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Why a State-Level Carbon Tax Can Include Border Adjustments

by David Gamage and Darien Shanske



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In this edition of *Academic Perspectives on SALT*, the authors continue their series on the use of tax policy to mitigate greenhouse gas emissions. They argue for state-level carbon taxes with border tax adjustments — an argument that goes against the general consensus that such a move would violate the dormant commerce clause.

Introduction

This is our third in a series of articles considering taxation and greenhouse gas mitigation. To date, all state-level attempts to mitigate greenhouse gas emissions by placing a price on carbon have involved cap-and-trade regimes. In our previous two articles,¹ we considered how importing tax features into a cap-and-trade regime could ease distributive concerns and also make cap-and-trade regimes more efficient.

¹David Gamage and Darien Shanske, “Using Taxes to Improve Cap and Trade, Part I: Distribution,” *State Tax Notes*, Jan. 12, 2015, p. 99; and Gamage and Shanske, “Using Taxes to Improve Cap and Trade, Part II: Efficient Pricing,” *State Tax Notes*, Sept. 5, 2016, p. 807.

As we noted in our first article, the general consensus among economists and other commentators is that a carbon tax would (theoretically) be superior to a cap-and-trade regime. However, there is also a general consensus that a single state cannot (practically) impose a significant carbon tax because a single state cannot impose border tax adjustments.

Border tax adjustments are crucial because a carbon tax in one state would make products in that state more expensive, particularly energy-intensive products such as concrete. Thus, if consumers or businesses could just import those products from other states, a carbon tax in one state would accomplish little except to harm that state’s domestic industries.

That problem could be solved if a state could impose a surcharge on out-of-state imports to make up for the tax on domestic producers. But the general consensus is that this sort of surcharge would clearly violate the Constitution’s dormant commerce clause, effectively taking that solution off the table.

Nevertheless, in this article and in the one that follows, we will argue against that general consensus.² Specifically, we will explain how a well-designed state-level carbon tax with border tax adjustments could pass constitutional muster.

To be sure, this is both the worst of times and the best of times for a state to consider imposing a carbon tax. It is the worst of times because there is little prospect that a successful state carbon tax might, once so proven, then soon be adopted at the national level. Indeed, there is unlikely to be much — if any — pressure on the states to reduce their greenhouse gas emissions from the federal government.

Yet it is also the best of times because the likely absence of federal action makes state action more important, both substantively and symbolically. In other words, because the federal government will not

²Many of the arguments in this article first appeared in Shanske, “State-Level Carbon Taxes and the Dormant Commerce Clause: Can Formulary Apportionment Save the World?” 18 *Chapman L. Rev.* 191 (2014).

be riding to the rescue anytime soon, we must hope that the states' laboratories of democracy are up to the task of saving the world.

And there is some reason to be hopeful that subnational action could be significant. It appears that the United States is on track to meet its pledges under the Paris Agreement, even though the centerpiece of former President Obama's mitigation strategy, the Clean Power Plan, has been held up in the courts and is now unlikely, to put it mildly, to be a priority for the Trump administration.³ How can that be so? One reason is that the natural gas revolution has made coal less cost effective. Another reason is that state regulatory mandates have increased the use of renewable energy.⁴

Carbon taxes pose numerous design issues.⁵ For instance, should the tax be structured as a payment made by consumers, as with retail sales taxes?⁶ Or should the tax be structured as a levy imposed at specific carbon-intensive choke points? We will mostly abstract from those sorts of design issues in this article. We will focus instead on analyzing whether the U.S. Constitution, and in particular the judicially crafted dormant commerce clause, prevents a state from imposing border adjustments as part of a carbon tax.⁷

³Eduardo Porter, "Earth Isn't Doomed Yet. The Climate Could Survive Trump Policies," *The New York Times*, Nov. 30, 2016, at B1.

⁴*Id.* and Michael Grunwald, "Environmentalists Get a Dose of Good News," *Politico*, Nov. 18, 2016, available at <http://politi.co/2g3ziq9>.

⁵Strictly speaking, carbon dioxide is only one form of greenhouse gas — that is, it is only one kind of the type of gas implicated in causing global warming. As will be noted below, we will not assume that the carbon tax imposed by a state would be only on carbon. However, we will follow Gilbert E. Metcalf and David Weisbach by labeling that tax a carbon tax even if it applies to other gases as well. Metcalf and Weisbach, "The Design of a Carbon Tax," 33 *Harv. Envtl. L. Rev.* 499, 500 (2009). The tax in British Columbia, for example, is assessed only on carbon. David G. Duff, "Carbon Taxation in British Columbia," 10 *Vt. J. Int'l L.* 87, 93-94 (2008).

⁶See Dan Farber, "The Possible Merits of a Hybrid Sales Plus Carbon Tax," *Legal Planet* (Oct. 9, 2012).

⁷Any border adjustments would have to be imprecise, but the Supreme Court has been miserly about permitting an approximately compensating tax to fall on imports to a state. Steven Ferrey, "Goblets of Fire: Potentially Constitutional Impediments to the Regulation of Global Warming," 35 *Ecology L.Q.* 835, 880-81 (2008) (doubting complementary tax doctrine can save border adjustments), but see William Funk, "Constitutional Implications of Regional CO₂ Cap-and-Trade Programs: The Northeast Regional Greenhouse Gas Initiative as a Case in Point," 27 *UCLA J. Envtl. L. & Pol'y* 353, 366-68 (2009) (slightly more optimistic analysis).

We will argue that there are several routes by which a properly designed carbon tax with border adjustments might pass muster.⁸

Outline of a Carbon Tax

Although we will not be writing about the details of carbon tax design, it is helpful to outline at least a reasonable design of a carbon tax to set up our analysis. Our outline here will roughly follow the carbon tax design proposed by Gilbert Metcalf and David Weisbach.

Most of the greenhouse gas produced in the United States is produced by fossil fuels.⁹ Fossil fuel production occurs via numerous chokepoints, such as refineries, of which there are under 200 in the United States.¹⁰ So, for simplicity, let us suppose that a state were to impose a \$20-per-metric-ton tax on carbon, collected at refineries.¹¹

That new tax would make exports from the taxing state more expensive and imports to the state cheaper. To illustrate, let us focus on a different concrete example — concrete.¹² The process of concrete production produces carbon over and above the energy that the production of concrete requires.¹³ There are only a small number of concrete plants in the United States, and thus concrete plants are a plausible point at which a carbon tax might be imposed.

To be more specific, suppose that Oregon were to impose a carbon tax of that sort. Without border tax adjustments, Oregon would thereby significantly disadvantage its domestic concrete producers — not

⁸Border adjustments imposed by a state would also likely raise issues regarding international trade. Those issues will also be beyond the scope of this article, though at least some commentators plausibly see the issues as largely analogous and thus perhaps a solution within the U.S. federal system might suggest an answer internationally. Gergen *supra*; see also generally Carol McAusland and Nouri Najjar, Carbon Footprint Taxes, Section 5 (detailed discussion of WTO issues). Or perhaps not. Indeed, if state border tax adjustments did cause sufficient problems for the United States, they might be struck down domestically as running afoul of the foreign dormant commerce clause. *Japan Lines v. County of Los Angeles*, 441 U.S. 434 (1979).

⁹Metcalf and Weisbach, *supra* note 5, at 522.

¹⁰*Id.* at 523.

¹¹Note that according to the California Air Services Board's "Summary of Joint Action Settlement Prices and Results," the current price on the California exchange is \$12.73. The oft-quoted central estimate for the social cost of carbon will be \$42 in 2020, according to the EPA fact sheet, Social Cost of Carbon."

¹²With apologies for our bad attempts at punniness!

¹³*Id.* at 529-30 ("The emissions stem from the production of clinker, an intermediate product, which is a combination of lime and silica-containing materials. According to EPA, CO₂ emissions from production are directly proportional to the lime content of the clinker").

only in the export market but also in the state.¹⁴ This disadvantage would manifest even if Oregon concrete producers generated less greenhouse gases per unit of concrete production than their out-of-state competitors.¹⁵

That economic problem is both an environmental problem and a political problem. Obviously, if more expensive Oregon concrete is replaced by cheaper out-of-state concrete that is made even cheaper because of a lack of a carbon tax, the carbon tax will hurt Oregon business and not reduce net carbon emissions. That problem is called leakage. Naturally, the prospect of economic harm suffered for no environmental gain is likely to hurt the political prospects of any such reform right from the start.

The direct fix for leakage is to credit the Oregon producer for all the concrete that it is exporting and to impose an equivalent tax on imports of concrete. In that case, it is perhaps easy enough for Oregon to estimate the carbon tax it has imposed on the concrete and to strip it out, and also to add that cost to imports. The Oregon concrete producer would then be charged a per-unit tax on its concrete but would also get a refund for the concrete it exported. A concrete importer would then need to pay the same per unit cost when it imports concrete.¹⁶

With that setup, we can now ask whether, seeing as the tax described above would be specifically on imports, would that tax not be a facial discrimination under federal dormant commerce clause jurisprudence? That is our first doctrinal question.

Then, assuming Oregon is to use border tax adjustments, it will also need to use approximations based on the origin of goods and services. That is, it is likely cheaper to produce concrete in a state that has cheaper — but (let us suppose) more carbon-intensive — power sources. Assuming that Oregon could impose

some type of border adjustment, could it impose one that ultimately takes into account the origin of a good or service? That is our second question.

To further illustrate this question, let's return to our Oregon concrete producer and suppose it is paying 1X per unit in carbon taxes. Under those adjustments, an out-of-state importer may need to pay 1.2X per unit — or perhaps 0.9X — depending on the origin of the concrete. As for out-of-state producers paying more, that seems to be an even more blatant facial discrimination.

Finally, our third question has to do with how carbon intensity is being measured, as surely it is just an approximation. That is, how much imprecision, if any, is permissible?

So, to summarize, those are the three doctrinal questions posed by border adjustments: (1) Can there be any special tax at all on imports, even if it is the same as a tax on domestic production? (2) Could a state differentiate its border adjustments between products based on approximations of their carbon intensity, if such approximations take geography into account? (3) Even if the answers to questions 1 and 2 are yes, how much approximation is permissible?

Prima Facie Answers: Border Adjustments Are Doomed

The U.S. Supreme Court imposes an almost per se rule of invalidity about taxes that discriminate between in-state and out-of-state taxpayers.¹⁷ Thus, the answer to the second question, about applying different rates to products based on the different carbon footprints of different states or regions, seems very likely to be no. That answer would then seem to be the end of the story, whatever the answers to the other questions.¹⁸

Indeed, out-of-state producers seem necessarily to be at a disadvantage to the extent that the border adjustment takes into account the additional carbon burned in transporting a product.

As to the first and third questions — can there be a special import charge and how much imprecision is permissible — the Court has tolerated special taxes on imports (the use tax) only when they precisely matched up with a tax on domestic consumption (the sales tax).¹⁹ Because assessing the carbon intensity of both

¹⁴Compare Jenny H. Liu and Jeff Renfro, "Carbon Tax and Shift: How to Make It Work for Oregon's Economy," Northwest Economic Research Center Report 15 (2013), identifying the problem.

¹⁵Metcalf and Weisbach, *supra* note 5, at 540-541. Note also that a whole other issue is raised if the other state (or nation) is trying to control carbon emissions but in a manner not directly comparable — for example, California's cap-and-trade system. We will leave those questions to the side for the moment, though note that the same basic analysis should apply should one state try to unilaterally adjust its regime to cope with the different carbon prices set by other jurisdictions (for example, using an adjustable credit).

¹⁶This is an easy example; how would one strip out the carbon tax from in-state services? That's why it is important to apply the tax at just a few points in which that kind of calculation is at least roughly possible.

¹⁷See, e.g., *United Haulers Association Inc. v. Oneida-Herkimer Solid Waste Management Authority*, 550 U.S. 330, 338-39 (2007).

¹⁸See generally *Rocky Mountain Farmers Union v. Corey*, 740 F.3d 507 (9th Cir. 2014) (Smith, J., dissenting from denial of hearing *en banc*); see also Joseph Allan MacDougald, "Why Climate Law Must Be Federal: The Clash Between Commerce Clause Jurisprudence and State Greenhouse Gas Trading Systems," 40 *Conn. L. Rev.* 1431, 1435 (2008) (similar analysis).

¹⁹See, e.g., *Henneford v. Silas Mason Co.*, 300 U.S. 577 (1937) (Cardozo, J.).

domestic and imported products will be the product of informed guesswork, it seems such a practice would not pass muster, either.²⁰ Thus, the answer to the third question is also likely no.

Our First Counterargument: No Facial Discrimination Exists

In analyzing whether border tax adjustments might be permissible, we first consider a recent dormant commerce clause case about carbon regulation — an important case that has received surprisingly little attention from state tax practitioners.²¹

As part of its implementation of A.B. 32, California's cap-and-trade regime, the California Air Resources Board (CARB) adopted a low carbon fuel standard. That standard sets an annual limit on the carbon intensity of fuels, and blenders of fuels over the limit must purchase credits from blenders below the limit. To assess how a particular fuel did relative to the standard, the CARB had to develop a complicated metric that differentiated among fuels by region. The rationale for differentiating among regions was that there were differences in the carbon intensity of fuels produced in different places. If California wanted its system to actually reduce carbon, it had to rely on those metrics.

A federal district court struck down the California fuel standard. Among other reasons, and the key reason for our purposes, the court found that taking into account the source of fuels was a facial discrimination that failed strict scrutiny.²² Nevertheless, a Ninth Circuit panel overturned the district court by a 2-1 vote.²³ The full Ninth Circuit then refused to hear the case *en banc*.²⁴

As to the facial discrimination argument, the court's majority reasoned that there was no facial discrimination, because the California regulations were not targeting out-of-state producers because they were out of state; instead, the regulations were motivated by

and based on an entirely different concern — namely, measuring carbon intensity.²⁵ Sometimes in-state producers did better by that metric and sometimes not.²⁶ California was not basing its regulations on state borders.

Interestingly, though that was not formally a tax case, the decision revolved around several key dormant commerce clause tax cases.²⁷ Conceptually, that makes sense because, as we have argued before, regulations and taxes are often policy substitutes.²⁸ Accordingly, although Supreme Court cases sometimes seem to apply a different test to taxes versus regulations, we know of no case in which the Court said that there are different rules or justified there being different rules.²⁹ In any event, the Ninth Circuit, in interpreting lead tax cases, seems to outline a promising strategy for defending a carbon tax with border adjustments, should it be properly designed from the start. Specifically, the carbon intensity framework should apply to all products and services. So long as the regulatory structure is sufficiently rigorous and based on factors other than jurisdictional lines, it should pass muster even if some inputs take geography into account.

Another important feature of the California regulation is worth noting. The fuel standard generally works by setting defaults and then allowing firms to argue for individualized determinations.³⁰ Thus, the majority opinion noted that any mischief caused by the general formulas — including to out-of-state producers — could be corrected.³¹ The dissent did not believe that those individualized determinations went far enough.³² It is unclear how important that issue ultimately was to the majority's reasoning, but

²⁵*Rocky Mountain*, 730 F.3d at 1089 (“The Fuel Standard does not base its treatment on a fuel’s origin but on its carbon intensity. The Fuel Standard performs lifecycle analysis to measure the carbon intensity of all fuel pathways”). The dissent disagreed with that characterization of the fuel standard. *Rocky Mountain*, 730 F.3d at 1108 (Murguia, J. dissenting). This factual dispute might be decisive in this case, but the doctrinal argument would still stand that if a regulation truly did not base itself on geography, it would not count as a facial discrimination.

²⁶*Rocky Mountain*, 730 F.3d at 1083-1084 (California ethanol producers pay more because they import Midwestern corn).

²⁷See, e.g., *Rocky Mountain*, 730 F.3d at 1089 (distinguishing *Oregon Waste*).

²⁸Gamage and Shanske, “On Tax Increase Limitations: Part I — A Costly Incoherence,” *State Tax Notes*, Dec. 19, 2011, p. 813.

²⁹See discussion here: Gamage and Shanske, “The Saga of State ‘Amazon’ Laws: Reflections on the Colorado Decision,” *State Tax Notes*, July 16, 2012, p. 197.

³⁰*Rocky Mountain*, 730 F.3d at 1082.

³¹*Rocky Mountain*, 730 F.3d at 1094; 740 F.3d at 510 (Gould, J., concurring).

³²*Rocky Mountain*, 730 F.3d at 1109 (Murguia, J., dissenting).

²⁰See *Associated Industries of Missouri v. Lohman*, 511 U.S. 641, 644 (1994).

²¹We found only one mention in *State Tax Notes*, in a column by Patrick Dowdall. His general conclusions track ours. Patrick Dowdall, “Green Incentives and the Dormant Commerce Clause,” *State Tax Notes*, Jan. 4, 2016, p. 41.

²²*Rocky Mountain Farmers Union v. Goldstene*, 2011 WL 6936368 (E.D.Cal. Dec 29, 2011).

²³*Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070 (9th Cir. 2013). Notably, the panel only overturned the case about the facial constitutional challenge to the fuel standard, and thus the standard may still be found wanting after a fact-intensive analysis. That point was emphasized by the author of the Ninth Circuit decision in his concurrence to the denial of the hearing *en banc*. 740 F.3d at 510 (Gould, J., concurring).

²⁴740 F.3d 507.

permitting individual firms to challenge a default seems to be a prudent feature should one wish to design a system that would be upheld under the Ninth Circuit's reasoning.³³

Conclusion

We will explore additional doctrinal routes for justifying well-designed border adjustments in our next article in this series.³⁴ For now, we conclude this article by summarizing the theoretical reason why border adjustments in the context of a subnational carbon tax should not be struck down as per se discrimination. A carbon tax is a tax on an externality, but, because of leakage, the tax cannot succeed without border adjustments. The courts have not considered a tax like that, but we contend that current doctrine points to a sensible way forward if a state chooses to pursue it. ■

³³By analogy, Gamage and Hicklin have argued that a similar scheme — of a reasonable default that can be overcome — should allow states to require remote vendors to collect use taxes. David Gamage and Devin J. Heckman, "A Better Way Forward for State Taxation of E-Commerce," 92 *B.U. L. Rev.* 483 (2012).

³⁴If you just can't wait, see Shanske, *supra* note 2, for a preview.

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