# Economic and Legal Analysis of Climate Policy and Border Tax Adjustments: Federal vs. State Regulation

IAN SHELDON*

*This Article presents an economic and legal analysis of border measures for climate policy. While the economics of such border measures is well-established, there is no clear presumption either for or against them in light of current interpretation in both U.S. and WTO law. If states unilaterally impose border measures, they may be subject to legal challenge under the dormant Commerce Clause and associated Foreign Commerce Clause, and even if they pass U.S. legal muster, it is very likely they would be challenged through the WTO dispute settlement mechanism. In addition, if a coalition of other countries exerts unilateral action on climate, the current U.S. political climate suggests that retaliatory use of border measures by other signatories to the Paris Climate Agreement might actually play into President Trump's protectionist rhetoric.*

TABLE OF CONTENTS

I. INTRODUCTION .....781
II. ECONOMICS OF BORDER MEASURES .....786
A. *Carbon Havens and Competitiveness* .....786
B. *Policy Options for Leakage and Competitiveness* .....787
III. WTO CONSISTENCY OF BORDER MEASURES .....789
A. *Legal Issues* .....789
B. *Unintended Consequences of BTAs* .....794
IV. FEDERAL VS. STATE REGULATION OF BORDER MEASURES .....795
A. *Legal Challenges* .....795
B. *Current Status of U.S. Federal Climate Policy* .....799
V. CONCLUSION .....800

## I. INTRODUCTION

It is widely accepted that climate change is occurring, a connection exists between human activity and emissions of carbon dioxide ($CO_2$) and other greenhouse gases (GHGs), and climate change is largely irreversible.[1]

* Andersons Chair of Agricultural Marketing, Trade and Policy, Department of Agricultural, Environmental, and Development Economics, The Ohio State University.

[1] *See* NATIONAL RESEARCH COUNCIL, AMERICA'S CLIMATE CHOICES: PANEL ON ADVANCING THE SCIENCE OF CLIMATE CHANGE 3 (2010); *see also* Susan Solomon et al., *Irreversible Climate Change Due to Carbon Dioxide Emissions*, 106 PROC. NAT'L ACAD.

Concentrations of $CO_2$ have increased from pre-industrial levels of 280 parts per million (ppm) to the current levels of 400 ppm, with other GHGs increasing $CO_2$-equivalent concentrations to 440 ppm.[2] At the same time, since 1900, average global surface temperatures have risen by $0.8^0$ C, and in the absence of mitigation, mean projected global warming will reach $3^0$–$4^0$ C by 2100.[3] The risks associated with climate change include, *inter alia*, changes in precipitation patterns, sea-level rises, more intense and frequent weather, and changes in ocean circulation.[4]

The Stern Report described climate change as the "greatest example of market failure . . . ever seen."[5] Climate change generates an externality whereby the social cost of carbon is not embodied in the price of goods, the standard solution being a carbon tax.[6] However, because GHG emissions have negative consequences irrespective of where they occur, climate change is a collective action problem, i.e., the first-best policy is for all governments to mitigate climate change.[7] Of course, either individual countries or some coalition of countries may unilaterally implement climate policy, but necessarily this is a second-best outcome as non-activist countries are able to free ride.[8]

In the past two decades, it has become increasingly obvious that, even though negotiation of the Kyoto Protocol on Global Climate Change in 1997 was a useful first step, further efforts to develop a comprehensive multilateral agreement for reducing carbon emissions will be necessary if climate change is to be properly addressed.[9] Although the Kyoto Protocol set emission reduction targets for individual countries, the agreement was largely ineffective for the following reasons: developing countries were not included, the United States failed to ratify the protocol, and there was no enforcement mechanism.[10] More recently, the December 2015 United Nations Framework Convention on Climate Change (UNFCCC) meeting, held in Paris, resulted in 186 countries making commitments to reducing carbon emissions, covering 96% of global

---

SCI. U.S. 1704, 1704 (2009) (discussing atmospheric concentrations of GHG emissions and potential for irreversible climate change).

[2] Mai Farid et al., *After Paris: Fiscal, Macroeconomic and Financial Implications of Climate Change*, 2016 IMF STAFF DISCUSSION NOTE 7 (2016).

[3] *Id.*

[4] *Id.*

[5] NICHOLAS STERN, THE ECONOMICS OF CLIMATE CHANGE 1 (2007).

[6] *See* Ian Parry, *Carbon Pricing*, *in* ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS: AN ENCYCLOPEDIA 47, 47–49 (Timothy C. Haab & John C. Whitehead eds., 2014).

[7] *See* Michael Hoel, *Should a Carbon Tax Be Differentiated Across Sectors?*, 59 J. PUB. ECON. 17, 17–18 (1996).

[8] *Id.* at 18.

[9] Jeffrey Frankel, *Environmental Effects of International Trade* 29–30 (Harv. Kennedy Sch. Fac. Res., Working Paper No. RW09-006, 2009).

[10] Farid et al., *supra* note 2, at 26.

emissions.[11] For example, the United States pledged that by 2025 it would reduce its GHG emissions to 26%–28% below its 2005 levels.[12]

Irrespective of the logic supporting a multilateral approach to dealing with a global public bad, there has been a shift in many countries from pursuing a legally binding international agreement to one where individual countries decide on their own carbon emission reduction targets and the policy instruments for reaching that target.[13] Much of the recent discussion as well as actual application of climate policy have focused on the use of market-based instruments such as carbon taxes and emissions trading systems (ETS),[14] the latter commonly being referred to as cap-and-trade.[15] As of mid-2015, thirty-nine national governments and twenty-three sub-national governments have either implemented or are implementing policies designed to generate a market price for carbon.[16] The majority of these schemes are based on ETSs, e.g., the European Union (EU), California, and the nine member states of the Regional Greenhouse Gas Initiative (RGGI) (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont),[17] while nineteen other national governments or sub-national provinces now employ carbon taxes.[18] However, these instruments only cover 12% of global emissions, and when carbon taxes have been employed, they have generally been set well below levels consistent with the social cost of emissions.[19]

Whether a carbon tax or cap-and-trade system is used, the expectation is that certain industries that either directly or indirectly account for a large proportion of emissions will face increased costs of production.[20] As a consequence, much of the unilateral climate legislation that has been proposed at the national and state level in the United States and elsewhere also includes some type of border adjustment measure to be targeted at carbon-intensive

---

[11] *Id.* at 6.

[12] *See* The White House, Office of the Press Sec'y., *Fact Sheet: U.S. Reports Its 2025 Emissions Target to the UNFCCC* (Mar. 31, 2015), https://obamawhitehouse.archives.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target.unfccc [https://perma.cc/D4VJ-DMS8].

[13] Farid et al., *supra* note 2, at 13–14.

[14] *See* Parry, *supra* note 6, at 48.

[15] *What Is Emissions Trading?*, U.S. EPA, https://www.epa.gov/emissions-trading-resources/what-emissions-trading [https://perma.cc/H26K-DWBL] (last visited Sept. 11, 2018).

[16] *See* WORLD BANK GRP. & ECOFYS, STATE AND TRENDS OF CARBON PRICING, 10–11 (2015) (ebook); *see also* Felix Mormann, *Constitutional Challenges and Regulatory Opportunities for State Climate Policy Innovation*, 41 HARV. ENVTL. L. REV. 189, 190–91 (2017) (discussing the attempts that various states and territories have made within the United States to adopt lower carbon standards by requiring greater use of renewable forms of energy).

[17] WORLD BANK GRP. & ECOFYS, *supra* note 16, at 11, 26 n.20.

[18] *Id.*

[19] *See id.* at 10, 16.

[20] *See* WORLD TRADE ORG. & UNITED NATIONS ENV'T PROGRAMME, TRADE AND CLIMATE CHANGE 98–99 (2009) [hereinafter TRADE AND CLIMATE].

imports.[21] The inclusion of border adjustment measures in climate change legislation is predicated on the following two concerns: first, there will be *carbon leakage*, i.e., production by carbon-intensive industries will be shifted to countries with less restrictive climate policies; second, there will be a reduction in *competitiveness* of producers in industries most affected by domestic climate policies.[22]

At the U.S. federal level, a bill sponsored by Representatives Waxman and Markey was passed by the U.S. House of Representatives in June 2009.[23] The bill contained provisions relating to border adjustments for U.S. climate policy.[24] Under Title IV Subpart 2 of the bill, "Promoting International Reductions in Industrial Emissions," the following text appeared with regard to the objectives of any multilateral environmental negotiations: "to include in such international agreement provisions that recognize and address the competitive imbalances that lead to carbon leakage and may be created between parties and non-parties to the agreement in domestic and export markets."[25]

However, absent any multilateral agreement on GHG emissions, the bill contained very clear language about unilateral implementation of border adjustments for U.S. climate policy.[26] Specifically, if no multilateral agreement existed by 2018,[27] the President was mandated to implement an international emissions allowance program, with requirements being imposed on importers no earlier than January 2020.[28]

The key political reason for the inclusion of border adjustments in the Waxman-Markey Act was the need to "secure the votes of Rust Belt lawmakers who were wavering on the bill because of fears of job losses in heavy industry."[29] Specifically, the provisions were designed to provide some protection to those parts of the U.S. manufacturing sector that would face

---

[21] *See id.* at 100.

[22] *See id.* at 98–100; *see also* Madison Condon & Ada Ignaciuk, *Border Carbon Adjustment and International Trade: A Literature Review* 4 (OECD Trade & Env't, Working Paper No. 2013/06, 2009) (discussing and reviewing existing literature on border adjustment measures targeted at carbon-intensive imports and their impact on trade and the environment).

[23] John Larsen et al., *WRI Summary of H.R. 2454, the American Clean Energy and Security Act (Waxman-Markey)*, WORLD RESOURCES INST. 1, 1 (2009), https://wriorg.s3.amazonaws.com/s3fs-public/uploads/wri_summary_of_aces_0731.pdf [https://perma.cc/LY5S-GKT5].

[24] *Id.* at 9.

[25] American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 766 (a)(2)(A) (2009).

[26] *Id.* § 767(b)(1).

[27] *Id.*

[28] *See id.* § 765(c).

[29] John M. Broder, *Obama Opposes Trade Sanctions in Climate Bill: Backs Overall Measure*, N.Y. TIMES (June 29, 2009), https://www.nytimes.com/2009/06/29/us/politics/29climate.html [https://perma.cc/4DSM-CTCY].

competition from countries with less stringent GHG emissions regulation.[30] In the words of Representative Sander Levin, "As we act, we can and must ensure that the U.S. energy-intensive industries are not placed at a competitive disadvantage by nations that have not made a similar commitment to reduce greenhouse gases."[31] Representative Levin also argued that, "this legislation ensures that the United States will avoid carbon leakage in its energy intensive and trade sensitive industries."[32]

Although the United States has not yet enacted any federal climate policy that puts a price on carbon emissions,[33] and the current Administration officially informed the United Nations in August 2017 that it will withdraw from the Paris Climate Agreement,[34] states in the United States explicitly recognize that their unilateral implementation of climate policy has the potential for carbon leakage and loss of competitiveness by firms located in those states.[35] For example, in May 2017, Senate Bill 775 was introduced into the California Senate containing a proposed border adjustment measure.[36] This bill, designed to repeal and replace California's existing cap-and-trade program (Assembly Bill 32), would require importers of carbon-intensive products to purchase permits for GHG emissions embodied in those products, while exporters of similar products would be exempt from purchasing permits.[37]

---

[30] *Id.*

[31] *Id.*

[32] Int'l Ctr. for Trade & Sustainable Dev., *Obama Criticizes Border Tax Adjustments in House Climate Bill*, 13 BRIDGES WKLY. TRADE NEWS DIG. 1, 3 (2009).

[33] *See* WORLD BANK GRP. & ECOFYS, *supra* note 16, at 22.

[34] *See* Valerie Volcovici, *U.S. Submits Formal Notice of Withdrawal from Paris Climate Pact*, REUTERS (Aug. 4, 2017), http://www.reuters.com/article/us-un-climate-usa-paris/u-s-submits-formal-notice-of-withdrawal-from-paris-climate-pact-idUSKBN1AK2FM [https://perma.cc/KC2H-VCUJ].

[35] *See* Steven Ferrey, *Goblets of Fire: Potential Constitutional Impediments to the Regulation of Global Warming*, 35 ECOLOGY L.Q. 835, 838–39, 862 (2008); *see also* Darien Shanske, *State-Level Carbon Taxes and the Dormant Commerce Clause: Can Formulary Apportionment Save the World?*, 18 CHAP. L. REV. 191, 191–94 (2014) (discussing whether the dormant Commerce Clause prevents states from imposing a border tax adjustment as part of a carbon tax); David Gamage & Darien Shanske, *Why a State-Level Carbon Tax Can Include Border Adjustments*, 83 ST. TAX NOTES 583, 585 (Feb. 2017) [hereinafter Gamage & Shanske *Why*] (discussing legal conditions under which a state-level carbon tax could include border tax adjustments); David Gamage & Darien Shanske, *A State-level Carbon Tax with Border Adjustments*, 83 STATE TAX NOTES 911, 912, 915, 917 (Mar. 2017) [hereinafter Gamage & Shanske *Carbon Tax*] (explaining why a state-level carbon tax could legally include border tax adjustments).

[36] S.B. 775, 2017–2018 S., Reg. Sess. (Cal. 2017); *see also* Meredith Fowlie, *California's Carbon Border Wall*, ENERGY INST. HAAS BLOG (May 22, 2017), https://energyathaas.wordpress.com/2017/05/22/californias-carbon-border-wall/ [https://perma.cc/2ACT-9C8K] (discussing the proposed border adjustment bill and the challenges it might face if enacted).

[37] Cal. S.B. 775.

The use of border adjustment measures has received a considerable amount of attention from both environmental and trade economists[38] as well as trade lawyers and other policy analysts.[39] The objective of this Article is to provide background to some of the economic issues associated with border adjustments, explain how such adjustments might be viewed by the World Trade Organization (WTO), and examine the potential for U.S. legal issues to arise as they relate to federal versus state regulation of climate policy.

## II. ECONOMICS OF BORDER MEASURES

### A. *Carbon Havens and Competitiveness*

Analysis of carbon leakage and international competitiveness is not new and is no more than a restatement of the so-called "pollution haven hypothesis."[40] The analysis can be adapted to show that the existence of a carbon haven depends on the stringency of domestic climate policies relative to traditional comparative advantage.[41] Assume two countries in the world, the United States and China, are each manufacturing two types of goods using capital and human capital, where type-one goods are capital-intensive in production and type-two goods are human capital-intensive. In addition, production of type-one goods generates GHG emissions while production of type-two goods is non-carbon intensive in production. GHG emissions are regulated through a carbon tax.

Suppose that the United States is relatively more human-capital-abundant than China, neither country having implemented climate policy. With trade, the United States will import carbon-intensive goods, and China will import non-carbon-intensive goods from the United States.[42] This result captures the

---

[38] *See* Mustafa H. Babiker, *Climate Change Policy, Market Structure, and Carbon Leakage*, 65 J. INT'L ECON. 421, 421 (2005) (discussing the extent to which market structure of energy-intensive industries will affect relocation of firms in response to developed country climate policies). *See generally* Carol McAusland & Nouri Najjar, The *WTO Consistency of Carbon Footprint Taxes*, 61 ENVTL. RES. ECON. 37 (2015) (discussing the use of carbon footprint taxes on domestic goods and how they could be used to resolve issues of competitiveness and carbon leakage).

[39] *See* GARY C. HUFBAUER ET AL., GLOBAL WARMING AND THE WORLD TRADE SYSTEM xi (2009) (discussing how to maximize reduction of carbon emissions while minimizing risks to world trade). *See generally* Joost Pauwelyn, *Carbon Leakage Measures and Border Tax Adjustments Under WTO Law*, *in* RESEARCH HANDBOOK ON ENVIRONMENT, HEALTH, & THE WTO 448 (Geert Van Calster & Denise Prévost eds., 2013) (discussing limits the WTO could place on competitiveness provisions in climate legislation).

[40] *See* Brian R. Copeland & M. Scott Taylor, *Trade, Growth, and the Environment*, 42 J. ECON. LITERATURE 7, 9 (2004).

[41] *See* BRIAN R. COPELAND & M. SCOTT TAYLOR, TRADE AND THE ENVIRONMENT: THEORY AND EVIDENCE 187–95 (Gene Grossman & Pierre-Olivier Gourinchas eds., 2003).

[42] *Id.*

stylized facts—China is shifting to producing and exporting carbon-intensive goods, such as steel and aluminum.[43]

Alternatively, if the United States introduces stringent climate policy, compared to no policy in China, production of carbon-intensive goods will contract in the United States and expand in China (the competitiveness effect), with a concomitant increase in U.S. imports and Chinese exports of carbon-intensive goods along with carbon emissions increasing in China (carbon leakage) and declining in the United States.[44] Consequently, there is likely to be lobbying in the United States for less stringent climate policy unless action is taken to maintain the competitiveness of U.S. production of carbon-intensive goods and thereby prevent carbon leakage.

### B. *Policy Options for Leakage and Competitiveness*

While the problems of carbon leakage and competitiveness are necessarily interdependent, the emphasis of policy analysis in the literature has tended to be driven by whether it is environmentally-economic or internationally-trade-related in focus. In the former, the focus is on the use of trade policy instruments as a means of solving the collective action problem, while in the latter, the focus is on how international competitiveness can be restored and at the same time ensure that a country does not violate its WTO commitments.

There has been considerable analysis of how trade policy instruments might be used to prevent carbon leakage when one group of countries commits to cooperation over climate policy, while a second group free rides by not implementing climate policy.[45] For example, it has been shown that a social optimum can be obtained if countries in a coalition set common carbon taxes and at the same time use import tariffs (export subsidies) on all carbon-intensive traded goods, with the objective being to shift the international terms of trade against free-riding countries, thereby reducing carbon leakage.[46] In principle, the same effect can be achieved if import tariffs and export subsidies are replaced with differential carbon taxes.[47] Essentially, carbon taxes are lowered on exports (equivalent to a subsidy) and raised on imports (equivalent to a tariff) in order to influence the terms of trade of unregulated countries.

Empirical analysis of trade policy instruments has shown that they do have the potential to shift the burden of climate policy to those countries affected by

---

[43] TREVOR HOUSER ET AL., LEVELING THE CARBON PLAYING FIELD: INTERNATIONAL COMPETITION AND US CLIMATE POLICY DESIGN 35 (2008).

[44] *See* COPELAND & TAYLOR, *supra* note 41, at 187–95.

[45] *See* Hoel, *supra* note 7, at 17–18.

[46] *See id.* at 23–25, 29.

[47] *See* Christoph Böhringer et al., *Optimal Emission Pricing in the Presence of International Spillovers: Decomposing Leakage and Terms-of-Trade Motives*, 110 J. PUB. ECON. 101, 102–04 (2014).

them.[48] As a consequence, the threat of implementing such border adjustment measures by a coalition could result in free-riding countries choosing to adopt their own emissions policies rather than suffer a terms of trade loss.[49] For example, it has been found that major polluters, such as China and Russia, could be motivated to join the coalition because they want to avoid the negative effects of border adjustment measures as well as their being highly dependent on the economic performance of the coalition countries.[50]

In terms of international competitiveness and a country's WTO obligations, an interesting solution has been offered for this problem.[51] Suppose the WTO consists of a two-stage tariff negotiation game between the United States and China, where, before negotiations begin, existing climate policies of each country are noted.[52] At the first stage of the game, bound tariffs are negotiated, implying a set of market access commitments by the two countries.[53] At the second stage of the game, the two countries make unilateral changes to their mix of policies, providing that tariffs do not exceed their bound level, with implied market access commitments being maintained.[54]

What happens if the preferred choice of climate policy in the United States affects its competitiveness, resulting in an increase in China's market access in energy-intensive goods? In order to maintain its negotiated market access commitments, the United States would need to raise tariffs on these products above their bound level, which it is unable to do under WTO rules.[55] It has been argued that resolution of this problem lies in providing more flexibility to the current rules by allowing countries to renegotiate their bound tariffs if unilateral changes in their climate policies increase market access.[56]

There is an interesting question as to whether the existing WTO rules allow for the flexibility suggested or whether they could be changed in this regard. It has been argued that under the General Agreement on Tariffs and Trade (GATT) Article XXVIII, a unilateral increase in the bound tariff by one country can be met by the other country withdrawing an equivalent amount of market access.[57]

---

[48] Christoph Böhringer et al., *The Role of Border Carbon Adjustment in Unilateral Climate Policy: Overview of an Energy Modeling Forum Study (EMF 29)*, 34 ENERGY ECON. (SPECIAL ISSUE) S97, S109 (2012).

[49] *See* Böhringer et al., *supra* note 47, at 102.

[50] *See* Christoph Böhringer et al., *The Strategic Value of Carbon Tariffs*, 8 AM. ECON. J.: ECON. POL'Y 28, 39–44 (2016).

[51] *See* Kyle Bagwell & Robert W. Staiger, *Domestic Policies, National Sovereignty, and International Economic Institutions*, 116 Q.J. ECON. 519, 557–59 (2001).

[52] *See id.* at 545–46.

[53] *Id.*

[54] *Id.*

[55] *See id.* at 553–54.

[56] *See id.*

[57] Frieder Roessler, *Domestic Policy Objectives and the Multilateral Trade Order: Lessons from the Past*, 19 U. PA. J. INT'L ECON. L. 513, 525, 527–28 (1998); *see* General Agreement on Tariffs and Trade, art. XXVIII Interpretation and Application of WTO Agreements, 947 (1994) https://www.wto.org/english/res_e/publications_e/ai17_e/gatt1994

Such renegotiation would leave the terms of trade unchanged and would also satisfy the principle of reciprocity.[58] Alternatively, it has been argued that the renegotiation provisions of GATT Article XXVIII could be changed such that any change in, say, a country's domestic climate policies would be offered to the other country in compensation for raising the bound tariff.[59] In other words, even though the terms of trade have changed, market access is maintained at the negotiated level due to the impact of the climate policies on domestic firms.[60]

## III. WTO CONSISTENCY OF BORDER MEASURES

### A. *Legal Issues*

While the argument that using trade policy instruments to resolve a market failure is compelling theoretically, it has raised practical concerns that border measures such as taxes could be used for protectionist ends and would therefore be constrained by current WTO rules. More generally, there is uncertainty about the compatibility of border taxes and WTO rules and the associated design of these policies; for example, determining the carbon content of imported goods from countries where environmental policies are either non-existent or are more lax than those applied in the importing country.[61] In this context, however, there is a different justification for dealing with border measures: a *border tax* (or tariff) is imposed on imported goods, while a *border tax adjustment* (BTA) is the imposition of a domestically imposed tax on like imported goods.[62] Essentially GATT Article II:2(a) allows members of the WTO to place on the imports of any product, a tax equivalent to an internal tax.[63]

The basic idea of adjusting taxes at the border in the presence of domestic taxes is not new.[64] Such taxes have been applied at borders since the late eighteenth century, and the underlying principle for them has long been recognized. For example, political economist David Ricardo noted, "In the degree then in which [domestic] taxes raise the price of corn, a duty should be imposed on its importation . . . [b]y means of this duty . . . trade would be

---

_art28_gatt47.pdf [https://perma.cc/74Q5-KJAN].

[58] Roessler, *supra* note 57, at 527.

[59] *See* Bagwell & Staiger, *supra* note 51, at 558.

[60] *See id.* at 557–58.

[61] *See* Peter Holmes et al., *Border Carbon Adjustments and the Potential for Protectionism*, 11 CLIMATE POL'Y 883, 884 (2012).

[62] *See* TRADE AND CLIMATE, *supra* note 20, at 103.

[63] *See* WORLD TRADE ORGANIZATION, WTO ANALYTICAL INDEX: GATT 1994–ARTICLE II (JURISPRUDENCE), 1, 18–19 (1994) https://www.wto.org/english/res_e/publications_e/ai17_e/gatt1994_art2_jur.pdf [https://perma.cc/ET92-26K7].

[64] *See* Frank Biermann & Rainer Brohm, *Implementing the Kyoto Protocol Without the USA: The Strategic Role of Energy Tax Adjustments at the Border*, 4 CLIMATE POL'Y 289, 291–92 (2005).

placed on the same footing as if it had never been taxed."[65] The key phrase here is that any BTA should result in imports remaining at the same level as before implementation of the domestic tax.

Even though BTAs have a long history, it was formation of the European Economic Community (EEC) in the mid-1950s and its subsequent implementation of a destination-based system of value added tax (VAT) that stimulated discussion of adjustment at the border for such an internal tax system.[66] There were contributions by economists at the time showing that movement between an origin and a destination base for VAT (or any other sales tax) would have no real effects on trade, production, and consumption.[67]

The basic argument was as follows: assuming application of VAT is broadly based with a single rate, it does not matter which way it is implemented as there are no changes in the relative prices faced by consumers or firms.[68] In other words, BTAs for VAT would have no effects on trade, consumption, and production because their effects would be fully offset by adjustments in price levels, wages, and/or exchange rates across countries.[69] Subsequent work extended this analysis to show that with either endogenous exchange rates, flexible prices across countries, or flexible wage rates within countries, changes in the tax basis would be offset by changes in real wages or changes in the price level.[70]

The key point of the analysis is the idea that a BTA may be neutral in its effects on trade, and this of course lies at the heart of the legal discussion of such taxes. In its 1970 report, the GATT Working Party defined BTAs as "any fiscal measure which put into effect, in whole or in part, the destination principle (i.e., which enable . . . imported products sold to consumers to be charged with some or all of the tax charged in the importing country in respect of similar domestic products)."[71] The objectives of such taxes are "to ensure trade neutrality of domestic taxation . . . and thus to preserve the competitive equality between domestic and imported products."[72]

The key language in these two paragraphs of course concerns whether BTAs are imposed on imported products that are similar to the domestic product and whether they are neutral in terms of their impact on trade and thereby maintain the competitiveness of domestic producers.

---

[65] *See* 4 David Ricardo, *On the Effects of Taxes Imposed on a Particular Commodity*, *in* THE WORKS & CORRESPONDENCE OF DAVID RICARDO 132, 132 (1951) (ebook).

[66] *See* Biermann & Brohm, *supra* note 64, at 292.

[67] *See* Ben Lockwood & John Whalley, *Carbon-Motivated Border Tax Adjustments: Old Wine in Green Bottles?*, 33 WORLD ECON. 810, 815–18 (2008).

[68] *Id.* at 811–12.

[69] *Id.* at 816.

[70] *See* Ben Lockwood et al., *When Are Origin and Destination Regimes Equivalent?*, 1 INT'L TAX & PUB. FIN. 5, 10 (1994).

[71] Comm. On Trade & Env't, *Note by the Secretariat: Taxes and Charges for Environmental Purposes-Border Tax Adjustments*, at 7, WTO Doc. WT/CTE/W/47 (May 2, 1997) [https://perma.cc/PB9U-JUWR].

[72] *Id.* at 6.

BTAs are normally implemented with respect to taxes on final goods, e.g., domestic excise taxes are levied on goods such as alcohol and cigarettes, and equivalent taxes are then levied at the border on imports of such goods.[73] In principle, however, there is nothing to prevent a country from also applying a BTA for taxes on inputs such as energy used in production of a final good such as aluminum.[74] The United States already has such a tax regime in place applied to ozone depleting chemicals (ODCs).[75] An environmental excise tax was imposed in 1989–1990 on the domestic production of a range of chlorofluorocarbons (CFCs), a BTA also being applied to the import of such chemicals as well as the import of manufactured products that either contain CFCs or use them in their production process.[76]

The implementation of BTAs raises the important distinction between application to final goods and application to final goods produced using carbon-intensive inputs. This is of course the highly controversial issue of trade measures applied on the basis of process and production methods (PPMs). Importantly, while no WTO ruling has ever been rendered on the application by the United States of BTAs to final goods containing CFCs,[77] which is clearly process related, BTAs on final goods that embody carbon emissions are likely to be highly contentious–notwithstanding the WTO Appellate Body's findings in the Shrimp-Turtle case.[78]

Potential challenges to countries seeking to implement BTAs will come under GATT Article III, and if found inconsistent with WTO obligations, BTAs may be still justifiable under GATT Article XX. Nevertheless, it has been argued that "[t]he legal issues are, however, less than clear-cut, with long-standing divergence in views among WTO Members."[79]

As there are now several detailed legal commentaries in the literature on this issue, only a brief outline is presented here.[80] GATT Article III:1 and III:2

---

[73] *See* Gavin Goh, *The World Trade Organization, Kyoto and Energy Tax Adjustments at the Border*, 38 J. WORLD TRADE 395, 399 (2004).

[74] *See* Thomas A. Barthold, *Issues in the Design of Environmental Excise Taxes*, 8 J. ECON. PERSP. 133, 137 (1994).

[75] *See id.* at 136.

[76] *See id.* at 136–37.

[77] *See* Goh, *supra* note 73, at 399–401.

[78] *See* Appellate Body Report, *United States–Import Prohibition of Certain Shrimp and Shrimp Products*, 76, WTO Doc. WT/DS58/AB/R (adopted Oct. 12, 1998), https://www.wto.org/english/tratop_e/dispu_e/58abr.pdf [https://perma.cc/R86K-7Q7E].

[79] Goh, *supra* note 73, at 401.

[80] Goh, *supra* note 73 (discussing the implications of border tax adjustments on energy for the World Trade Organization); Carol McAusland & Nouri Najjar, *The WTO Consistency of Carbon Footprint Taxes*, 46 GEO. J. INT'L L. 765 (2015) (discussing governments' challenge to maintain the competitiveness of domestic industries whiles minimizing the leakage of carbon emissions through international trade without violating trade rules). *See generally* Pauwelyn, *supra* note 39 (discussing the extent to which domestic climate policy could alleviate domestic firms' concern for losing a competitive edge against foreign firms); Ian Sheldon, *Climate Policy and Border Tax Adjustments: Some New Wine Mixed with Old*

(National Treatment) are the rules that oblige WTO members not to discriminate against imports from other members when applying internal laws and regulations.[81] The key language in GATT Article III:2 states that imported products "shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products."[82]

Consequently, a 20% BTA on imported diesel fuel to adjust for a 20% domestic excise tax on diesel fuel would clearly be consistent with GATT Article III:2. The 1970 GATT Working Party on Border Tax Adjustments also made it clear that indirect taxes levied on products such as diesel fuel were eligible for border tax adjustment, while direct taxes such as payroll taxes were not.[83]

While the WTO position on BTAs on final goods seems quite clear, it is much less clear that GATT Article III:2 will allow BTAs on final goods that embody carbon, given the imposition of domestic taxes on GHG emissions. The GATT Working Party was actually unable to agree on the legality of such measures, also noting a "scarcity of complaints" about such measures, and it was not until the 1987 Superfund case that this issue was reexamined by the GATT.[84] This case was a challenge by Canada, the EEC, and Mexico against U.S. taxes being levied on certain imported chemicals as well as substances that were end-products of chemicals being taxed in the United States under the U.S. Superfund Act.[85] Essentially, the GATT panel ruled that the rate of tax on the imported substances was equivalent to the tax borne by the like domestic substances, given the tax on chemicals, and therefore was consistent with GATT Article III:2.[86] As noted, the ruling focused on the notion that the U.S. Superfund Act imposed the same "fiscal burden" on imported and like domestic substances, and not on whether the substances subject to the BTA were similar to the chemicals subject to the domestic tax.[87] Irrespective of the GATT ruling in the Superfund case, it is likely that the key issue still remains as to whether a BTA for domestic climate policy will fall under the aegis of GATT Article III:2, i.e., what goods are being compared for "likeness," and can imported and

---

*Wine in New Green Bottles?*, 11 ESTEY CTR. J. INT'L L. & TRADE POL'Y 253 (2010) (discussing further efforts beyond the Kyoto Protocol for reducing greenhouse gas emissions).

[81] Goh, *supra* note 73, at 401.

[82] WORLD TRADE ORGANIZATION, WTO ANALYTICAL INDEX: GATT 1994–ARTICLE III (JURISPRUDENCE), 1, 5 (1994) https://www.wto.org/english/res_e/publications_e/ai17_e/gatt1994_art3_jur.pdf [https://perma.cc/WA7C-3YQA].

[83] *See* Appellate Body Report, *supra* note 78, at 8.

[84] *See id.* at 18. *See generally* Panel Report, *United States– Taxes on Petroleum and Certain Imported Substances*, WTO Doc. L/6175–34S/136 (adopted June 17, 1987), https://www.wto.org/english/tratop_e/dispu_e/gatt_e/87superf.pdf [https://perma.cc/CJX8-XEDK] (examining the U.S. SuperFund Amendment and Reauthorization Act of 1996).

[85] Goh, *supra* note 73, at 403.

[86] *Id.* at 404.

[87] *Id.*

domestic goods be compared given differences in the amount of carbon embodied in the final product?

As noted earlier, even if a BTA for domestic climate policy is deemed inconsistent with GATT Article III:2, it may still be possible to justify it under GATT Article XX (General Exceptions).[88] Both GATT/WTO panels and the WTO Appellate Body have adopted the following two-tier test to determine whether any border measure is justified under GATT Article XX: (1) does the measure fall within the scope of GATT Article XX – specifically, is such a measure "necessary to protect human, animal or plant life or health" or "does it relate to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption;" and (2) that the measure is "not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade."[89]

Whether or not BTAs are covered by GATT Article XX:(g) will depend on there being shown to be a reasonable means of achieving the ends, i.e., conservation of exhaustible natural resources.[90] In addition, interpretation of how the Chapeau of GATT Article XX might be applied to such border adjustments will depend on the following: (1) the requirement, as indicated by the WTO Appellate Body in the Shrimp-Turtle case, that members of the WTO pursue multilateral agreements on environmental issues; (2) whether special and differential treatment can be expected in the application of border adjustments, based on whether the imported good comes from a developed or developing country; and (3) when application of the border measure fails to take proper account of the comparative effectiveness of measures and policies applied in the exporting country.[91]

The conclusion to be drawn here is that there continues to be significant debate about the outcome of any WTO Dispute Settlement Panel on the issue of BTAs, and that this will only be settled via an actual ruling. However, based on discussion in the literature, it seems reasonable to assume that any final legal interpretation could go one of following two ways: on the one hand, BTAs are found inconsistent with GATT Article III:2, but the door is left open for countries to justify the measure under GATT Article XX; on the other hand, they are found to be consistent with GATT Article III:2.[92]

---

[88] *Id.* at 401.

[89] WORLD TRADE ORGANIZATION, WTO ANALYTICAL INDEX: GATT 1994–ARTICLE XX (JURISPRUDENCE), 1, 5–6(1994) https://www.wto.org/english/res_e/publications_e/ai17_e/gatt1994_art20_jur.pdf [https://perma.cc/RN7M-JLNY].

[90] *Id.* at 55.

[91] *See* WORLD TRADE ORGANIZATION, *supra* note 63, at 40, 44–45.

[92] *See* Goh, *supra* note 73, at 401. *See generally* Pauwelyn, *supra* note 39 (discussing how consistency of WTO provisions is crucial); WORLD TRADE ORGANIZATION, *supra* note 63, at 5 (noting that members have wide latitude to determine their own environmental policies); *cf.* WORLD TRADE ORGANIZATION, *supra* note 82, at 21–22 (noting "that the

## B. *Unintended Consequences of BTAs*

While carbon leakage and competitiveness are closely connected in the climate policy debate, the latter is a rather more difficult concept to define and one which has been largely side-stepped in the climate literature, but it is particularly pertinent if industries that face domestic environmental taxes are imperfectly competitive, as is likely to be the case with the energy-intensive industries such as steel, aluminum, and cement production.[93] In this context, competitiveness could be thought of in terms of market share and/or the profit of producers, which in turn are a function of the specific characteristics of an industry subject to domestic climate policy, including factors such as market structure, industry technology, and the nature of competition between producers. This suggests that climate policy and BTAs are perhaps best analyzed in the context of the literature on trade and environmental policy.[94] The key point of this previous literature is that if producers earn positive economic profits, implementation of climate policy may have the effect of shifting profits between domestic and foreign producers, thereby affecting the former's competitiveness.

This possibility has been examined in the context of U.S. aluminum production, which is characterized by a small number of dominant firms: the industry has repeatedly been investigated by the antitrust authorities for anti-competitive behavior, and there is empirical evidence that firms in the sector behave less than competitively.[95] The industry has also been identified as one that might be vulnerable to the issue of competitiveness due to the fact that it is both energy-intensive and also highly exposed to international competition, most notably from Canadian imports.[96] Interestingly, Canadian aluminum production is less carbon-intensive compared to that in the United States, where energy is being supplied by hydro-electric power plants.[97]

Empirical research shows that even though border measures can break the link between competitiveness and carbon leakage, U.S. users of aluminum may suffer a deadweight loss due to aggregate output of aluminum being reduced in

---

definition of 'like products' in Article III: 2, first sentence, should be construed narrowly," while acknowledging "[h]ow narrowly is a matter that should be determined separately for each tax measure in each case").

[93] *See* Klaus Conrad, *Taxes and Subsidies for Pollution-Intensive Industries as Trade Policy*, 25 J. ENVTL. ECON. & MGMT. 121, 134 (1993) (discussing how a few firms produce only a few competitive units in the international market).

[94] *See id.* at 135.

[95] *See* Ian Sheldon & Steve McCorriston, *Climate Policy and Border Measures: The Case of the U.S. Aluminum Industry*, 39 APPLIED ECON. PERSP. & POL'Y 242, 245 (2016); *see also* Sheng-Ping Yang, *Market Power and Cost Efficiency: The Case of the US Aluminum Industry*, 30 RESOURCES POL'Y 101, 102 (2005).

[96] *See* HOUSER ET AL., *supra* note 43, at 45.

[97] Sheldon & McCorriston, *supra* note 95, at 247–48 (discussing Canada's less carbon-intensive aluminum production).

an imperfectly competitive setting.[98] Specifically, the impact of BTAs is sensitive to how competitive equality is defined. For example, if a BTA is set to restore the previous volume of imports, carbon leakage is prevented, but U.S. firms suffer a loss of market share and profits are shifted to their Canadian competitors. In contrast, if a BTA is set to restore the previous market share of imports, there is negative carbon leakage as both U.S. and Canadian firms reduce output, i.e., the BTA "facilitates" collusion. While it is appropriate that aluminum prices increase in order to reflect the social cost of carbon emissions, there is a risk that anti-competitive behavior may be exacerbated.[99] This highlights an important practical tension between targeting an environmental market failure in the presence of a second market failure, market power, and at the same time ensuring that border measures are not protectionist.[100] Of course, policymakers may consider the tradeoff between the benefits of lower emissions and no leakage and the costs of increased market power to be worthwhile, but it is nonetheless a second-best outcome and one that could result in costly anti-trust investigations.[101]

## IV. FEDERAL VS. STATE REGULATION OF BORDER MEASURES

### A. *Legal Challenges*

As yet, there has been no in-depth economic analysis of state border measures such as those proposed in California's Senate Bill 775. However, both legal and economic observers have suggested that any border measure will likely be subject to legal challenge from within the state, under the dormant Commerce Clause, and potentially from the WTO.[102]

In terms of federal versus state regulation, the dormant Commerce Clause and associated dormant Foreign Commerce Clause are the two potential constitutional constraints to state-level border measures.[103] The interstate version of the dormant Commerce Clause can be used to invalidate a measure, such as a BTA, as being unconstitutional in three ways.[104] First, it would be considered per se invalid if it facially discriminates against out-of-state commerce, unless it can be shown that there is no other means of accomplishing a legitimate state objective.[105] Second, if it is not found to be facially discriminatory, the law would still be considered invalid if its purpose or effect

---

[98] *See id.* at 254.
[99] *Id.* at 256.
[100] *Id.*
[101] *Id.*
[102] *See* Fowlie, *supra* note 36.
[103] *See* Leanne M. Wilson, *The Fate of the Dormant Foreign Commerce Clause After* Garamendi *and* Crosby, 107 COLUM. L. REV. 746, 746–47 n.4 (2007).
[104] *See id.* at 749.
[105] *Id.* at 749–50.

is still discriminatory.[106] Third, even if it is facially neutral, it would be invalid if it creates an undue burden on interstate commerce.[107] The legal logic of the dormant Commerce Clause is very straightforward: it is designed to invalidate any protectionist state laws, represent the interests of out-of-staters, and promote national unity.[108]

The dormant Foreign Commerce Clause is the logical requirement that state laws must be held constitutional when applied to foreign trade–essentially, such laws should neither increase the risk of multiple taxation nor should they undermine the ability of the United States to speak "with one voice in foreign affairs."[109] In the case of multiple taxation, the argument is that in imposing a tax at the state level that affects foreign trade, there is the risk of double taxation because of taxes already being imposed abroad.[110] The second argument focuses on the idea that there should be uniformity in the Federal Government's dealings with other countries and that state-level taxation could frustrate the goal of federal uniformity with the potential for foreign retaliation.[111]

On the face of it, it would seem likely that border measures would be struck down by the U.S. Supreme Court. For example, it has been argued that because state level climate policy, such as the Regional Greenhouse Gas Initiative (RGGI), necessarily requires a border measure in order to solve the problem of leakage, it would be considered facially discriminatory under the dormant Commerce Clause.[112] There is also doubt about whether the so-called "compensatory" (or "complementary") tax doctrine would be a legitimate defense of any border measures.[113] The compensatory tax doctrine allows a state to apply a discriminatory tax if it is designed to achieve a legitimate state objective that cannot be achieved in a way that is non-discriminatory.[114] To satisfy this doctrine, the tax on interstate commerce would have to be "substantially equivalent" to that imposed on intrastate trade.[115] Some legal observers argue that it would be challenging to establish a uniform way of measuring emissions from in-state electricity generation as compared to out-of-state generation in order to satisfy the "equivalent burdens" dimension of the compensatory tax doctrine.[116]

---

[106] *Id.* at 750.
[107] *Id.*
[108] *See id.* at 751–52.
[109] Wilson, *supra* note 103, at 753, 766.
[110] *Id.* at 754–55.
[111] *See id.* at 755.
[112] *See* Ferrey, *supra* note 35, at 872–73.
[113] *See* Heddy Bolster, *The Commerce Clause Meets Environmental Protection: The Compensatory Tax Doctrine as a Defense of Potential Regional Carbon Dioxide Regulation*, 47 B.C. L. REV. 737, 771 (2006).
[114] Ferrey, *supra* note 35, at 880.
[115] *Id.*
[116] *See id.* at 881.

Other legal commentators take a different view, arguing that BTAs might be legally defensible under the dormant Commerce Clause.[117] They suggest there are three questions of legal doctrine that have to be answered: first, is it possible to apply a BTA on all state imports, even if it is non-discriminatory; second, is it possible for a state to have a BTA that discriminates between imported goods based on approximations of their carbon intensity, where approximations take geography into account, i.e., the source of the imported good(s); and third, if the answers to the first and second questions are yes, how much approximation of the carbon-intensity of imports would be allowed in calculation of a BTA?[118]

If a state tax discriminates between in-state and out-of-state taxpayers, then the possibility of applying different BTAs based on the carbon footprint of imports seems unlikely to satisfy the U.S. Supreme Court, in which case the two other questions are moot.[119] Notwithstanding this initial conclusion, there is a counterargument that no facial discrimination exists in the case of a BTA.[120] The argument draws on a case concerning California's existing cap-and-trade program AB 32, where the California Air Resources Board (CARB) adopted a low carbon fuel standard, the standard differentiating fuels by region on the basis of their carbon intensity.[121] Initially the standard was struck down in federal district court on the grounds that applying the standard based on regional source was a facial discrimination.[122] A Ninth Circuit panel then overturned the district court, arguing that there was no facial discrimination due to the California standard targeting imports not because they were from out-of-state, but because of their carbon intensity.[123] The conclusion drawn is that because a carbon tax is necessary to resolve a market failure, and one that cannot succeed without BTAs, it should not be struck down by the courts as per se discrimination under the dormant Commerce Clause.[124]

It has also been argued that a court might accept an argument that a BTA is justified under the compensatory tax doctrine.[125] If a uniform BTA were charged on all imports, it might satisfy the doctrine, the precedent being *Henneford v. Silas Mason Co*., where the U.S. Supreme Court ruled in favor of the state of Washington's imposition of a use tax on out-of-state purchases.[126] The key issue then becomes what if the BTA is based on the carbon intensity of

---

[117] *See* Shanske, *supra* note 35, at 205; *see also* Gamage & Shanske *Why*, *supra* note 35, at 583.

[118] Gamage & Shanske *Why*, *supra* note 35, at 585.

[119] *See id.*

[120] *See id.* at 586.

[121] *See id.*

[122] *See* Rocky Mountain Farmers Union v. Goldstone, 843 F. Supp. 2d 1071, 1094 (E.D. Cal. 2011), *rev'd sub nom.* Rocky Mountain Farmers Union v. Corey, 730 F.3d 1070 (9th Cir. 2013).

[123] *See Corey*, 730 F.3d at 1100.

[124] *See* Gamage & Shanske *Why*, *supra* note 35, at 587.

[125] *See* Gamage & Shanske *Carbon Tax*, *supra* note 35, at 912.

[126] *See* Henneford v. Silas Mason Co., 300 U.S. 577, 582 (1937).

imports? A BTA would have to pass the three-pronged test applied in *Oregon Waste Systems Inc. v. Department of Environmental Quality of Oregon*.[127] First, a BTA would have to be based on an identified event (carbon emissions); second, the effect of carbon emissions would need to be shown to be substantially equivalent wherever they occur; and third, the BTA must approximate but not exceed the level charged in-state.[128]

A BTA would satisfy the first and second prongs of the test, but might fail the third based on the ruling in *Associated Industries of Missouri v. Lohman*.[129] In the latter case, Missouri imposed an average 1.5% use tax at the state level in order to compensate for different tax rates applied by 1,000 localities, the U.S. Supreme Court finding that the average use tax did not eliminate discrimination in transactions where imported goods were charged more than local goods.[130] It can be argued, though, that in the case of a BTA, carbon intensity can only be calculated approximately, and hence would necessarily meet the third prong of the test.[131] Here they appeal to the concept of fair apportionment, drawing on *Trinova Corp. v. Michigan Department of Treasury*.[132] In this case, the plaintiffs argued that in applying its VAT, Michigan's method for locating value-added of firms who operated both within and out-of-state was unreasonable, an argument the Court dismissed, Michigan being permitted to use an approximate formula.[133] A BTA should be treated by the same logic: if Michigan can use a formula to track down value added, something similar would apply to BTAs and carbon intensity.[134]

Although BTAs applied by U.S. states could pass a legal challenge through the dormant Commerce Clause, it is also recognized that BTAs may raise issues concerning international trade, with the potential to cause problems for the U.S. government, and could therefore "run[] afoul of the foreign dormant commerce clause."[135] As noted earlier, there is considerable debate as to whether BTAs are consistent with WTO law and how the WTO would actually rule in this instance, and so it is not clear whether the U.S. government would seek a court ruling that border measures are unconstitutional under the dormant Foreign Commerce Clause. Of course, that does not mean that the courts would not seek to apply the dormant Foreign Commerce Clause if there were a challenge to a state-level BTA through the WTO dispute settlement system. Precedent for this can be seen with respect to the Massachusetts Burma Law (MBL) of 1996 which prevented

---

[127] *See* Gamage & Shanske *Carbon Tax*, *supra* note 35, at 912; Or. Waste Sys., Inc. v. Dep't of Envtl. Quality of Or., 511 U.S. 93, 103 (1994).

[128] Gamage & Shanske *Carbon Tax*, *supra* note 35, at 912.

[129] *See* Associated Indus. of Mo. v. Lohman, 511 U.S. 641, 643 (1994); Gamage & Shanske *Carbon Tax*, *supra* note 35, at 913.

[130] Gamage & Shanske *Carbon Tax*, *supra* note 35, at 913.

[131] *See id.* at 914.

[132] *See* Trinova Corp. v. Mich. Dep't of Treasury, 498 U.S. 358, 385 (1991).

[133] Gamage & Shanske *Carbon Tax*, *supra* note 35, at 914.

[134] *See id.*

[135] Gamage & Shanske *Why*, *supra* note 35, at 584 n.8.

agencies and branches of the state's government from contracting with businesses that were on a "restricted purchasing list" because they were doing business with Burma (now Myanmar).[136]

In 1997, both the EU and Japan lodged complaints with the WTO asserting that the MBL was in violation of the WTO Government Procurement Agreement.[137] Subsequently, the WTO dispute settlement panel was suspended following a ruling by the First Circuit in *National Foreign Trade Council v. Natsios*.[138] The court held that MBL was invalid on the following three grounds: first, it interfered with the dormant foreign affairs power; second, it was a violation of the dormant Foreign Commerce Clause; and third, it was pre-empted by sanctions that the United States had already enacted against Burma.[139] However, following U.S. Supreme Court decisions in *American Insurance Ass'n v. Garamendi* and *Crosby v. National Foreign Trade Council*, the Court would seem most likely to rule against BTAs on the grounds of executive preemption by the Federal Government as opposed to the dormant Foreign Commerce Clause.[140]

## B. *Current Status of U.S. Federal Climate Policy*

In light of the previous discussion, it is interesting to evaluate the current administration's position on climate policy. During the 2016 presidential election campaign, Hillary Clinton reminded voters that her opponent, Donald Trump, had once tweeted, "[t]he concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive."[141] In August 2017, President Trump followed up his rhetoric by announcing that the United States would withdraw from the Paris Agreement.[142]

The clear inference to be drawn from this is that federal climate policy will not be enacted anytime soon, and the Administration is also backing away from its international commitments to reduce carbon emissions. Therefore, it seems unlikely that the Federal Government will seek a ruling against state-level BTAs on the grounds of executive preemption. Ironically, recent economic analysis of the Paris Agreement after President Trump's action suggests other countries' reaction to the choice of the United States might actually provoke a protectionist

---

136 *See* Wilson, *supra* note 103, at 759.

137 *See* Lily Batchelder, *The Costs of Uniformity: Federal Foreign Policymaking, State Sovereignty, and the Massachusetts Burma Law*, 18 YALE L. & POL'Y REV. 485, 501 (2000).

138 *See* Nat'l Foreign Trade Council v. Natsios, 181 F.3d 38, 45 (1st Cir. 1999), *aff'd sub nom.* Crosby v. Nat'l Foreign Trade Council, 530 U.S. 363 (2000).

139 *See* Wilson, *supra* note 103, at 759.

140 *See* Am. Ins. Ass'n v. Garamendi, 539 U.S. 396, 428 (2003); *see also Crosby*, 530 U.S. at 374 n.8; Wilson, *supra* note 103, at 762.

141 Louis Jacobson, *Yes, Donald Trump Did Call Climate Change a Chinese Hoax*, POLITIFACT (June 3, 2016), http://www.politifact.com/truth-o-meter/statements/2016/jun/03/hillary-clinton/yes-donald-trump-did-call-climate-change-chinese-h/ [https://perma.cc/4UEN-V2QA].

142 *See* Volcovici, *supra* note 34.

response that has nothing to do with climate change and everything to do with the Administration's overtly protectionist stance and desire to maintain employment in the U.S. manufacturing sector.[143]

Withdrawal of the United States from the Paris Climate Agreement has resulted in calls for other countries to implement sanctions against U.S. exports of carbon-intensive goods through using BTAs or "carbon tariffs," the objective being to punish the United States for free-riding and force them back into the global coalition.[144] However, there is "an inconvenient insight" relating to this possibility, drawing on the idea that a country such as the United States can exercise its international market power through tariffs.[145] Any BTAs levied against the United States will actually be counter-productive if the United States chooses to retaliate causing a trade war.[146] The results of empirical analysis show that China would lose most from a tariff war due to the fact that U.S. use of retaliatory tariffs will result in significant deterioration in China's international terms of trade, which will hurt it as a trade-intensive economy.[147] Even if the United States is worse off in a tariff war than it would be under the Paris Agreement, the ability of the United States to retaliate and punish China fits well with President Trump's view of China as competing unfairly with the U.S. manufacturing sector and hurting U.S. workers.

## V. CONCLUSION

Absent a binding international agreement to reduce carbon emissions, many countries, regions, and individual states that unilaterally implement climate policy are seeking to resolve the problems of carbon leakage and reduced competitiveness through the use of border measures. In the case of the United States, there is the potential for implementation by states of border measures such as BTAs to be found unconstitutional under both the dormant Commerce and Foreign Commerce Clauses, i.e., they would be found both per se discriminatory and also have the potential for foreign retaliation if in violation of WTO law. The discussion in this Article shows that the latter outcome is not necessarily guaranteed in light of current interpretation of both U.S. and WTO law. However, the current U.S. political climate suggests that use of carbon tariffs by other signatories to the Paris Climate Agreement might actually play into President Trump's protectionist rhetoric.

---

[143] *See* Christoph Böhringer & Thomas F. Rutherford, *Paris After Trump: An Inconvenient Insight* 3 (Energy and Climate Economics, Working Paper No. 6531, 2017), https://econpapers.repec.org/paper/cesceswps/_5f6531.htm [https://perma.cc/LCJ7-SFMP].

[144] *See id.*

[145] *See id.* at 4.

[146] *See id.*

[147] *See id.* at 26.