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State-Level Carbon Taxes and the Dormant Commerce Clause: Can Formulary Apportionment Save the World?

*Darien Shanske**

INTRODUCTION

A carbon price is coming, or so it would seem. Even though in the United States there have only been a handful of successful state-level efforts,¹ large firms are assuming that a price will be placed on their greenhouse gas emissions.² Yet until recently, it was unclear as a practical matter how a national price for carbon was going to get established.³ Indeed, it is still unclear, but one possible avenue has opened up. This is because in June 2014, the Environment Protection Agency (“EPA”) released draft rules mandating significant reduction in the release of carbon, a greenhouse gas. Specifically, by 2030 these rules aim to “achieve CO₂ emission reductions from the power sector of approximately 30 percent from CO₂ emission levels in 2005.”⁴ These rules give states great flexibility in achieving the required reductions.⁵

* I would like to thank all the participants in the 2014 *Chapman Law Review* Symposium on Business Tax Reform. I would also like to thank Ash Bhagwat, Dan Farber, David Gamage, Carlton Larson, John Swain, and Michael Wara. I was largely inspired to write this piece after reading the analysis of related issues by Mark Gergen and discussing them with him and the NorCal Tax Roundtable. Mark P. Gergen, *The Case in Economic Theory for Wrapping a Carbon Tax Around Cap and Trade 6* (Aug. 27, 2013) (unpublished paper), available at http://www.law.berkeley.edu/files/Gergen_09092013.pdf. I am grateful to thank Mike Parnes for excellent research support. All mistakes are my own.

¹ For instance, there is California’s AB 32. CAL. HEALTH & SAFETY CODE § 38500 (West 2014).

² Coral Davenport, *Large Companies Prepared to Pay Price on Carbon*, N.Y. TIMES, Dec. 5, 2013, at A1, available at http://www.nytimes.com/2013/12/05/business/energy-environment/large-companies-prepared-to-pay-price-on-carbon.html?_r=0&pagewanted=print; *Carbon Copy*, ECONOMIST, Dec. 14, 2013, <http://www.economist.com/news/business/21591601-some-firms-are-preparing-carbon-price-would-make-big-difference-carbon-copy>.

³ Much less an international price, especially since so much attention has been focused on what the United States has done—or not done. See, e.g., Coral Davenport, *Governments Await Obama’s Move on Carbon to Gauge U.S. Climate Efforts*, N.Y. TIMES, May 27, 2014, at A11.

⁴ Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 34,830, 34,832 (proposed June 18, 2014) (to be codified at 40 C.F.R. 60.5700), available at <http://www.gpo.gov/fdsys/pkg/FR-2014-06-18/pdf/2014-13726.pdf>.

⁵ *Id.* at 34,834–35.

Though imposition of a carbon tax is not explicitly mentioned one way or another in the draft rules as an acceptable approach, market-based approaches, such as California's cap and trade regime, are explicitly held up as possible models.⁶ Accordingly, *The New York Times* reported that "E.P.A. officials said states could even choose to comply by enacting a state-level tax on carbon pollution."⁷ In any event, and even before the EPA announcement, there has been some interest in the states in establishing a state-level carbon tax.⁸

This Article is about one specific aspect of the design of a state-level carbon tax.⁹ I will not be arguing whether or not, on balance, a state-level carbon tax is a good idea, though in fact I do believe that it is.¹⁰ There are many thorny design issues relating to a carbon tax at any level of government—for instance, should it be structured as a payment made by consumers, sort of like a retail sales tax,¹¹ or should it be structured as a levy imposed at certain carbon-intensive choke points? I will not be addressing such issues either in any detail; though, for the sake of the argument, I will stipulate some simple carbon tax structures.

⁶ See *id.* at 34,882 ("[A] state could change the relative costs of generation for more carbon-intensive and less carbon-intensive generating units by imposing a cost on carbon emissions. A state could do so through any of several market-based mechanisms.").

⁷ Coral Davenport & Peter Baker, *Taking Page from Health Care Act, Obama Climate Plan Relies on States*, N.Y. TIMES, June 3, 2014, at A16. For the argument that the EPA has the authority to approve state plans that rely on the carbon tax, see SAMUEL D. EISENBERG, MICHAEL WARAS, ADELE MORRIS, MARTA R. DARBY & JOEL MINOR, A STATE TAX APPROACH TO REGULATING GREENHOUSE GASES UNDER THE CLEAN AIR ACT (2014), available at <http://www.brookings.edu/research/papers/2014/05/22-state-tax-regulating-greenhouse-gas-clean-air-act-morris>.

⁸ See, e.g., Henry J. Reske, *State Studying Possibility of Carbon Tax*, 70 ST. TAX NOTES 735, 735 (2013). Of course, the primary state-level experiments to date have been with cap and trade, and these systems too could become a national model.

⁹ Strictly speaking, carbon dioxide is only one form of greenhouse gas—that is, the type of gas implicated in causing global warming. As will be noted below, I will not be assuming that the carbon tax imposed by a state would only be on carbon. However, I will be following Metcalf and Weisbach by labeling this tax a "carbon tax" even if it applies to other gases as well. See Gilbert E. Metcalf & David Weisbach, *The Design of a Carbon Tax*, 33 HARV. ENVTL. L. REV. 499, 500 (2009). The tax in British Columbia, for example, does only tax carbon. See David G. Duff, *Carbon Taxation in British Columbia*, 10 VT. J. ENVTL. L. 87, 93 (2008).

¹⁰ For useful summaries of the arguments, see Donald B. Marron & Eric J. Toder, *Tax Policy Issues in Designing a Carbon Tax*, AM. ECON. REV., May 2014, at 563; Adele Morris, *An EPA-Sanctioned State-Based Carbon Tax Could Reduce Emissions and Improve State Finances*, BROOKINGS (Apr. 1, 2014, 5:10 PM), <http://www.brookings.edu/blogs/up-front/posts/2014/04/01-epa-carbon-tax-can-help-environment-state-finances-morris>; Roberta F. Mann, *The Case for the Carbon Tax: How to Overcome Politics and Find Our Green Destiny*, 39 ENVTL. L. REP. 10,118 (2009).

¹¹ See Dan Farber, *The Possible Merits of a Hybrid Sales+Carbon Tax*, LEGALPLANET (Oct. 8, 2012), <http://legal-planet.org/2012/10/08/the-possible-merits-of-a-hybrid-sales-carbon-tax/>.

So what *will* I be discussing? I will be addressing whether the federal Constitution, and in particular the judicially crafted dormant Commerce Clause (“DCC”), prevents a state from imposing border tax adjustments (“BTAs”) as part of its carbon tax. There are strong arguments that the DCC would pose an obstacle. In particular, any border adjustments would have to be somewhat imprecise, but the Supreme Court has been very miserly about permitting an approximately compensating tax to fall on imports to a state.¹² But perhaps this is going too quickly. There are several routes by which a properly designed carbon tax with border tax adjustments might pass muster.¹³

I. OUTLINE OF A CARBON TAX

I will not be writing about the details of carbon tax design, but we should outline at least a reasonable design of a carbon tax so that we can understand the problem that might come before a court. My outline will roughly follow the carbon tax design proposed by Gilbert Metcalf and David Weisbach.

Most, eighty percent, of the greenhouse gas produced in our economy is produced by fossil fuels.¹⁴ Fossil fuel production occurs via a number of chokepoints, such as refineries, of which there are under 200 in the United States.¹⁵ So let us suppose that

¹² Steven Ferrey, *Goblets of Fire: Potential 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. & POLY* 353, 366–67 (2009) (providing a slightly more optimistic analysis).

¹³ Note that border adjustments imposed by a state would also likely raise issues related to international trade. These issues are beyond the scope of this Article, though note that 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. Mark P. Gergen, *The Case in Economic Theory for Wrapping a Carbon Tax Around Cap and Trade* 6 (Aug. 27, 2013) (unpublished paper), *available at* http://www.law.berkeley.edu/files/Gergen_09_092013.pdf; *see also* Joost Pauwelyn, *Carbon Leakage Measures and Border Tax Adjustments Under WTO Law*, in *RESEARCH HANDBOOK ON ENVIRONMENT, HEALTH AND THE WTO* 448 (Geert Van Calster & Denise Prévost eds., 2013) (explaining why border tax adjustments might be permissible under international trade law); Carol McAusland & Nouri Najjar, *Carbon Footprint Taxes* § 5 (Oct. 24, 2013) (unpublished manuscript), *available at* <http://people.landfood.ubc.ca/carol.mcausland/McAusland%20Najjar%20Carbon%20Footprint%20Taxes.pdf> (detailed discussion of WTO issues). Or perhaps not. Indeed, if state border tax adjustments did cause sufficient problems for the United States, then they might be struck down domestically as running afoul of the Foreign dormant Commerce Clause. *See Japan Lines, Ltd. v. Cnty. of L.A.*, 441 U.S. 434, 453–54 (1979).

¹⁴ Metcalf & Weisbach, *supra* note 9, at 522.

¹⁵ *Id.* at 523.

a state imposes a \$15/metric ton tax on carbon, collected at refineries.¹⁶

This new tax will make exports from the taxing state more expensive and imports to the state cheaper. To illustrate this, let us focus on a different concrete example: concrete. The process of concrete production produces carbon over and above the energy that the production of concrete requires.¹⁷ There are only a small number of cement plants in the United States, and thus this is another good time and place to impose a carbon tax. So, suppose Oregon imposes a carbon tax; it will thereby significantly disadvantage its domestic concrete producers not only in the export market, but also within the state.¹⁸ Note that this disadvantage is not a result of anything the Oregon producer has or has not done; the disparity is a result of the fact that this producer is based in a state trying to mitigate a worldwide externality, but, by hypothesis, many other states are not.¹⁹

This economic problem is also an environmental problem and a political problem. Obviously, if more expensive Oregon concrete is replaced by cheaper out-of-state concrete made cheaper because of a lack of a carbon tax, then the carbon tax will not only hurt Oregon business, but it will not reduce total carbon emissions. This 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 is to credit the Oregon producer for all of the concrete that she is exporting and impose an equivalent tax on imports of concrete. In this 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 this cost to imports. The Oregon concrete producer would pay a per unit tax on its concrete and then get a refund for the concrete it exported. A concrete importer would then need to pay the same per unit cost

¹⁶ Note that this price is higher than the current price on the European or California exchanges, where the numbers are approximately \$6.70 and \$11.50, respectively. *Carbon Copy*, *supra* note 2. This price is much lower than that used by at least some large firms. Exxon Mobil is reportedly using \$60/ton. *Id.*

¹⁷ Metcalf & Weisbach, *supra* note 9, at 530.

¹⁸ Cf. JENNY H. LIU & JEFF RENFRO, NW. ECON. RESEARCH CTR., CARBON TAX AND SHIFT: HOW TO MAKE IT WORK FOR OREGON'S ECONOMY 15 (2013), available at <http://www.pdx.edu/nerc/carbontax2013.pdf> (identifying the problem).

¹⁹ Metcalf & Weisbach, *supra* note 9, at 540. 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—e.g., 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 (say through using an adjustable credit).

when it imports concrete.²⁰ However, because this tax would be specifically on imports, would this tax not be constitutionally prohibited as a facial discrimination? This is our first doctrinal question.

Even more perplexing, if Oregon is to truly achieve its goals, it will need also 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? Let's return to our Oregon concrete producer and suppose it is paying 1 x per unit in carbon taxes. Under these adjustments, an out-of-state importer may need to pay 1.2 x per unit—or perhaps 0.9 x—depending on the origin of the concrete. As for out-of-state producers paying *more*, this seems to be an even more blatant facial discrimination. This is our second question. Our third question has to do with how carbon intensity is being measured, as surely it is just an approximation. How much imprecision, if any, is permissible?

And so these are the three doctrinal questions posed by border tax 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 questions one and two are answered in the affirmative, how much approximation is permissible?

II. THE PRIMA FACIE ANSWERS: BORDER ADJUSTMENTS ARE DOOMED

The Supreme Court imposes an almost per se rule of invalidity as to taxes that discriminate between in-state and out-of-state taxpayers. Thus, the answer to the second question, about applying different rates to products based on the different carbon footprints of different states or regions, is very likely to be “no” and that would seem to be the end of the story whatever the answers to the other questions.²¹ Indeed, out-of-state producers

²⁰ This is an easy example; how would one strip out the carbon tax from in-state services? This is why it is important to apply the tax at just a few points where this kind of calculation is at least roughly possible.

²¹ See *Rocky Mountain Farmers Union v. Corey*, 740 F.3d 507, 513 (9th Cir. 2014) (Smith, J., dissenting); 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).

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 at all 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).²² Because assessing the carbon intensity of both domestic and imported products is going to be the product of informed guesswork, it looks like such a practice will not pass muster either. Thus, the answer to the first and third questions is also “no.”

A. First Counterargument: There Is Not a Facial Discrimination

California is in the midst of implementing a cap and trade system (“AB 32”) for controlling greenhouse gasses. A cap and trade system and a carbon tax can function in exactly the same way; both are trying to place a price on carbon in order to encourage conservation. The tax is a tax and so is clearly a cost. In cap and trade, polluters need to pay for the privilege to pollute, which is also a cost. One downside to cap and trade is that it imposes a significant burden on the regulator to try to estimate how much different industries pollute, and thus how many credits they will need to purchase. If the regulator gets this wrong, all manner of problems can result. For instance, on a system-wide level, if the regulator sells too many permits at too low a price (or gives them away), then the desired reductions will not occur.²³ Within an industry, if the regulator incorrectly requires Firm A to purchase more permits than Firm B, then Firm B is given a comparative advantage wholly because of the regulation. This should sound familiar because it is the same problem that spurred us to consider border tax adjustments.

As part of its implementation of AB 32, California’s cap and trade system, California’s Air Resources Board (“CARB”) adopted a Low Carbon Fuel Standard. This standard sets an annual limit on the carbon intensity of fuels; blenders of fuels over the limit must purchase credits from blenders below the limit. In order to assess how a particular fuel did relative to the standard, CARB had to develop a complicated metric that differentiated among

²² See, e.g., *Henneford v. Silas Mason Co.*, 300 U.S. 577, 583–84 (1937).

²³ This is essentially what happened to the European Trading System. See *ETS, RIP?*, *ECONOMIST*, Apr. 20, 2013, <http://www.economist.com/news/finance-and-economics/21576388-failure-reform-europes-carbon-market-will-reverberate-round-world-ets>.

fuels by region (among other things). The rationale for differentiating between 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 needed to rely on such 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.²⁴ A panel of the Ninth Circuit overturned the district court by a vote of 2 to 1.²⁵ Crucially, the panel only overturned the case as to the facial constitutional challenge to the fuel standard, and thus the standard may still be found wanting after a fact-intensive analysis.²⁶ The full Ninth Circuit refused to hear the case en banc.²⁷ The Supreme Court refused to grant certiorari.²⁸

As to the facial discrimination argument, the majority reasoned that there was no facial discrimination because the California regulations were not targeting out-of-state producers because they produced out-of-state; rather, the regulations were motivated by and based on an entirely different concern, namely measuring carbon intensity.²⁹ Sometimes in-state producers did better by this metric and sometimes not.³⁰ California was not basing its regulations on state borders.

Interestingly, though this was not formally a tax case, the decision revolved around several key DCC tax cases.³¹ Conceptually, this makes sense because, as noted above, regulations and taxes are often policy substitutes. Accordingly, though Supreme Court cases seem to apply a different test to taxes versus regulations, I know of no case where the Court says

²⁴ Rocky Mountain Farmers Union v. Goldstene, Nos. CV-F-09-2234 LJO DLB, CV-F-10-163 LJO DLB, 2011 WL 6936368 (E.D. Cal. Dec. 29, 2011).

²⁵ Rocky Mountain Farmers Union v. Corey, 730 F.3d 1070 (9th Cir. 2013).

²⁶ This point was emphasized by the author of the Ninth Circuit decision in his concurrence to the denial of the hearing en banc. Rocky Mountain Farmers Union v. Corey, 740 F.3d 507, 510 (9th Cir. 2014) (Gould, J., concurring).

²⁷ *Id.* at 513.

²⁸ Rocky Mountain Farmers Union v. Corey, No. 13-1148, 2014 WL 1118399, at *1 (U.S. June 30, 2014).

²⁹ Corey, 730 F.3d at 1089 (“[T]he 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 this characterization of the fuel standard. *Id.* at 1108 (Murguia, J., dissenting). Note that 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, then it would not count as a facial discrimination.

³⁰ *Id.* at 1083-84 (majority opinion) (noting California ethanol producers pay more because they import midwestern corn).

³¹ See, e.g., *id.* at 1089 (distinguishing *Oregon Waste*).

that there are different rules, or justifies different rules.³² 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 needs to apply to *all* products and services. So long as the regulatory structure is sufficiently rigorous and based on factors other than jurisdictional lines, then it should pass muster even if some inputs take geography into account.

An additional important feature of the California regulation is worth noting. The Fuel Standard works in general by setting defaults and then allowing firms to argue for individualized determinations.³³ Thus, the majority opinion noted that any mischief caused by the general formulas—including to out-of-state producers—could be corrected.³⁴ The dissent did not believe that these individualized determinations went far enough.³⁵ It is not clear how important this issue ultimately was to the majority's reasoning, but 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.³⁶

B. Second Counterargument: Even If There Is Facial Discrimination, Perhaps It Is Not Fatal Because of the Complementary Tax Doctrine

As was appropriate, the majority opinion in *Rocky Mountain* hewed closely to Supreme Court precedent in arriving at its conclusion upholding California's Low Carbon Fuel Standard. Yet the majority in *Rocky Mountain* might not have hewed to existing precedent closely enough. Are there other routes to upholding border adjustments? I believe that there are.

The first route is to argue that, under current doctrine, a border adjustment represents a complementary tax and, as such, the *prima facie* discrimination is not invalid because it "achiev[es] a legitimate local purpose that cannot be achieved through nondiscriminatory means."³⁷ The key modern application

³² See generally David Gamage & Darien Shanske, *The Saga of State 'Amazon' Laws: Reflections on the Colorado Decision*, 65 ST. TAX NOTES 197, 199 (2012).

³³ *Corey*, 730 F.3d at 1082.

³⁴ *Id.* at 1094; *Corey*, 740 F.3d at 510 (Gould, J., concurring).

³⁵ *Corey*, 730 F.3d at 1109 (Murguia, J., dissenting).

³⁶ By analogy, Gamage and Heckman have argued that a similar scheme—of a reasonable default that can be overcome—ought to allow states to require remote vendors to collect use taxes. David Gamage & Devin J. Heckman, *A Better Way Forward for State Taxation of E-Commerce*, 92 B.U. L. REV. 483 (2012).

³⁷ *Or. Waste Sys. Inc. v. Dep't of Env'tl. Quality of Or.*, 511 U.S. 93 (1994).

of the doctrine is *Henneford v. Silas Mason Co.*,³⁸ where the Supreme Court upheld Washington's imposition of a use tax on out-of-state purchases to compensate for the sales tax it imposed on sales made within the state. Thus, if the Court, or a court, does not accept the *Rocky Mountain* argument that there is no discrimination at all, then it might accept an argument based on the complementary tax doctrine that the discrimination is justified. Certainly, if the carbon tax were identically imposed on imports—that is, taking no account of carbon intensity—the case looks pretty strong. But what if, as seems important, a state did try to take the relative carbon intensity of imports into account?

A leading recent case on the doctrine, and one seemingly similar to our scenario, is *Oregon Waste Systems*.³⁹ In *Oregon Waste Systems*, Oregon imposed a surcharge on waste imported from out-of-state of \$2.25/ton, while the in-state charge was \$0.85/ton.⁴⁰ Oregon's statute required that the surcharge "be based on the costs to the State of Oregon and its political subdivisions of disposing of solid waste generated out-of-state which are not otherwise paid for."⁴¹ Thus, Oregon had a colorable argument that its surcharge was compensating, but it failed the demanding three-part test for a discriminatory tax to be upheld as complementary.

The test for complementary taxes is as follows: First, a special out-of-state burden must be identified. Second, the out-of-state surcharge has to approximate, but not exceed, the identified burden. Third, the event that triggers the in-state and out-of-state tax must be "substantially equivalent."⁴² The Oregon scheme failed the first and third prongs—indeed it was a kind of Catch-22. The only identifiable charge was the charge paid by in-state producers, but this was only a third as much as charged to out-of-state producers. Thus, there was no identifiable burden. The State countered that the identified charge should take into account the general taxes that in-state producers paid but that out-of-state producers did not. Yet this argument ran smack into prong three; the occasion for paying a general property tax, for example, was not substantially equivalent to that of paying a special surcharge on imported waste.

³⁸ *Henneford v. Silas Mason Co.*, 300 U.S. 577 (1937).

³⁹ *Or. Waste Sys.*, 511 U.S. 93; cf. 1 JEROME R. HELLERSTEIN, WALTER HELLERSTEIN & JOHN A. SWAIN, *STATE TAXATION* ¶ 4.14.[3][c] (3d ed. 2012) (arguing that making the exception limited makes pragmatic and principled sense).

⁴⁰ *Or. Waste Sys.*, 511 U.S. at 96.

⁴¹ *Id.*

⁴² *Id.* at 103.

Taking a step back, accepting that compensating for *general* taxes would suffice does seem likely to lead to abuse and retaliation, and so the Court was on firm ground in *Oregon Waste Systems*.⁴³ It is, however, quite another thing for a state to adopt a tax on a broad new tax base, namely carbon, and then try to mitigate its impact with border adjustments. This situation is much more analogous to *Henneford*—the case that upheld the use tax as a complement to the sales tax. Or, put another way, a border adjustment would be based on an identified event—the production of carbon—and that event is substantially identical wherever it happens. With prongs one and three covered, this brings us to prong two—whether the border adjustment calculation is close enough for purposes of the DCC, and herein lies the trouble, perhaps. The problem arises out of a different sales tax case.

State sales taxes may be compensated by use taxes, but what about *local* sales taxes, say imposed at the county level? Presumably, an individual county can impose a use tax to complement its sales tax, but what if a state wanted to simplify matters by imposing a state-level use tax supplement that is the average of all local sales taxes? This is what Missouri did, imposing a 1.5% average use tax at the state level to compensate for the sales tax imposed by some 1000 localities.⁴⁴ The Court in *Lohman* found that this added use tax violated prong two—a statewide average created a burden that was greater on imported goods in many instances, and it did not matter if this average helped importers the rest of the time.

Lohman suggests that the approximations that would be the necessary basis for border adjustments under a state-level carbon tax may fail. After all, the methodology that a state would need to use would need to be an average or other kind of approximation,⁴⁵ even if more individualized determination were also theoretically possible. However, these border adjustments could be distinguished from the average state-level sales tax at issue in *Lohman*. This is not a case where a statewide average is essentially whitewashing local discrimination, which was the Court's concern.⁴⁶ Here, the averages are being used to calculate what can only be calculated approximately even if a more

⁴³ See also *Fulton Corp. v. Faulkner*, 516 U.S. 325 (1996).

⁴⁴ *Associated Indus. of Mo. v. Lohman*, 511 U.S. 641, 644 (1994).

⁴⁵ *Cf. Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070, 1093 (9th Cir. 2013) (noting California fuel standard uses averages).

⁴⁶ *Id.* at 649–50.

individualized methodology were used; there is no underlying fact of the matter.⁴⁷

C. Third Counterargument: Formulary Apportionment as a Model for Approximation

The Court could still interpret *Lohman* differently. In particular, it might decide that it stands for a very broad principle: no averaging, only a precisely known amount can be compensated for. Or, relatedly, perhaps the Court would reason that there is an underlying fact about carbon intensity that can be discovered without a formula. The Court should be coaxed not to so interpret *Lohman* by reference to its formulary apportionment cases.

The test of whether a tax scheme violates the DCC is called the *Complete Auto Test* (“CAT”).⁴⁸ The second prong of the CAT bars discrimination; this test is very similar, perhaps identical, to the test for regulations. This is the prong we have essentially been discussing, but there is a third prong under the CAT: a tax must be fairly apportioned. Of course, if a tax is not fairly apportioned, then it is likely discriminatory, but this prong is not wholly duplicative. A typical apportionment formula, on its face, applies to all firms in the same way, whatever their location, but fair apportionment requires that that chosen method of apportionment be reasonable. The Court has long accepted rough formulas for apportioning the value or income of multi-state enterprises, such as using the relative amount of railroad track within a state.⁴⁹ This is an area in which the Court accepted a reality on the ground, namely that railroads were multistate enterprises,⁵⁰ the value of which could not be precisely located in a given state. The analogy with carbon production is strong. Let’s return to California’s fuel standard. It turns out that all fuels are

⁴⁷ Furthermore, as discussed above, the border adjustment regime could allow for individual challenges to the results yielded by the more general methodology. See *supra* notes 34–37 and accompanying text.

⁴⁸ *Complete Auto Transit v. Brady*, 430 U.S. 274 (1977).

⁴⁹ See, e.g., *Nashville, Chattanooga & St. Louis Ry. v. Browning*, 310 U.S. 362 (1940); *Norfolk & W. Ry. Co. v. Mo. State Tax Comm’n*, 390 U.S. 317, 324 (1968) (“A number of such formulas have been sustained by the Court, even though it could not be demonstrated that the results they yielded were precise evaluations of assets located within the taxing State.”). Interestingly, this last case, *Norfolk*, is the rare case where the Court did find a formula irrational because there was a pre-existing value against which the Court could compare the value arrived at by formula. That is not the case as to carbon intensity.

⁵⁰ A buried assumption is that the railroads are a “unitary business,” which is by no means always a simple matter to determine, but there is no question that the Court has accepted very large and disparate entities as sufficiently unitary to permit apportionment. See *generally* *Container Corp. of Am. v. Franchise Tax Bd.*, 463 U.S. 159 (1983).

not the same in terms of carbon intensity. For instance, some fuel has ethanol and some of that ethanol comes from the American Midwest and some from Brazil. In general, entire processes are producing carbon, but exactly how much requires an estimation based on many factors, including geography.

Two relatively recent apportionment precedents are particularly notable in supporting this analogy. First, there is *Moorman*.⁵¹ In *Moorman*, a manufacturer based in Illinois challenged Iowa's use of a single-sales factor method of apportionment for the purpose of ascertaining where the income of a multistate corporation was earned (and therefore taxable).⁵² The Illinois manufacturer noted that Illinois, like most states at the time, used a three-factor method of apportionment.⁵³ This method looked to the relative proportion of sales, property, and payroll that a multistate corporation earned in a particular state. Iowa used only the sales factor.⁵⁴ This choice of formula served to increase the income apportionable to Iowa of an Illinois business with Iowa sales, but to decrease the apportionable income of an Iowa business exporting to Illinois. Thus, Iowa's then solitary use of the single sales factor seems to advantage its domestic businesses. Nevertheless, the Court upheld Iowa's use of the single sales factor. At the heart of the Court's reasoning was the observation that it was not Iowa's formula that discriminated or was unreasonable; rather, it was the interaction of Iowa's system with the different systems of other states. The Court refused to dictate and enforce a uniform formula.⁵⁵ *Moorman* therefore stands for the principle that the Court will not pick and choose between formulas even if a chosen formula gives the state that adopts it an edge (or at least an apparent edge).

The second important precedent is *Trinova*.⁵⁶ In *Trinova*, the challenge was to Michigan's use of formulary apportionment in connection with its value added tax.⁵⁷ The plaintiffs asserted that value added could be more easily geographically located than total firm value or income, and thus use of a formula was unreasonable.⁵⁸ The Court held otherwise.⁵⁹ Presumably, Michigan could have attempted to locate value added more

⁵¹ *Moorman Mfg. Co. v. Blair*, 437 U.S. 267 (1978).

⁵² *Id.* at 269–72.

⁵³ *Id.* at 276.

⁵⁴ *Id.*

⁵⁵ *Id.* at 278–79.

⁵⁶ *See generally Trinova Corp. v. Mich. Dep't of Treasury*, 498 U.S. 358 (1991).

⁵⁷ There was also a challenge to the formula as discriminatory, a challenge the Court summarily dismissed. *Id.* at 384–86.

⁵⁸ *Id.* at 373–74.

⁵⁹ *Id.* at 374.

precisely, but the State was permitted to use an approximate formula given the still significant complexity and guesswork involved in locating value added.⁶⁰

The formulary apportionment line of cases thus provides an argument, by analogy, that ought to buttress the use of approximate formulas for making border adjustments. If Michigan could use a formula rather than try to track down value added, then why can't Oregon do something similar as to carbon intensity? Or, put another way, the plaintiffs in the formulary apportionment cases regularly insisted that they knew, via separate accounting, where the value or income of their firms was located. The Court has repeatedly rejected this contention; since locating multi-state firm value or income is like "slicing a shadow,"⁶¹ the states were not required to accept the shadow slices proffered by the plaintiffs. If this is true for firm value or income, why should this not be true for carbon intensity?

III. SIDEBAR: APPLICATION OF THE SPIRIT OF THE PUBLIC UTILITY EXCEPTION?

It must be granted that the Court could reject the fair apportionment analogy, instead holding that what is acceptable approximating under the fair apportionment prong of CAT is not necessarily acceptable under the anti-discrimination prong. As for anti-discrimination, no approximating is permitted. Yet there are hints in the Court's recent DCC jurisprudence that it will not reach out to invalidate sensible state innovations.

We should remember that the DCC is federal constitutional common law. The current DCC test for whether a tax passes constitutional muster, the four prong *Complete Auto* Test, was a result of a backwards look at what the Court had done in actual cases—while all the while overturning large parts of the doctrine to that point, and all in the name of forging a more pragmatic test.⁶² Since the advent of the *Complete Auto* Test in 1977, one

⁶⁰ *Id.* at 379 ("The same factors that prevent determination of the geographic location where income is generated, factors such as functional integration, centralization of management, and economies of scale, make it impossible to determine the location of value added with exact precision.")

⁶¹ *Container Corp. of Am. v. Franchise Tax Bd.*, 463 U.S. 159, 192 (1983).

⁶² *Complete Auto Transit, Inc. v. Brady*, 430 U.S. 274, 277–78 (1977); cf. Jesse H. Choper & Tung Yin, *State Taxation and the Dormant Commerce Clause: The Object-Measure Approach*, 1998 SUP. CT. REV. 193, 199 ("The central problem with *Complete Auto* is that its four prongs are functionally overlapping and redundant in attempting to fulfill the bedrock constitutional value served by judicial review of state taxation of interstate commerce: nondiscrimination against interstate commerce.")

prong has become largely irrelevant,⁶³ another prong has taken on a surprising life of its own,⁶⁴ and (at least) two additional prongs are tucked into one of the remaining two prongs.⁶⁵ Thus, quite reasonably, Justice Scalia has written (with Justice Thomas concurring) that he “look[s] forward to the day when *Complete Auto* will take its rightful place . . . among the other useless and discarded tools of our negative Commerce Clause jurisprudence.”⁶⁶ Indeed, a current majority of the Court, writing through Chief Justice Roberts, has recently written that “[t]he dormant Commerce Clause is not a roving license for federal courts to decide what activities are appropriate for state and local government to undertake.”⁶⁷

This strong language comes from the Court’s 2007 decision in *United Haulers*.⁶⁸ In that case, the Court essentially overturned a recent precedent⁶⁹ in order to allow localities essentially to monopolize the local waste processing business. I have argued elsewhere that the best way to understand this decision is as accepting of a new economic reality.⁷⁰ The waste management industry used to be one in which competition was possible. Yet, as the environmental impact of waste disposal has grown, so too has the expense of treating waste properly. Thus, as was the case apparently in the two-county region at issue in *United Haulers*, waste management had become a natural monopoly. That is, any one—very expensive—treatment plant could handle all the waste in the region. Adding a second plant would only be wasteful. In such a circumstance, the Court narrowed earlier precedent in order to allow governments to pursue an economically sensible solution to a regional problem;

⁶³ The fourth prong, so-called “fair relation.” See *Commonwealth Edison Co. v. Montana*, 453 U.S. 609, 610 (1981).

⁶⁴ This is the first prong, “substantial nexus,” which was held in *Quill* to require a more substantial nexus than that required by the Due Process Clause. See *Quill Corp. v. Heitkamp*, 504 U.S. 298, 311–12 (1992).

⁶⁵ The Court looks for the internal and external consistency of a tax; these requirements are sometimes placed under the anti-discrimination prong, and sometimes the fair apportionment prong. See, e.g., *Armco Inc. v. Hardesty*, 467 U.S. 638, 644 (1984) (internal consistency required under fair apportionment and anti-discrimination prongs); *Okla. Tax Comm’n v. Jefferson Lines, Inc.*, 514 U.S. 175, 185 (1995) (internal and external consistency under fair apportionment prong).

⁶⁶ *Jefferson Lines, Inc.*, 514 U.S. at 201 (Scalia, J., concurring).

⁶⁷ *United Haulers Ass’n v. Oneida-Herkimer Solid Waste Mgmt. Auth.*, 550 U.S. 330, 343 (2007).

⁶⁸ See *id.*

⁶⁹ See generally *C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383 (1994).

⁷⁰ Darien Shanske, *The Supreme Court and the New Old Public Finance: A New Old Defense of the Court’s Recent Dormant Commerce Clause Jurisprudence*, 43 *URB. LAW.* 659, 669 (2011).

namely, the governments were permitted to build one expensive plant and then force local waste haulers to use it.⁷¹

By analogy, the problem of reducing carbon emissions is a new one and one that transcends state borders. The science and economics of carbon leakage are hard to gainsay—or at least inappropriate for a court to gainsay. Why should the Court reject all the doctrinal arguments made thus far only to hamstring state efforts to address what the Court has already accepted is a major problem?⁷² This is an apt place to review the arguments thus far to see just how many “off-ramps” are available to the Court, at least if confronted by a well-designed system of BTAs. First, following the argument of *Rocky Mountain*, the Court can find that there is simply no discrimination. Second, the Court could accept that BTAs satisfy the complementary tax doctrine as it currently stands. Third, the Court could accept that BTAs satisfy a slightly revised complementary tax doctrine through not holding it constitutionally problematic that the BTAs rely on approximations (as they must). This argument would rely on an analogy with formulary apportionment. The Court should be propelled to one of these routes by the same sense of its institutional limitations that led to the decision in *United Haulers*.

But perhaps the Court will refuse to do so. Or, at any rate, perhaps the uncertainty here will, as a pragmatic matter, prevent the implementation of a robust carbon tax with BTAs. Is there another way to structure a carbon tax so as to achieve the benefits of BTAs?

IV. ALTERNATIVE DESIGN: FORMULARY APPORTIONMENT AS A SUBSTITUTE FOR BORDER ADJUSTMENTS

Up to this point we have been considering formulary apportionment as an *analogy* for a border adjustment. Yet the mere fact that these adjustments would occur on imports (and exports) arguably might be too great a hurdle to clear with the Supreme Court. Fortunately, there is still one additional possible approach: *replace* border adjustments with formulary apportionment.

Here is roughly how this might work. Instead of taxing a refinery as it refines oil, the carbon tax would tax the refining firm once a year in much the same way states currently

⁷¹ The Court has made similar adjustments to its doctrine in other, related, areas of law and, in particular, rate regulation where the Court ultimately decided to leave the setting of utility rates to expert regulators (for the most part). *Id.* at 714–16.

⁷² See, e.g., *Massachusetts v. EPA*, 549 U.S. 497 (2007).

administer their corporate income tax. Take an oil refiner—the firm would report how much oil it refined for use in the state, but before that number became the basis of the carbon tax, the state would apply an apportionment formula based on the carbon intensity of the oil it imported.⁷³ Thus, a firm that imports oil would need to pay its carbon tax after the amount of oil it imported was adjusted for the carbon intensity of its source, among other factors. As with current apportionment formulas, and as with California’s fuel standard, a taxpayer should be able to challenge the formula. Regardless of the statute, formulas can be challenged as unconstitutional because unreasonable. The standard state act for apportionment, the Uniform Division of Income for Tax Purposes Act (“UDITPA”), offers taxpayers the possibility of additional relief, even if a formula does not fall below the constitutional floor, and this should be the case with carbon formulary apportionment as well.⁷⁴

Here is a more detailed example of how this structure might work and how it differs from just using BTAs. Let’s go back to our basic carbon tax that charges a per unit charge on carbon and suppose, for a moment, that BTAs are acceptable. Now consider our Oregon hypothetical oil refiner. It has refined 1,000,000 units for use in Oregon and it is also taxed \$10 per unit for an initial liability of \$10,000,000. Half the refined oil came from Oregon, half from Texas. The Texas oil is judged by Oregon’s methodology as more carbon intensive than that from Oregon. On those imports, the refiner is taxed at \$12 per unit and so the refiner owes total carbon tax of \$6,000,000 on this half of its production, for a total liability of \$11,000,000. It is this additional surcharge in particular that, as we discussed, might doom the BTAs.

What would apportionment look like? The refining company would file one annual return. In the current case of the corporate income tax, it is not known how much income is generated by a given state, and so one takes the total income a corporation has earned nationally and multiplies that number by some fraction—say the portion of sales in a given state/total sales. This ratio of

⁷³ See McAusland & Najjar, *supra* note 13 for a more detailed discussion of how such a system might work in terms of estimating the cost of carbon embodied in products. See also Charles E. McLure Jr., *The Carbon-Added Tax: A CAT that Won't Hunt*, POLY OPTIONS, Oct. 2010, at 62, 66 (“The most efficient way to implement a carbon tax is to impose it upstream. It is true that an upstream carbon tax would not provide the information required to calculate BTAs; it should be necessary to calculate BTAs in some other ad hoc way Fortunately, BAs [border adjustments] would be needed for trade only in a limited number of carbon-intensive basic products that are traded heavily with countries that do not limit CO₂ emissions.”).

⁷⁴ UNIF. DIV. OF INCOME FOR TAX PURPOSES ACT § 18 (1957).

in-state sales to all sales may not be very easy to compute, but it is the relatively known data point we are using to estimate the known unknown, namely the income that can be fairly apportioned to a given state. So, suppose our Oregon oil refiner earned \$10,000,000 nationally. Then let's assume that Oregon used only the sales factor to apportion income and the oil refiner made 10% of its sales in Oregon, then \$1,000,000 of the refiner's income would be taxable in Oregon. The calculation looks like this:

Corporate Income Tax		
		<u>Notes</u>
Total Income	\$10,000,000	Known.
Apportionment Formula	10% X	Formulas take political geography into account, often strategically.
Taxable Base	\$1,000,000	Estimate resulting from formula.

Note that Oregon has a choice of apportionment formulas and, like most states, has probably chosen its formula strategically. Market states tend to prefer using only the sales factor, especially if that is what neighboring states are using; natural resource rich states tend to hang on to use of the property factor.⁷⁵

In the case of this theoretical new carbon tax, we also have a problem figuring out the base—namely total carbon emissions. As with the current corporate income tax system, we do know some things that will be useful for estimating state carbon emissions. We know, for instance, the brute number of the amount of oil a refinery has refined for use in state.⁷⁶ We also know, at least for the firm as a whole, where the oil came from.⁷⁷ We also know, thanks to the models of the type used by

⁷⁵ Darien Shanske, *A New Theory of the State Corporate Income Tax: The State Corporate Income Tax as Retail Sales Tax Complement*, 66 TAX L. REV. 305, 312–20 (2013).

⁷⁶ If we did not know the amount of oil refined for use in one state, then a reasonable formula could be applied here as well. Of course, the more formulas that are applied, the greater the deviation from the simple “God’s eye” example offered above, but that is alright because the underlying assumption here is precisely that this information is not known, and so reasonable approximations are permissible.

⁷⁷ As observed in the note above—more precise information is to be preferred, but firm-wide formulas should be acceptable unless they reach results that would implicate the concerns of section 18 of UDITPA.

California, how intensive these various sources are. And so we get the following:

Carbon Tax, Simple

		<u>Notes</u>
Total Raw Units in State	1,000,000	For instance, gallons of gasoline refined. This is assumed known.
Weighting Formula	110% X	
Taxable Base	<u>1,100,000</u>	Only takes environmental inputs into account, though these are geographically sensitive.

Note that, at least at this point, there is a stronger constitutional argument for carbon apportionment versus single sales factor apportionment insofar as the formula is not based on strategic calculations, but on a best guess as to carbon intensity.

But how does this system mimic border adjustments exactly? Returning to our example above, the key step would be to disaggregate the raw units by source and then to weigh them by carbon intensity, and so the calculation might look like this:

Carbon Tax, Breaking Out Weighting

		<u>Notes</u>
Total Raw Units in State 1,000,000		
Units from Region A	500,000	The weighing is only tangentially by "region." It is instead based on relevant characteristics of the region, such as its primary energy inputs or methods of oil extraction, etc.
Region A Weight	100% X	
Weighted Region A	<u>500,000</u>	
Units from Region B	500,000	
Region B Weight	120% *	
Weighted Region B	<u>600,000</u>	
Total Weighing	110%	
Taxable Base	<u>1,100,000</u>	

Note that, at least in this simple example, formulary apportionment has reached the same result as the border adjustment example above.

Using formulary apportionment to avoid the need for border adjustments is not a novel idea. This was part of the reform proposal of the California Commission on the Twenty-First Century Economy ("COTCE").⁷⁸ The heart of the COTCE

⁷⁸ STATE OF CAL. COMM. ON THE 21ST CENTURY ECON., REPORT OF THE COMMISSION ON THE 21ST CENTURY ECONOMY (2009), available at http://www.cotce.ca.gov/documents/reports/documents/Commission_on_the_21st_Century_Economy-Final_Report.pdf.

proposal was a state-level value added tax, called a Business Net Receipts Tax (“BNRT”). Yet imposing a broad new tax, it was feared, would disadvantage California businesses. The Commission did not believe it could impose border adjustments to strip out—or impose—its new tax. The COTCE proposal used formulary apportionment (only the sales factor) to try to make up for the lack of border adjustments. Unfortunately, and as critics noted, formulary apportionment cannot replace border adjustments in this context.⁷⁹ For instance, actual exporters would have their BNRT reduced by use of the single sales factor because only in-state sales would be used in the formula, but those domestic producers who sell to the exporters would not see any reductions because all of their sales are in state. This is because the design of the BNRT did not allow the tax to be added or subtracted on a transaction-by-transaction basis.

This criticism does not hold for a carbon tax, at least in the modified form we are discussing. The carbon tax would only be remitted by a handful of large producers; thus, there would not be the problem of many businesses having the carbon tax built into their prices without chance of rebate. Furthermore, the deep issue with relying on apportionment in the context of a value-added tax is that sales are different from value added. In the case of a carbon tax, the formula would be measuring carbon intensity, which is the same as the base of the tax.⁸⁰

CONCLUSION

This short Article is not an argument for a carbon tax in any form, though clearly it assumes that one would be worth pursuing. Rather, in this Article I have taken on the common assumption that a particular, and oft-proposed, design feature of a carbon tax—border tax adjustments—is not possible for a state-level carbon tax in the United States. I think this assumption is incorrect, or at least it may be incorrect. If carefully designed, taking into account the precedents and arguments discussed here, I believe a carbon tax with border tax adjustments could survive dormant Commerce Clause challenges. Alternatively, I believe an upstream carbon tax that used formulary apportionment to approximate border

⁷⁹ Charles E. McLure, Jr., *The Business Net Receipts Tax: A Dog That Will Not Hunt*, 37 HASTINGS CONST. L.Q. 745, 749–63 (2010); see also Kirk J. Stark, *Houdini Tax Reform: Can California Escape Its Fiscal Straightjacket?*, CAL. POLY OPTIONS, 2011, at 171, 173.

⁸⁰ I delve into some of the complexities of using sales as a proxy for income in another article. See Shanske, *supra* note 75, at 344–47.

adjustments is even more likely to survive dormant Commerce Clause scrutiny.