of U.S. Customs and Border Protection (CBP) administering a VAT border adjustment would include the costs of collecting tax on imports, verifying export credits, and transferring information to the IRS.⁵⁰

However, the administrative costs of a carbon tax's border adjustment as a proportion of the tax's total administrative costs may be higher than that of a VAT's border adjustment. To border-adjust a VAT, CBP would only need data on products' sale prices. To border-adjust a carbon tax, CBP would need data on products' carbon emissions, which are not readily observable. It may take

44. "Greenhouse Gas Reporting Program (GHGRP)," U.S. Environmental Protection Agency.

45. GHG Protocol is a partnership between the World Resources Institute and the World Business Council for Sustainable Development. It developed the [Product Life Cycle Accounting and Reporting Standard](#), [Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#), and other relevant standards and frameworks. EPA has developed a [GHG Emissions Calculator](#) to help small businesses and low-emitter organizations to measure their annual carbon emissions.

46. See [here](#) and [here](#) for more information.

47. More details on how to track added carbon emissions for exported goods are discussed in Pomerleau, *Border Adjustments in a Carbon Tax*.

48. Pomerleau, *Border Adjustments in a Carbon Tax*.

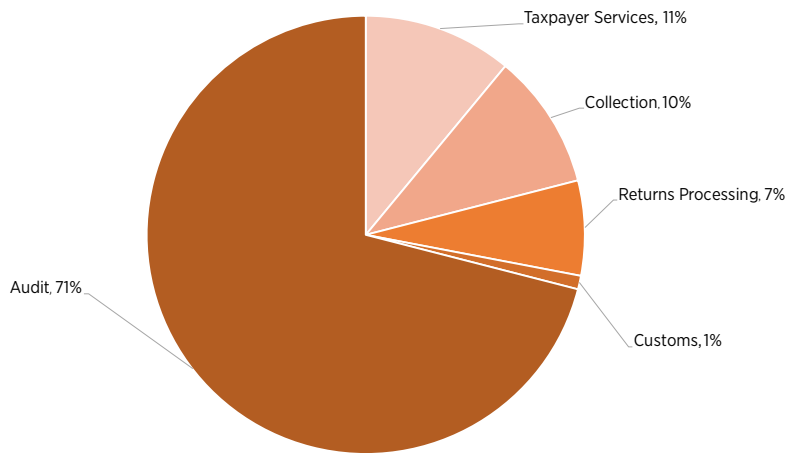
49. *Ibid.*

50. "Value-Added Tax: Administrative Costs Vary with Complexity and Number of Businesses," U.S. General Accounting Office (May 1993).

more resources for CBP to verify information on the carbon emissions associated with imported and exported goods.

Some researchers argue that a broad-based border adjustment under a carbon tax would incur a prohibitively high administrative burden.⁵¹ But this position has rarely been supported by empirical analysis due to a lack of data on environmental tax policies' administrative costs. In view of the GAO estimates, implementing a broad-based border adjustment under a carbon tax may not be as onerous as skeptics think.

FIGURE 1:
Percentage of VAT administrative costs by function



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Source: "Value-Added Tax: Administrative Costs Vary with Complexity and Number of Businesses," U.S. General Accounting Office (May 1993).

Note: The estimates in Figure 1 are based on estimates GAO made in 1993 of the administrative costs if the United States were to implement a VAT in 1995. GAO estimated that the annual cost of administering a VAT starting in 1995 would be approximately \$1.8 billion with 24.4 million taxpayers.

How to balance the tradeoffs between making a border adjustment effective and minimizing its administrative burdens is an important question that policymakers need to address. Government agencies such as GAO may consider conducting a study to estimate the administrative costs of a border-adjusted carbon tax to inform further policy analysis.

51. Flannery et al., *Framework Proposal*; Samuel Kortum, David Weisbach, "The Design of Border Adjustments for Carbon Prices," *National Tax Journal* 70, no. 2, (June 2017): 421-446.

Future research questions

This paper raises several questions for future research to address:

What would be the administrative costs of a carbon tax if the United States were to implement one?

- What would be the best methodologies for government agencies to estimate the administrative costs they would incur from administering a carbon tax? What would be the challenges and limits of the methodologies?

What would be the compliance costs of a carbon tax if the United States were to implement one?

- What technologies and corporate carbon accounting practices would help lower compliance costs?

How would a broad-based or narrowly-based border adjustment affect the administrative and compliance costs of a carbon tax, as well as the cost-to-revenue ratios?

- Would it be administratively feasible to implement a broad-based border adjustment under a carbon tax?
- If not, what criteria and tradeoffs would need to be considered for a narrowly-based border adjustment?
- What product-level emission tracking and reporting standards/guidelines would need to be further developed to enable compliance with a border-adjusted carbon tax?
- What product-level emission tracking and reporting technologies would help companies comply with a border-adjusted carbon tax and lower the compliance costs?

Conclusion

The administrative costs of a carbon tax would be affected by the design of its tax base, point of taxation, and border adjustment. The limited administrative-cost estimates for a carbon tax and the insights from the administrative burden of traditional excise taxes and a value-added tax suggest that a border-adjusted carbon tax's administrative costs should not be prohibitive. Further research is necessary to estimate the administrative costs of a carbon tax. Government agencies such as GAO may consider conducting a study to estimate the administrative costs of a border-adjusted carbon tax to inform further policy analysis.

About the Author

Shuting Pomerleau is a climate policy analyst at the Niskanen Center. Her areas of research include policy development for carbon taxes. She has previously worked in public policy at the Cato Institute and the American Council on Renewable Energy. Most recently, she has worked as a business strategy consultant. Shuting has an MPP in environmental and energy policy from Georgetown University's McCourt School of Public Policy.

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