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Stepping Stone or Stumbling Block: Incrementalism and National Climate Change Legislation

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Introduction

A half measure, like a little knowledge, may be a dangerous thing. Incremental actions can prove to be a stepping stone, easing the way to climbing higher, or a stumbling block, a barrier that makes advancement more difficult. The risks of partial measures are particularly important in politics. Policymakers are constantly faced with the dilemma of whether to spend political capital on an ambitious proposal or to settle for a partial measure with the hope that it eventually will create greater support for the more ambitious plan. Depending on the circumstances, incrementalism can be a successful strategy or can prove counterproductive.

The costs and benefits of incrementalism are becoming increasingly relevant to discussions about controlling global warming. The threats posed by global climate change are well-known. The scientific data showing that the planet's increasing stock of greenhouse gases will lead to massive environmental change are no longer seriously contested. It is now routine to hear about the dire consequences of inaction—the extinction of animal and plant species, rising ocean levels, and dramatically higher rates of malaria and cancer, among other concerns. Public debate in the United States and around the world is no longer focused on whether action needs to be taken to address climate change but on what actions are best.

The consensus answer is that, ultimately, the only effective solution to the problem of climate change will be a multilateral agreement. The alternative—a series of uncoordinated national-level measures—is not an effective means of limiting greenhouse gases to sustainable levels because of international disagreements on how to divide greenhouse gas emissions among nations and because of the problem of carbon leakage. Currently, there is no consensus over how greenhouse gas emissions rights should be divided among states. Even assuming that all nations adopt some climate change regulations, if they do so with different principles of dividing global carbon emissions, then these uncoordinated national measures will not avoid a climate change crisis. For instance, if the United States and the European Union adopt national-level measures to decrease greenhouse gas production based on a historic level of emissions while China and India adopt national-level measures based on a per capita standard, global greenhouse gas levels will remain above sustainable levels. This is not because any state is trying to sabotage climate change

mitigation efforts but rather because each state will adopt national measures that fit its own conception of a fair division of global greenhouse gases.

At the same time, carbon leakage undercuts nonglobal efforts to reduce levels of greenhouse gases. Because there are no purely local benefits to climate change mitigation efforts—benefits for the regulating state come from its decrease in emissions, regardless of greenhouse gas production in another part of the world—the utility of unilateral measures must be judged by the global level of greenhouse gases. The problem of carbon leakage here is crucial because if higher environmental regulation in one nation leads to increased production of carbon-heavy goods elsewhere, then the reductions in one nation may be offset or nullified completely by greenhouse gas production in other parts of the globe. If carbon leakage is high enough, unilateral national legislation may actually *increase* global levels of greenhouse gases, creating the possibility that inaction would be better than unilateral action.

Nonetheless, a number of states have adopted, or are considering adopting, their own national-level greenhouse gas reduction programs. While advocates of the national-level programs acknowledge that these policies are an inadequate response to global warming, their support for national-level legislation is premised on the idea that the measures are a step forward toward the ultimate goal of a global agreement. But are these national measures really steps in the right direction? Surprisingly, this question has been largely ignored in climate change debates, even though it should be central to deciding the best national-level response to climate change. National-level legislation can create a demand for greater international action, but it can also preempt or frustrate such a demand. Consequently, the widely held view that national legislation is consistently a stepping stone to an international agreement may be overly optimistic. The crucial question, and the one that this Article explores, is how incremental national legislation affects the prospects for a global climate change agreement.

The answer to this question depends on how national legislation alters domestic politics—in the regulating state and in other states—and shapes stakeholders' interests in pursuing a comprehensive global solution. This Article identifies four dynamic political mechanisms that likely will be important in the climate change context and that might support the intuitive argument that national legislation is likely to be a stepping stone to a global agreement. These dynamic political effects may generate more support for a global solution, but they may also prove ineffective and, therefore, a waste of political resources. Worse, some of these dynamics might actually work in the opposite direction, reducing the odds of progress at the international level.

The first mechanism involves directing resources to industries that support a climate change treaty. National climate change regulation might promote structural changes in the economy that will naturally result in greater political support for greater regulation. For instance, a domestic cap-and-trade system encourages greater reliance on cleaner energy supplies at home by raising the costs of domestic carbon emissions. This, in turn, spurs the development of a green energy sector that would support greater global environmental

regulation. But there can also be effects that push in the opposite direction: A domestic cap-and-trade system could also cause a relocation of carbon-heavy production to developing countries, where these industries would use their political influence to resist international efforts to place limits on greenhouse gas production.

A second mechanism is aimed specifically at international negotiations. By passing domestic legislation, a government might signal its leadership on the climate change issue by demonstrating that it is committed to reducing greenhouse gas emissions. This signal might then encourage other states to do the same. National legislation, however, is a complicated signal. The national legislation not only signals cooperation but also the terms on which the state is willing to cooperate. Legislation with modest goals or very thin public support may signal that the state will not be able or willing to accept a deeper international commitment, making an international compromise harder to achieve.

A third mechanism is to generate industry demand for a uniform global environmental standard. In this scenario, industries would support an international agreement to avoid conflicting national regulations that interfere with global commerce. For instance, California's recent threat of state-level legislation that would impose stringent fuel efficiency standards led the automotive industry to accept federal fuel economy standards that were higher than under previous federal law but lower than the California standard. Shifting from the domestic regulatory context to the international regulatory system, however, it is far from obvious that a patchwork regime of differing national-level climate change regimes would spur the development of a consistent set of international standards. Unlike federal legislation, which applies to all states regardless of their support for higher fuel economy standards, an international agreement requires the consent of each nation and cannot bind jurisdictions that do not wish voluntarily to change their environmental standards. A series of conflicting national regulatory standards may lead to the perverse result of making an international agreement more difficult to coordinate.

A fourth mechanism consists of cultivating greater environmental norms in the general public. This process might work in several different ways. National legislation could increase public acceptance of environmental norms by slowly increasing environmental standards. It could also gradually increase popular political demands for lower greenhouse emissions. Finally, it could help to build coalitions between environmental groups and industry if, as is often suggested, the process of drafting and implementing national legislation is a positive experience that later makes participants willing to take stronger cooperative steps. But all of these possibilities are empirically contingent or dubious. Certainly the public has not always come to appreciate environmental regulation. If modest regulation leads to spikes in energy prices, the public may grow skeptical of environmental norms. Enacting legislation may lull popular demands for stronger measures if the public believes that the necessary action has already been taken. And alliances between environmental groups and

industry that can be forged to pass domestic legislation may not extend to stricter international legislation that creates newly divergent interests.

The general lesson is that we should not conclude that all national climate change legislative proposals are worth substantial political investment. By no means is this an argument against all efforts to curb greenhouse gas emissions at the national level. Instead, this Article should lead policymakers and academics to analyze more carefully the dynamic political impact of domestic proposals. By better understanding what aspects of national-level measures provide a basis for greater support for an international agreement—and what measures are likely to be pitfalls—we can make progress in identifying the kinds of measures that are genuinely worth pursuing.

Toward this end, this Article proceeds to examine the key features of the Waxman-Markey Bill (which passed in the House on June 26, 2009) and the Lieberman-Warner Bill (the most advanced draft produced by the Senate). These two bills are representative of current legislative approaches to regulating greenhouse gas emissions, which together include most of the design elements likely to be on the table in national climate change policy debates in the United States and elsewhere. As it turns out, some of the design elements of these bills are likely to spur positive political dynamics, increasing the probability of an international agreement, while others are likely to be counterproductive. Still other measures in the legislation are difficult to assess theoretically, because they are likely to be constructive on some mechanisms (such as relocating economic resources) but counterproductive on others (such as building public support for greater regulation). The purpose of this Article is not to pass judgment on these two particular proposals but to develop a constructive framework of analysis that can also be used to evaluate new national legislative proposals, either in the United States or in other countries.

At a higher level of theoretical abstraction, the Article also aspires to contribute to the international relations theory of "two-level" (domestic and international) games. Climate change is a good case study of how domestic legislation can have dynamic effects on a state's international bargaining position. National legislation is not simply a static marker of how far a state is willing to compromise, as most international relations theory assumes. It is also a source of change in domestic preferences that define the set of achievable international agreements. In climate change and many other contexts, national legislation will affect domestic politics in ways that have significant consequences for subsequent international bargaining.

This Article provides a framework for judging whether national legislation is a stepping stone or stumbling block to achieving a global agreement. Part I lays out the model of a two-level game with domestic and international bargaining concerning international public goods. It develops the core of the argument that there are several mechanisms by which domestic legislation can be a stepping stone or stumbling block to an international agreement and addresses each mechanism in the context of climate change. Parts II and III apply this framework to the issue of climate change. Part II reviews the public goods nature of global warming, the issue of carbon leakage, international

negotiations over climate change thus far, and the inability of either national legislation or uncoordinated cross-national action to solve the problem of global warming. Part III analyzes the provisions of the Waxman-Markey and Lieberman-Warner proposals. This Part demonstrates that some design features of the bills are beneficial while others are counterproductive. Part IV concludes by discussing the broader implications of this work. This Part discusses how domestic measures have influenced international negotiations for a multilateral agreement in other public goods contexts. Specifically, it examines the effect of the U.S. Foreign Corrupt Practices Act (FCPA), a unilateral measure designed to regulate international corruption, on treaty negotiations at the Organization of Economic Cooperation and Development (OECD). The Part highlights how the analysis developed here is relevant to a much broader spectrum of global public goods.

I. Mechanisms of Incrementalism

This Part discusses the static and dynamic effects of national legislation on international negotiations for a climate change treaty regime. To do so, it uses the framework of a two-level game where politics on the domestic level determines the set of achievable international agreements on the international level. Section I.A sets out this two-level game framework. Section I.B analyzes four ways in which national legislation has the potential to create or to undermine greater domestic support for an international agreement. This Section provides the foundation for evaluating national legislative proposals.

A. Evaluating Incremental Measures: Dynamic and Static Effects

When a comprehensive policy measure is not politically feasible, are partial measures worthwhile?[1] Are these measures building blocks or stumbling blocks to an international agreement? Valuing incremental measures involves a static analysis and a dynamic analysis. The static analysis asks what the immediate and direct effects of the policy are. For instance, if the United States adopts climate change legislation, what will be the country's reduction in greenhouse gas

1. Discussions of incrementalism fall along two axes. The first axis is whether there is learning from incremental measures that improves the later outcome. This question goes to the optimal means of selecting a measure: Is the best means to experiment as we go or to enact one comprehensive solution? *Compare* Robert E. Goodin, Political Theory and Public Policy (1982) (arguing against incrementalism), *with* Charles E. Lindblom, *The Science of "Muddling Through,"* 19 Pub. Admin. Rev. 79 (1959) (arguing in favor of piecemeal decision-making because information is gained as policies are implemented). The second axis is whether a more comprehensive measure is politically feasible. This question asks whether the comprehensive program is something that realistically can be achieved. If the answer is "no," then the question is whether some incremental measure is better: Should the perfect be the enemy of the good? This Article focuses on the second axis of incrementalism.

emissions? The dynamic analysis asks how the measure will affect the system. If the United States adopts climate change legislation, how will this affect greenhouse gas production around the globe?[2] This view requires an analysis of the longer-term and indirect effects of the policy change, including how the policy alters incentives for private and public actors at home and abroad. The dynamic analysis also involves a time element: how the policy change shapes the cost and benefits of policy changes at the next decision point. A decision to establish a carbon tax is far more costly after a nation has instituted a cap-and-trade system than it is when a nation is making the initial decision to adopt a cap-and-trade or carbon tax system. This dynamic analysis often goes under the title of path dependence, but there can be several different causal mechanisms at play (and often pushing in different directions).

In national debates about climate change legislation, the dynamic analysis is more important than the static analysis to the issue of finding a comprehensive solution to the climate change crisis. Focusing on the direct effects of national legislation—that is, the national reductions in greenhouse gas emission expected from the legislation—is misleading. There are few serious claims that the measures taken by one nation (or even a few nations) in isolation can solve the climate change crisis. Focusing on the static level leads to debates about whether unilateral measures pass a cost-benefit analysis (which they almost never do because the atmosphere is a public good[3]) and does not address the real issue of whether these measures will galvanize efforts for a coordinated international response, which should be the primary goal of all climate change legislation.[4] The focus on dynamic effects is additionally important because

2. *See* Paul Pierson, *Increasing Returns, Path Dependence, and the Study of Politics*, 94 Am. Pol. Sci. Rev. 251 (2000) [hereinafter Pierson, *Increasing Returns*] (exploring dynamic analysis as a new lens for reevaluating "path dependence"); *see also* Douglass C. North, Institutions, Institutional Change and Economic Performance (1990); Paul Pierson, Politics in Time: History, Institutions, and Social Analysis (2004) [hereinafter Pierson, Politics in Time].

3. An Economic View of the Environment, http://belfercenter.ksg.harvard.edu/analysis/stavins/?p=206 (June 29, 2009, 12:28 EDT) [hereinafter Stavins, *National Climate Change Policy*]. Stavins acknowledges that national-level action does not pass a cost-benefit analysis that is focused on purely static, national-level effects:

> The environmental benefits of any single nation's reduction in greenhouse gas emissions are spread worldwide, unlike the costs. This means that for any single country, the costs of action will inevitably exceed its direct benefits, despite the fact that the global costs of action will be less than global benefits.

Id.

4. At least one debate on the value of national climate change measures focuses on the static analysis of federal legislation without considering dynamic effects. Eric Posner and Cass Sunstein argue that the U.S. decision to adopt emissions-reducing measures unilaterally would not pass a cost-benefit analysis because such measures (taken in isolation) will have next to no effect on global climate change. *See* Eric A. Posner & Cass R. Sunstein, *Climate Change Justice*, 96 Geo. L.J. 1565,

static effects and dynamic effects can move in opposite directions. National legislation can have negative static effects on greenhouse gas emissions (for instance, if carbon leakage exceeds 100%) but have positive dynamic effects if the legislation leads to comparable actions internationally. Similarly, national-level measures that have beneficial static effects can have negative dynamic effects. A carbon tariff that decreases carbon leakage will help to decrease global emissions in the short term but will build resistance to an international agreement from industries that benefit from the protection afforded by the tariff.

This dynamic analysis plays out in a two-level policy space. A two-level game is a framework from international relations theory that examines the relationship between policymaking on the domestic and international planes.[5] This framework has proven to be a productive vein for international law and international relations theorists to explore the effect of national politics on international negotiations and the reciprocal influence of international law on domestic policymaking.[6] Robert Putnam developed the idea of a two-level game

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1600 (2008) ("[I]t is far from clear that the United States could have taken unilateral action that would have created benefits for the rest of the world greater than the cost to the United States."). Jody Freeman and Andrew Guzman reply that the costs to the United States of climate change are so great that unilateral measures would pass a cost-benefit analysis regardless of the actions of other states. *See* Jody Freeman & Andrew T. Guzman, *Seawalls Are Not Enough: Climate Change & U.S. Interests* 62 (U.C. Berkeley Pub. Law Research Paper No. 1357690, 2009), *available at* http://ssrn.com/abstract=1357690 ("Though international cooperation should be pursued, the reluctance of others to fully engage the problem is not a sound reason for inaction by the United States. Whatever others do, the United States should move aggressively to reduce global [greenhouse gas] emissions.").

5. *See* Robert D. Putnam, *Diplomacy and Domestic Politics: The Logic of Two-Level Games*, 42 INT'L ORG. 427, 434 (1988) (offering two-level games as a framework for analyzing comparative politics and international relations); *see also* Kenneth W. Abbott, *Enriching Rational Choice Institutionalism for the Study of International Law*, 2008 U. ILL. L. REV. 5, 22-24 [hereinafter Abbott, *Rational Choice Institutionalism*] (discussing the application of two-level games to the study of international law); Kenneth Abbott, *Modern International Relations Theory: A Prospectus for International Lawyers*, 14 YALE J. INT'L L. 335 (1989) [hereinafter Abbott, *International Relations Theory*] (discussing the application of international relations theory to international law more generally).

6. For scholarship in international law, see Eyal Benvenisti, *Exit and Voice in the Age of Globalization*, 98 MICH. L. REV. 167 (1999); Rachel Brewster, *Rule-Based Dispute Resolution in International Trade Law*, 92 VA. L. REV. 251 (2006); Ryan Goodman, *Human Rights Treaties, Invalid Reservations, and State Consent*, 96 AM. J. INT'L L. 531 (2002); Oona Hathaway, *Do Human Rights Treaties Make a Difference?*, 111 YALE L.J. 1935 (2002); Laurence Helfer, *Exiting Treaties*, 91 VA. L. REV. 1579 (2005); George Norman & Joel Trachtman, *The Customary International Law Game*, 99 AM. J. INT'L L. 541 (2005); Anne-Marie Slaughter, Andrew S. Tulumello & Stepan Wood, *International Law and International Relations Theory: A New Generation of*

where national policymakers bargain over a policy issue in the international sphere as well as the domestic sphere.[7] For example, the nation's executive official may want to achieve a trade or environmental agreement with another nation or set of nations, but the legislature must be willing to ratify the agreement. Thus, to achieve an agreement, the executive must bargain on two planes simultaneously. She must secure an agreement that is acceptable to the representatives of the other states and to her own legislature. Bargaining at each level is not independent: What is achievable at the international level influences what the domestic legislature will accept, and the realities of domestic politics can affect the outcomes of international bargaining.

Putnam's analysis was groundbreaking because he demonstrated that a domestic constraint (here, the legislative ratification process) could be a bargaining *advantage*.[8] If there is a range of agreements that all national governments can accept, then an international agreement that benefits all nations is achievable. The subsequent negotiations are distributional; they consist of selecting between differing treaty drafts. Each nation wants its preferred treaty draft to be adopted, but it would benefit from the adoption of any draft in the acceptable range. Putnam demonstrated that a government's bargaining position is strengthened when it can credibly commit to accepting only its preferred treaty draft (or one that is very close). National legislation is the means by which a government can credibly commit. If the executive official has a domestic policy constraint, such as legislation that constrains what the executive can offer on the international level, then this constraint increases the bargaining power of the executive in the international system.

Of course, a national-level constraint can also doom international negotiations. When the range of acceptable agreements is small, then a miscalculation at the national level can eliminate the "win set" entirely. For

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Interdisciplinary Scholarship, 92 Am. J. Int'l L. 367 (1998); and Richard H. Steinberg, *Trade-Environment Negotiations in the EU, NAFTA, and WTO: Regional Trajectories of Rule Development*, 91 Am. J. Int'l L. 231 (1997).

For scholarship in political science, see Simon Hug & Thomas Konig, *In View of Ratification: Government Preferences and Domestic Constraints at the Amsterdam Intergovernmental Conference*, 56 Int'l Org. 447 (2002); Miles Kahler, *The Causes and Consequences of Legalization*, 54 Int'l Org. 661 (2000); Howard Lehman & Jennifer McCoy, *The Dynamics of the Two-Level Bargaining Game: The 1988 Brazilian Debt Negotiations*, 44 World Pol. 600 (1992); Sophie Meunier, *What Single Voice? European Institutions and the EU-U.S. Trade Negotiations*, 54 Int'l Org. 103 (2000); and Kal Raustiala, *States, NGOs, and International Environmental Institutions*, 41 Int'l Stud. Q. 719 (1997).

7. Putnam, *supra* note 5, at 434.

8. Abbott, *Rational Choice Institutionalism*, *supra* note 5, at 23; Andrew Moravscik, *Integrating International and Domestic Theories of International Bargaining*, *in* Double-Edged Diplomacy: International Bargaining and Domestic Politics 3, 4-5, 33 (Peter B. Evans, Harold K. Jacobson & Robert D. Putnam eds., 1993).

instance, if the United States Congress, in its attempt to secure a high proportion of the joint gains of international cooperation, imposes a domestic constraint on the executive that puts the American position outside of the range of possible international outcomes, then treaty negotiations will collapse.[9] Similarly, the strategy will backfire if used by multiple governments. If two or more governments insist on their preferred treaty terms (and these demands are backed up by national legislation that binds the hands of the executive), then the win set of acceptable agreements will collapse and the mutually beneficial treaty regime will not come into force.

This analysis makes use of the two-level game framework in examining global climate change negotiations. Understanding the relationship between national legislation and global climate change negotiations requires an analysis of each level. Domestic politics and international politics take place in different fora, but the two levels are not independent. The set of policies that are feasible on the international level is defined by domestic politics.[10] International politics can also change the incentives of public and private actors and thus influence the domestic level.[11] Particularly in the climate change issue area, international politics can have a powerful effect on domestic politics. A comprehensive solution to global warming is achievable only through international negotiations, and, therefore, a state's willingness to undertake costly actions will depend, in part, on the credibility of the international commitments made by other states.

The analysis here also extends conventional understandings of two-level games in a couple of ways. First, this analysis highlights that national legislation may be an opening bid, not a constraint, in international negotiations. Following on Putnam's example, most uses of the two-level game framework view domestic legislation as a limit in international negotiations. National measures are enacted as a ceiling for what the state will accept in international bargaining. Yet domestic politics need not always be a constraint on international bargaining. Support for domestic legislation is based on the idea that the national measure will build international support.[12] Second, and more importantly, this Article demonstrates the dynamic effects of national legislation on international bargaining. The two-level game framework

9. *See* Keisuke Iida, *When and How Do Domestic Constraints Matter?*, 37 J. Conflict Resol. 403, 403-05 (1993); Putnam, *supra* note 5, at 433-41. This situation is similar to the battle of the sexes game. *See infra* Subsection I.B.2.

10. *See, e.g.*, Kenneth N. Waltz, Man, the State, and War: A Theoretical Analysis (1959) (describing the effect of domestic politics on international politics as the "second image").

11. *See, e.g.*, Peter Gourevitch, *The Second Image Reversed: The International Sources of Domestic Politics*, 32 Int'l Org. 881 (1978) (describing the effect of international politics on domestic politics as the "second image reversed").

12. *See infra* Section III.A (discussing how domestic legislation is viewed as a stepping stone towards an international agreement).

generally takes a static view of international negotiations. Domestic legislation is a marker of domestic preferences: National-level measures are a statement of how far a country is willing to compromise at any one point in time.[13] Thus, legislation is a reflection, not a cause, of domestic preferences. This Article challenges this view by focusing on the dynamic effects of national legislation. National laws are more than a one-off picture of national policy preferences at a single point in time. As this analysis explores, national legislation can have a dynamic effect on domestic politics, setting a trajectory for the evolution of domestic policy preferences.

This Article emphasizes that national-level measures are a *cause* of policy preference, both at home and abroad. Domestic legislation changes the political environment, shifting the interests of public interest groups and industries in supporting an international agreement. It can thus *broaden* the range of mutually acceptable agreements on the international plane as well as limit it. Domestic measures create economic and political incentives that, over time, redefine what policies governments need to coordinate as well as how best to coordinate. Conceptualizing national legislation as a cause of domestic political change also highlights the dangers of national legislation. If national legislation is evaluated only on its static effects, then we may overlook the longer-term impact of government action. This Article attempts to analyze the dynamic effects of national legislation by examining four causal mechanisms: the reallocation of economic resources, leadership in international negotiations, demands for uniform regulation, and evolving public norms regarding environmental preservation. The next Section discusses these mechanisms in detail.

B. National Climate Change Legislation

This project does not hope to provide a comprehensive answer to the question of whether incremental national measures are beneficial or counterproductive in all areas. Rather, it seeks to determine what types of national measures will have positive political dynamics and thus can build support for a climate change agreement. This project analyzes four mechanisms by which incremental legislation can build support for a comprehensive international agreement. All four can either lead to greater support for an international agreement or entrench resistance to it.

1. Resource Allocation

National-level measures can alter the dynamics of the policy process over time by directing resources towards groups that have an interest in advancing that policy. The idea here is that incremental measures will promote structural changes in the economy, which provide additional resources to constituencies that support a particular policy. In discussions of trade liberalization, for

13. *See* Putnam, *supra* note 5, at 434.

example, more liberal trade policies are thought to create positive political feedback effects that encourage further trade liberalization. Lower tariff levels promote the economic interests of export-oriented industries and harm import-competing industries. Over time, export-oriented industries have more resources to lobby for additional liberalization while import-competing industries have less.[14] Similar accounts can be found elsewhere.[15] For instance, social security policies are often described as the third rail of politics because they direct resources to a constituency that aggressively defends and promotes these policies to continue the flow of resources to that constituency.

Not all incremental measures towards an international goal, however, are beneficial. In the trade context, governments frequently engage in regional trade liberalization that provides lower barriers to trade to states in the regional agreement relative to states outside of the region. The question asked by many economists and political scientists is whether such regional measures are beneficial or detrimental to greater multilateral liberalization.[16] Most economists consider global free trade to be the best policy option because it offers the greater economic gains. But when global free trade is not immediately attainable, are regional agreements for like-minded states that wish to adopt more aggressive free trade policies beneficial? In other words, are regional agreements a second-best option that advance efforts for global trade or will the regional agreement set states on a path that makes the greater multilateral trade harder to achieve?

Empirical work by Daniel Kono indicates that the answer to this question depends on whether the regional agreements are trade-creating or trade-diverting (directing resources to industries that are regionally competitive but not globally competitive).[17] Trade-creating regimes provide greater material

14. *See* Michael Gilligan, Empowering Exporters: Reciprocity, Delegation, and Collective Action in American Trade Policy (1997); North, *supra* note 2; Ronald Rogowski, Commerce and Coalitions: How Trade Affects Domestic Political Alignments (1989).

15. The same is true of institutions. *See* Lucian Bebchuk & Mark Roe, *A Theory of Path Dependence in Corporate Ownership and Governance*, 52 Stan. L. Rev. 127 (1999).

16. *See, e.g.*, Miles Kahler, International Institutions and the Political Economy of Integration (1995); Robert Z. Lawrence, Regionalism, Multilateralism and Deeper Integration (1996); Kenneth A. Oye, Economic Discrimination and Political Exchange: World Political Economy in the 1930s and 1980s (1992); Jagdish Bhagwati, *Departures from Multilateralism: Regionalism and Aggressive Unilateralism*, 100 Econ. J. 1304, 1312 (1990); Wilfred J. Ethier, *Regionalism in a Multilateral World*, 106 J. Pol. Econ. 1214 (1998); Lawrence H. Summers, *Regionalism and the World Trading System*, *in* Policy Implications of Trade and Currency Zones: A Symposium Sponsored by the Federal Reserve Bank of Kansas City 295 (1991), *available at* http://12.35.11.68/publicat/sympos/1991/S91summe.pdf.

17. *See* Daniel Yuichi Kono, *Are Free Trade Areas Good for Multilateralism? Evidence from the European Free Trade Association*, 46 Int'l Stud. Q. 507 (2002); Daniel Y.

support to globally competitive industries, who will then lobby for greater multilateral trade agreements. Trade-diverting agreements, by contrast, direct resources toward industries that are regionally but not globally competitive and that will consequently oppose greater multilateral liberalization. When a regional agreement is trade-diverting, incremental trade liberalization puts states on a path to achieve a local maximum at the cost of a global maximum. Consequently, Kono argues that it is not the existence of a regional agreement but the membership and content of the agreement that produces the positive or negative political feedback effect.

In the climate change debate, national legislation is thought to direct resources towards energy sources that produce lower levels of greenhouse gas emissions. Either a carbon tax or a cap-and-trade system raises the cost of carbon emissions. The higher costs of emissions encourage the relocation of carbon production in the static analysis but should also encourage investment in carbon mitigation systems as well as sources of energy with lower emissions (and this investment should make mitigation and low-emissions energy sources cheaper).[18] In the dynamic analysis, lowering the cost of emissions reductions makes a global agreement easier to achieve because it lowers the cost of climate change mitigation for everyone. The dynamic political effects can also be positive if American industry becomes one of the major providers of low emissions energy. Not only would national legislation direct more resources towards these industries, but the industries also would have an interest in lobbying for an international agreement that would raise the global demand for their product.[19] Even if national-level measures lead to carbon leakage in the

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Kono, *When Do Trade Blocs Block Trade?*, 51 INT'L STUD. Q. 165 (2007). For the distinction between trade-creating and trade-diverting regimes, see JACOB VINER, THE CUSTOMS UNION ISSUE (1950).

18. As Carol Browner, the Assistant to the President for Energy and Climate Change, recently argued:

> During [the 1990 Clean Air Act] debate industry projected that the cost per ton of sulfur dioxide reductions would be over a thousand dollars. It turned out to be a fraction because American innovation and ingenuity rose to the occasion and we found solutions that allowed us to do it more cheaply once industry had that certainty.

Roundtable Interview by the *Wall Street Journal* with President Barack Obama, Energy Secretary Steven Chu, and Carol Browner, Assistant to the President for Energy and Climate Change, in Wash., D.C. (June 28, 2009) [hereinafter Roundtable Interview], *available at* http://blogs.wsj.com/washwire/2009/06/28/roundtable-interview-with-obama-on-climate-bill/.

19. John M. Broder, *White House Steps Up Climate Efforts*, N.Y. TIMES, Oct. 28, 2009, at A19 (describing the White House claim that climate change legislation will help create a new green-energy industry). President Obama emphasized:

> [A]s we transition into this clean energy economy we are going to see, I think, an enormous amount of economic activity and job production emerging. I know that the opponents of this bill kept on suggesting this

short term, the legislation can foster greater support for an international agreement within the United States and internationally by lowering the costs of compliance with that agreement.

But this mechanism of resource allocation also can produce unintended negative political feedback effects. National legislation can lead carbon-intensive producers to shift production to a lower-regulation nation. Although this shift has positive political effects for the passage of future climate change legislation in the United States by selection effects (polluters leave the jurisdiction and thus do not mobilize in national politics to oppose further regulation), it can lead to greater resistance among other nations to an international agreement. Industries that relocate to developing countries can lobby against an international agreement in those jurisdictions and may have greater political influence in developing states than in fully industrialized states. For instance, if carbon leakage from American steel producers leads to the expansion of the Chinese steel industry (due to either the relocation of American firms or the expansion of Chinese firms), then there is a growing base of manufacturers in China who may resist an international agreement that raises their costs.

2. Leadership in International Negotiations

Leadership in the international arena is a second mechanism that can lead to positive political feedback effects. This mechanism is explicitly aimed at the international audience. The idea here is that U.S. domestic action is not a solution to the climate change problem but demonstrates to the international community that the United States is willing to undertake costly action to address the global warming crisis. Robert Stavins, head of Harvard's Belfer Center on Climate Change, maintains that "the credibility of the U.S. as a participant, let alone as a leader, in shaping the international regime is dependent upon our demonstrated willingness to take actions at home."[20]

The idea that unilateral action leads to international leadership can be analyzed through the lens of signaling theory.[21] Domestic legislation is a signal

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> was a jobs-killer, but everybody I talk to, when we think about how are we going to drive this economy forward post-bubble, keep on pointing to the opportunities for us to transition to a clean energy economy as a driver of economic growth.

Roundtable Interview, *supra* note 18.

20. Stavins, *National Climate Change Policy*, *supra* note 3.

21. Signaling theory is commonly used to explain international law and international relations. *See, e.g.*, Jack L. Goldsmith & Eric A. Posner, The Limits of International Law (2005); Andrew T. Guzman, How International Law Works: A Rational Choice Theory (2008); Tom Ginsburg & Richard McAdams, *Adjudication in Anarchy: An Expressive Theory of International Dispute Resolution*, 45 Wm. & Mary L. Rev. 1229 (2004); Jack Goldsmith & Eric Posner, *A Theory of Customary International Law*, 66 U. Chi. L. Rev. 1113 (1999); Oona A.

to the international community that the United States is looking to engage other states in treaty negotiations regarding global warming. Because the United States is taking action without the agreement of other states, this legislation is arguably a credible signal of an American willingness to compromise on climate change issues.[22] The signal is intended to make an international agreement easier to achieve. Other states observe the signal, are more likely to find it credible because it is costly, and then adjust their postures toward international negotiations accordingly. This unselfishness on the part of the United States raises the possibility that other states will act similarly. Domestic action is not a necessary precondition to an international agreement, but it is supposed to ease the negotiation process.

An agreement over climate change is different than other international cooperative ventures in that it is largely a distributional game, not one of assurance. It almost goes without saying that nations prefer to adopt a set of policies that would solve the climate change problem. The issue is *how much each state is willing to pay to do so*. Because the major issue in achieving a global climate change mitigation treaty is distribution, leadership is demonstrated by a willingness to undertake a significant commitment.[23] In this context, the signal the United States is sending through domestic legislation is not so much a signal of cooperation but a signal of how much it is willing to contribute.

To see the difference, compare two different games that international relations theorists often use to describe interactions in international negotiations: the stag hunt and the battle of the sexes.[24] These games are obviously a simplification of the negotiation process, but they are useful because they demonstrate the strategic dynamics at work.[25]

The stag hunt game is one of assurance; the states consider collective action to solve a problem but are unsure of whether other states have an interest in pursuing collective action.[26] The story behind the stag hunt game is that there

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Hathaway, *Between Power and Principle: An Integrated Theory of International Law*, 72 U. CHI. L. REV. 469 (2005); Kal Rastiala, *Form and Substance in International Agreements*, 99 AM. J. INT'L L. 581 (2005).

22. *See* Stavins, *National Climate Change Policy*, *supra* note 3.

23. *See* Peter Baker, *Poor Nations Reject a Target on Emissions Cuts*, N.Y. TIMES, July 8, 2009, at A1 (discussing the longstanding divide between developed and developing economies concerning who should bear the costs of mitigating the effects of climate change).

24. *See* Richard McAdams, *Beyond the Prisoner's Dilemma: Coordination, Game Theory, and the Law*, 82 S. CAL. L. REV. 209 (2009).

25. *See id.*

26. *See* Robert Jervis, *Cooperation Under the Security Dilemma*, 30 WORLD POL. 167 (1978); Lisa Martin, *Interest, Power, and Multilateralism*, 46 INT'L ORG. 765, 781 (1992).

are two hunters who have to decide whether to hunt a stag or rabbits.[27] To hunt a stag successfully, both hunters have to commit to the enterprise. Both hunters eat well if they both hunt stag (giving them each a payoff of 4). A hunter acting alone cannot bring down a deer, and, if he tries when the other hunter does not, then he will not eat (giving him a payoff of 0). If the hunter is acting alone, then the only prey that he can catch is rabbits (giving him a payoff of 2). The hunter is eating but not as well as he would with his share of the stag. The hunter prefers to hunt a stag (this provides the highest payoff) but will only engage in a stag hunt if he is assured that the other party will also hunt stag. Here, a signal of cooperation influences the other party's actions because it provides the necessary assurance.[28] The state will cooperate if it believes that other states will cooperate as well; distribution issues do not exist. A signal of cooperation will alter the beliefs of the observing states and thereby influence those states' actions.

Table 1: The Stag Hunt Game (Assurance)

(Hunter 1, Hunter 2)	Hunt Stag	Hunt Rabbit
Hunt Stag	4, 4	0, 2
Hunt Rabbit	2, 0	2, 2

In a battle of the sexes game, the parties again wish to coordinate their actions, but there is a distributional conflict. The game is based on a gender stereotype.[29] A couple has to decide how to spend their night on the town. They both want to be together above all but have different preferences on what activity to attend. The man wants to attend the boxing match, and the woman wants to attend the ballet. Each person gets a payoff of 2 if they spend the evening together, and the person whose preferred activity is chosen receives an additional payoff of 1. So the woman has a payoff of 3 when the couple attends the ballet, while the man receives a payoff of 2. If the couple attends the boxing match, the man receives a payoff of 3, while the woman receives 2. Once one party can credibly commit to a position—say, buying season tickets to the ballet—then the other party is better off accepting the other's choice but does not realize the same utility. Here, assuring cooperation is only part of the problem, the other part being the decision of how to distribute the costs or

27. Douglas Baird, Robert H. Gertner & Randal C. Picker, Game Theory and the Law 41-42 (1998); James D. Morrow, Game Theory for Political Scientists (1994).

28. McAdams, *supra* note 24, at 220-21.

29. *See* Morrow, *supra* note 27, at 91-92. Morrow suggests a politically correct name for the game: the "Contest of the Individuals with Neither Gender nor Sexual Orientation Specified." *Id.* In the game, Pat and Chris have different preferences for spending their vacation at the beach or the mountains.

benefits of coordination.[30] Consequently, the content of the statement—the distributional allocation offered—is as important as the signal that cooperation is desired.[31]

Table 2: The Battle of the Sexes (Distribution)

(Woman, Man)	Ballet	Boxing Match
Ballet	3, 2	1, 1
Boxing Match	0, 0	2, 3

Global negotiations over climate change include elements of both the stag hunt game and the battle of the sexes.[32] States look for evidence that other members of the international community are willing to take action in addressing climate change. Cooperation in climate change is not a dichotomous choice. The relevant question is not whether states are willing to act but how much they are willing to do. Any signal sent by the United States (or another state) is a double communication: whether the state will cooperate and on what terms. In the climate change arena, the second signal is as important as the first.

Although leadership is often cited as a reason for passing domestic legislation, popular discussions of leadership in climate change negotiations rarely define what leadership is. Unless all domestic action would qualify as leadership, popular discussions do not give content to the idea of leadership in the provision of a global public good. Certainly the unilateral provision of the good would qualify as leadership. Where international coordination is necessary to provide a global public good, however, leadership has to include other elements, such as bearing a disproportionately large share of the burden of providing the good or prodding other states to adopt changes. In a stag hunt game, the passage of climate change legislation before international negotiations could be sufficient to assure the other parties that the state wants to cooperate. This signal might then be leadership if the signaling party were a significant enough player to establish cooperation as the dominant strategy. Yet, in a battle of the sexes game, climate change legislation could be a signal of the state's approach on how costs for the good should be distributed. A leadership signal in this situation would be that the state is willing to bear more than its

30. *See* Stephen Krasner, *Global Communications and National Power: Life on the Pareto Frontier*, 43 World Pol. 336, 339 (1991); *see also* Martin, *supra* note 26, at 775.

31. *See* Rachel Brewster, *Unpacking the State's Reputation*, 50 Harv. Int'l L.J. 231, 246 (2009) (discussing how, in coordination situations, treaty negotiators can have mixed motives between wanting to form an agreement and wanting an agreement that provides them with the largest share of the gains).

32. At least two authors have described international climate change negotiations in terms of the stag hunt game. *See* Alfred Endres & Cornelia Ohl, *Introducing "Cooperative Push": How Inefficient Environmental Policy (Sometimes!) Protects the Global Commons Better*, 111 Pub. Choice 285, 287-89 (2002).

share of the cost to achieve a coordinated outcome. In terms of the battle of the sexes games, this would be the man's accepting a night at the ballet (or the woman's accepting a night at the boxing match) to ensure that coordination is achieved. If the signal is that the state is willing to coordinate but only on its own terms, i.e., the man insisting on the boxing match or the woman insisting on the ballet, then coordination may be possible but it is not made any easier. Such action would not constitute leadership.

Accordingly, domestic legislation may send a complex message to the international community. The passage of domestic limits on carbon emissions may place the United States on the moral high ground—committing to lower emissions even without a reciprocal promise by other states to do so. This move may convince other states that cooperation on climate change is a realistic goal and thereby increase those states' willingness to compromise as well.

The domestic legislation also can signal the state's approach to distribution. The signal is not only whether the state wants to cooperate but on what terms the state will cooperate. Thus, ambitious domestic action may be a signal of leadership where more modest domestic commitments may signal an aversion to shouldering a significant share of the costs. A state's domestic legislation is not the ceiling for what the government can commit to in international negotiations. States can act domestically first and then commit to great cuts as part of an international treaty negotiation. Yet, as a signal of the state's likely negotiating strategy, the state's domestic legislation can be a positive or a negative signal of its willingness to sign on to a treaty, let alone take a leadership role. For instance, the Japanese government pledged in June 2009 to decrease its emissions to 92% of 1990 levels (which is 85% of 2005 levels) by 2020.[33] Although this statement was designed to establish Japanese international leadership on climate change issues, environmental groups decried the statement as insufficiently ambitious.[34] Similarly, the European Union has expressed its frustration with the lack of ambition in American proposals to decrease domestic emissions to 97% of the 2005 level by 2012.[35] Certainly, passing any domestic legislation is a better signal than not passing any domestic legislation, but not all legislative proposals will signal leadership.

33. John Murphy, *Japan Pledges To Cut Emissions by 15%*, WALL ST. J., June 11, 2009, at A7.

34. *See* Hiroko Tabuchi, *Japan Sets Emissions Targets, and No One Seems Pleased*, N.Y. TIMES, June 11, 2009, at A8; Posting of James Kanter to Green, http://greeninc.blogs.nytimes.com/2009/06/10/tsunami-of-criticism-for-japans-co2-goals/ (June 10, 2009, 12:02 EDT).

35. James M. Broder & James Kanter, *Despite Shift on Climate by U.S., Europe Is Wary*, N.Y. TIMES, July 8, 2009, at A9 (reporting on Europe's pleasure with the Obama Administration's seriousness regarding climate change but displeasure with American short-term goals to reduce emissions).

3. Demands for a Uniform Standard

The third mechanism by which an incremental measure can generate a positive political dynamic to support further measures is by creating an industry demand for a uniform regulatory standard.[36] Differing national, state, or municipal standards can create a patchwork of environmental regulations that raises the costs of doing business for key industry groups. This effect is visible in the recent federally coordinated compromise on automotive fuel efficiency standards.[37] California threatened to enact legislation that would raise the required fuel economy standards and applied to receive a waiver from the Environmental Protection Agency to do so.[38] Ten other states and the District of Columbia had pledged to follow California's lead if a waiver was granted. The possibility of having two different fuel efficiency standards together with greater political pressure to reduce emissions levels led the automobile industry to agree to raise fuel efficiency over the next four years.

Using state-level measures to achieve more comprehensive federal measures, particularly in the environmental area, is not new to politics in the United States. According to Donald Elliott, Bruce Ackerman, and John Millian, the Air Quality Act of 1967 was the result of state-level measures that encouraged industry to seek a comprehensive national solution.[39] Environmental activists lobbied for high environmental standards at the state

36. *See* J.R. DeShazo & Jody Freeman, *Timing and Form of Federal Regulation: The Case of Climate Change*, 155 U. Pa. L. Rev. 1499, 1500-16 (2007) (explicitly discussing this causal mechanism as a means to spur federal legislation on climate change in the United States); *see also* Cinnamon Carlarne, *Notes from a Climate Change Pressure-Cooker: Sub-Federal Attempts at Transformation Meet National Resistance in the USA*, 40 Conn. L. Rev. 1351, 1355-60 (2008).

37. Remarks on Fuel Efficiency Standards, 2009 Daily Comp. Pres. Doc. 200900377 (May 19, 2009); John M. Broder & Micheline Maynard, *As Political Winds Shift, Detroit Charts New Course*, N.Y. Times, May 20, 2009, at A22; Henry J. Pullizi, *Obama Says New Car-Fuel Rules Give Industry 'Certainty*,' Wall St. J., May 20, 2009, *available at* http://online.wsj.com/article/SB124275189316335291.html; Elizabeth Shogren, *Obama To Announce Auto Pollution Plan*, National Public Radio, May 19, 2009, http://www.npr.org/templates/story/story.php?storyId=104287140.

38. The EPA granted the waiver on June 30, 2009. By that time, California already had agreed not to raise standards until 2017 as part of the federally coordinated compromise. *See* Jim Tankersley, *California Wins EPA Waiver on Greenhouse Emissions*, L.A. Times, June 30, 2009, at A6.

39. E. Donald Elliott, Bruce A. Ackerman & John C. Millian, *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. Econ. & Org. 313, 326-33 (1985); *see also* Bruce A. Ackerman & William T. Hassler, Clean Coal/Dirty Air (1981). Where there is federal preemption of state law, federal law may actually weaken environmental requirements. *See* Richard H. Fallon, Jr., *The "Conservative" Paths of the Rehnquist Court's Federalism Decisions*, 69 U. Chi. L. Rev. 429 (2002).

level, particularly in states where strong industrial lobbies did not exist. The resulting patchwork of state-level measures, which required different product standards, was a burden to industry groups, who wished to sell their products nationwide. This approach led industry groups to push for national-level environmental legislation. The federal statute incorporated higher levels of environmental protection than the industry groups would otherwise have selected but established a uniform set of standards.

Applying this mechanism to climate change (and thus to the international arena), however, is far more complicated. This mechanism can work at the international level, but it requires greater consensus than at the domestic level. Unlike federal legislation, which can generally preempt state action regardless of the state's support for higher or lower fuel economy or air quality standards, an international agreement only binds states that choose to join the agreement.[40] Where domestic legislators can bind dissenting groups within a state to a policy that has the necessary level of legislation support (the minority acquiescence principle), there is no such principle at the international level. For instance, if Michigan was opposed to the 1967 Air Quality Act, it could not refuse the legislation once there was sufficient congressional support for the measure. By contrast, developing states (such as China and India) can refuse to join an international agreement even if a majority of states in the international system sign and ratify the agreement.

Creating a patchwork of national-level measures has the possibility of generating demand for an international agreement that would apply a uniform emissions standard. A strategy of diffuse national incrementalism on greenhouse gas emissions policy could make international trade sufficiently difficult for enough industry groups to establish good conditions for international negotiations. But this is a risky strategy that could backfire. Creating such difficult conditions for international trade could have short-term negative economic results that would make it harder for governments to commit to costly environmental policy.[41] In addition, differing national standards might make an international agreement more difficult by committing states to different environmental standards.[42] Instead of leading to a single international standard, differing national legislation may harden bargaining

40. *See* DeShazo & Freeman, *supra* note 36, at 1500-16.

41. The national regulatory patchwork may provide de facto trade protection to many domestic groups and thus be surprisingly difficult to remove.

42. *See* Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PA. L. REV. 1961, 1974 (2007) (discussing the dangers of adopting state-level measures to spur federal action on climate change but noting that national-level standards could also complicate international bargaining on a climate agreement). This danger also exists for state-level environmental measures where federal legislation does not emerge to unify standards. *See* Cary Coglianese & Jocelyn D'Ambrosio, *Policymaking Under Pressure: The Perils of Incremental Responses to Climate Change*, 40 CONN. L. REV. 1411, 1424-25 (2008) (arguing against the utility of state-level measures).

positions and narrow (if not eliminate) the win set of possible international agreements that are acceptable to a critical mass of states.[43]

4. Cultivating Public Opinion

The fourth mechanism addresses aspects of learning as well as the development and acceptance of environmental norms. There are several aspects of this mechanism, which are often lumped together but need to be treated separately. First, the idea of cultivating public opinion frequently refers to the education of the public about the hazards of rising greenhouse gas levels.[44] In the process of lobbying for environmental regulations, interest groups educate the public on benefits of the regulation and set the stage for greater appreciation and concern for the environment among the public. With greater awareness of the dangers of climate change comes the acceptance of environmental norms as well as greater popular political demands for national and international action to reduce greenhouse gas emissions.[45]

Cultivating public opinion also includes the idea that the public will develop a preference for progressively higher levels of environmental regulation once some initial regulation is put in place.[46] This taste for high levels of regulation develops as the public learns that the costs of such regulation are modest and observes the environmental gains from the regulation.[47] Here,

43. *See* James D. Fearon, *Bargaining, Enforcement, and International Cooperation*, 52 Int'l Org. 269, 280-93 (1998); Putnam, *supra* note 5; *see also* Iida, *supra* note 9; Jongryn Mo, *The Logic of Two-Level Games with Endogenous Domestic Coalitions*, 38 J. Conflict Resol. 402 (1994).

44. *See* David G. Victor, Climate Change: Debating America's Policy Options 64-67 (2004) (discussing the importance of educating the public on climate issues and describing public opinion on climate change as "highly malleable").

45. *See* Douglas A. Kysar, *Climate Change, Cultural Transformation, and Comprehensive Rationality*, 31 B.C. Envtl. Aff. L. Rev. 555, 556 (2004) (arguing for cultural change towards great environmental norms, rather than a cost-benefit analysis, when setting goals of climate change mitigation).

46. *The Waxman-Markey Bill: A Good Start or a Non-Starter?*, Yale Env't 360, June 18, 2009, http://e360.yale.edu/content/feature.msp?id=2163 [hereinafter *A Good Start*] (statement of Angela Anderson, Program Director for the U.S. Climate Action Network) ("The U.S. tradition on environmental protection seems to dictate that the most difficult step is the first one. Whether it is clean water, clean air, or ozone depletion, we have never been able to pass a bill and walk away. We set the policy in place, fight for swift and stringent implementation, sue when we need to, and go back to Congress if we haven't gotten it right.").

47. *Cf.* Cary Coglianese, *Social Movements, Law, and Society: The Institutionalization of the Environmental Movement*, 150 U. Pa. L. Rev. 85 (2001) (describing the conventional view that environmental legislation will reliably lead to greater public demands for environmental protection and then challenging this view).

national regulation is seen as the priming agent for the public acceptance of greater levels of future national and international regulation.

Finally, this mechanism includes the process of constructing coalitions between environmental groups and industry. National-level legislation often requires an industry-environment alliance (the so-called Blue Green Alliance[48]). The process of drafting and implementing national legislation requires environmental and industry groups to learn about the other's concerns and compromise. Coalition-building can be a positive experience that outlasts the initial legislative goal, developing trust between antagonists and making participants willing to take further steps together.

Not all of these arguments should lead us to embrace national legislation. Educating the public regarding the dangers of climate change is a positive action. If the public underestimates either the probability or the extent of climate change harms, then educating both the general public and industry is an uncomplicated benefit to better policymaking. If there is a danger to this mechanism, however, it is linking the dangerous effects of climate change to the idea that national legislation will address the problem. As Cary Coglianese and Jocelyn D'Ambrosio argue with regard to the influence of state regulation on the popular demand for federal regulation, noncomprehensive measures can lull the public into believing that meaningful legislation has been passed and thus dampen the demand for further action.[49] The passage of a national climate change bill, in isolation, will not solve the problem of climate change, but the public may believe either that the necessary action has been taken or that the public has done its share to reduce greenhouse gas emissions. In the United States, for example, citizens may feel that their state has taken an important step and now it is up to others (perhaps China) to continue the progress. Therefore, rather than energizing the public to demand greater action, national-level legislation can be a stumbling block to an international agreement, leading to public complacency about climate change.

In addition, the public's experience with national climate change regulation may not be positive. In the context of American legislation, the costs of greenhouse gas regulation are still unknown. High energy costs could erode public support for environmental regulation. The benefits of climate change mitigation may also be difficult for the public to observe. Unlike with clean air or water legislation, there are no local climate change benefits to reducing greenhouse gases for voters to observe. In the news media, the public is likely to

48. The Sierra Club and the United Steelworkers have created the Blue Green Alliance. *See* Steven Greenhouse, *Millions of Jobs of a Different Collar*, N.Y. TIMES, Mar. 26, 2008, at SPG1.

49. Coglianese & D'Ambrosio, *supra* note 42, at 1425 ("[I]ncremental policies may lull the public into thinking climate change is being addressed, thus dampening demand for the costly and comprehensive policies that will achieve the most meaningful results. In the wake of a proliferation of incremental policies, comprehensive solutions must garner additional support in order to overcome bias toward the status quo.").

still hear that the dangers of climate change are imminent, both because of carbon leakage and because the current legislative proposals will produce few short-term benefits (even if carbon leakage is zero). These factors, alone or in combination, could push public opinion in unexpected directions, making the public enthusiastic for, or cynical about, future regulation. It could lead to greater demand for greenhouse gas limitations. Alternatively, it could make the public skeptical about the benefits of further regulation.[50]

Lastly, political coalitions between industry and environmental groups for national-level legislation may prove fleeting. Industry groups may support an international agreement on climate change, particularly if the industry has green energy supplies or low-energy production processes to export. But some industries' support may stop at the water's edge. If industry groups supported national legislation for protectionist benefits (such as a carbon tariff) or to avoid stricter international regulation, then these alliances may be quite fragile. For instance, a domestic cap-and-trade system that provides carbon-heavy producers with free carbon permits could entrench resistance to an international agreement that would not similarly provide free permits. Support for the domestic-level measure by industry can be a strategic move to establish a level of national regulation that satisfies public demands to take action on climate change but avoids more stringent global regulation. Environmental groups may overinvest political capital in national legislation and industry alliances. If the ultimate goal is to secure an international agreement, environmental groups may not be able to rely on the industry relationships that they cultivated for national-level regulations, as such support may erode as regulatory costs increase.

In the end, some incremental measures may move us closer to a solution for climate change, while other measures may make the path to an international agreement more difficult.[51] The crucial question is how these incremental measures influence domestic support (at home and abroad) for an international agreement. Although there may be a natural feeling that something must be done about the problem of climate change, not all national-level measures will produce dynamic benefits. To be clear, this is not to say that the United States should not pass climate change legislation. The dangers of global warming are real, and the United States needs to be part of the global solution. The nation's goal must be to pass legislation that produces positive dynamic effects. Adopting legislation with negative dynamic effects can be worse than doing nothing at all. This project seeks to provide a framework for analyzing the

50. *Id.* ("[T]he failures of incremental climate change policies might breed increased cynicism about whether any policy solution can work. When small commitments fail to produce large policy pay-offs, policies can become harder, not easier, to expand.").

51. For opposing viewpoints on incremental measures, see Freeman & Guzman, *supra* note 4 (arguing in favor of U.S. unilateral action even without action by other states); and Posner & Sunstein, *supra* note 4, at 1600-01 (noting the minimal or zero effect of U.S. unilateral action).

positive and negative feedback effects of national-level measures. By better understanding what measures provide a basis for greater support for an international agreement, and what measures are likely to be pitfalls, we can better analyze which legislative proposals are worth pursuing.

II. National Regulatory Efforts

This Part argues that national climate change legislation cannot provide a solution to the problem of climate change in the absence of an international agreement. It explains why this is true of both national action in isolation and a series of uncoordinated national actions undertaken by multiple states. Section II.A discusses the global nature of climate change as well as how carbon leakage undermines national regulation. Section II.B explains how uncoordinated action by many states is also highly unlikely to produce sustainable levels of greenhouse gas emissions. States have vastly different views of what a fair division of greenhouse gas emissions between nations would be. A series of uncoordinated national measures is better than nothing (so long as levels of carbon leakage are sufficiently low), but these uncoordinated actions cannot be expected to achieve a sustainable level of global emissions. Even with national legislation, an effective solution to the problem of climate change requires an international agreement. Thus, if the ultimate goal is to provide the public good of mitigating global warming, the critical issue for evaluating the usefulness of national regulation is its ability to aid international negotiations.

A. National Regulation of Greenhouse Gas Emissions

The planet's atmosphere is a public good, and climate change constitutes a public bad.[52] Climate change is "public" in that it works on a global scale.[53] There is only one atmosphere, which all nations share. Greenhouse gases produced anywhere on the globe circulate throughout the world.[54] Even though

52. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 Science 1243, 1244-45 (1968); *see also* David Archer, Global Warming: Understanding the Forecast 169-72 (2007) (discussing how global warming is a tragedy of the commons on a global scale); William D. Nordhaus & Joseph Boyer, Warming the World: Economic Models of Global Warming 3 (2000) (same); Joseph E. Stiglitz, Making Globalization Work 162-66 (2006) (same).

53. *See* Paul G. Harris, *Collective Action on Climate Change: The Logic of Regime Failure*, 47 Nat. Resources J. 195 (2007) (applying Mancur Olson's theory of collective action to climate change); John K. Setear, *Learning To Live with Losing: International Environmental Law in the New Millennium*, 20 Va. Envtl. L.J. 139 (2001) (discussing the complexities of global public goods and the difficulty of reaching an international agreement).

54. *See* Richard T. Wright, Environmental Science: Toward a Sustainable Future 546-47 (9th ed. 2005) (explaining the greenhouse gas effect and the fact that climate depends on the Earth's overall concentration of greenhouse gases).

climate change will have varying effects on different parts of the world,[55] all nations will be affected by climate change regardless of whether they have produced greenhouse gases or not.[56] As China's lead climate negotiator, Yu Qingtai, stated: "Not a single country in the world will be able to stay out of trouble. . . . Not a single country can say that it can keep safe and intact from global warming."[57]

Because the world's atmosphere is a global commons, the benefits of climate change mitigation efforts undertaken by one state are not reaped locally.[58] The benefits of that state's efforts are available to all users of the planet's atmosphere, regardless of whether those users are contributing to the mitigation efforts.[59] That state also cannot enclose the commons and thus exclude others from profiting from the state's investment. Greenhouse gases circulate freely throughout the globe, so any decrease in greenhouse gases made in one location cannot be captured as a climate benefit to that location.[60]

Consequently, the political process for dealing with global greenhouse gas pollution is very different from that for dealing with local pollution. Citizens of the territory producing the greenhouse gases do not internalize fully the costs of the pollution that they are producing because the harms of greenhouse gas pollution are partly borne outside of the polluting jurisdiction. In addition, the national government will not fully internalize the benefits of greenhouse gas mitigation efforts, because only part of the mitigation's benefits will be reaped within the jurisdiction. If the public demands regulation such that the costs of greenhouse gas reduction are equal to the benefits, then the demand for unilateral greenhouse gas reduction will be too low to support sufficiently robust regulations.[61]

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55. *See* NORDHAUS & BOYER, *supra* note 52, at 82 (discussing the disparate health impacts of global warming).

56. For a map illustrating the worldwide impact of climate change on physical and biological systems and surface temperatures, see INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 32 fig.1.2 (2007) [hereinafter IPCC REPORT], *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf.

57. *See* Michael Wines, *China Sees Progress on Climate Accord, but Resists an Emissions Ceiling*, N.Y. TIMES, Aug. 5, 2009, at A8 (internal quotation marks omitted).

58. *See* ARCHER, *supra* note 52, at 169-72.

59. *See* STIGLITZ, *supra* note 52, at 162-66.

60. Roberta Mann, *Waiting To Exhale?: Global Warming and Tax Policy*, 51 AM. U. L. REV. 1135, 1144-45 (2002) (discussing global warming as a tragedy of the commons); Frederick A.B. Meyerson, *Population, Development and Global Warming: Averting the Tragedy of the Climate Commons*, 19 POPULATION & ENV'T 443 (1998); Hugh Ward, *Game Theory and the Politics of the Global Commons*, 37 J. CONFLICT RESOL. 203 (1993) (discussing global warming as a tragedy of the commons where collective action is blocked by national interests).

61. Stavins, *National Climate Change Policy*, *supra* note 3.

National-level efforts are undermined further by carbon leakage.[62] When one jurisdiction imposes environmental regulations on its local producers, the effect is one of raising production costs in that jurisdiction and causing more production to occur in jurisdictions with lower regulation.[63] As a result of carbon leakage—the migration of greenhouse-gas-heavy production processes to low-regulation jurisdictions—the ultimate global effect of local measures cannot be judged only on the level of reduction of greenhouse gas production in the local jurisdiction. Rather, it must include an analysis of whether the local measure increases or decreases worldwide greenhouse gas emissions.[64] The possibility of carbon leakage has led Eric Posner and Cass Sunstein to suggest that unilateral reduction of greenhouse gases by the United States would have "little effect on overall climate change."[65]

Leakage can occur in two ways.[66] First, and most obviously, factories can relocate to the low-regulation state.[67] The decision of the firm here is economic, taking into account the cost differences between producing in a high-regulation state versus a low-regulation state. Second, even without plant relocation, carbon leakage can occur through pricing.[68] If a jurisdiction imposes environmental regulation, the regulation will raise the price of the good, and the demand for the local good will decrease. Producers of the same good in jurisdictions with low environmental regulation can expand their production and increase their exports of the lower-cost good abroad.[69] Such would be the case with the production of American and Chinese steel. If the United States imposes environmental regulations on the American steel companies, which raises the cost of steel production, then demand for American steel at home and abroad will decrease. If China does not also impose higher environmental standards, then Chinese steel companies can expand their production of steel domestically and then export more steel abroad. As a result, the level of carbon-

62. Mustafa H. Babiker, *Climate Change Policy, Market Structure, and Carbon Leakage*, 65 J. Int'l Econ. 421 (2004); Sean T. Fox, *Responding to Climate Change: The Case for Unilateral Trade Measures To Protect the Global Atmosphere*, 84 Geo. L.J. 2499 (1996); Jonathan B. Wiener, *Property and Prices To Protect the Planet*, 19 Duke J. Comp. & Int'l L. 515 (2009).

63. *See* Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 Yale L.J. 677, 692-93 (1999).

64. Richard B. Stewart & Jonathan B. Wiener, Reconstructing Climate Policy: Beyond Kyoto 83-94 (2003).

65. Posner & Sunstein, *supra* note 4, at 1600-01 (2008).

66. Wiener, *supra* note 42, at 1967-73; *see also* Trevor Houser et al., Leveling the Carbon Playing Field: International Compensation and US Climate Policy Design 2-10 (2008).

67. Wiener, *supra* note 42, at 1967-68.

68. *Id.*

69. *Id.*

intensive production processes can increase in low-regulation states even without factory relocation.[70]

Carbon leakage is important to any analysis of national climate change measures because lower greenhouse gas emissions may lead to increased greenhouse gas emissions in another jurisdiction.[71] The extent of the leakage is an empirical question, but we know what the relevant factors are for answering this question.[72] One would need to consider the percentage of the carbon-intensive production that will move to a different jurisdiction (through either factory relocation or the price effect) and whether production in the low-regulation state is dirtier, cleaner, or the same as in the first one.[73] It is possible that local environmental measures will result in globally lower greenhouse gas emissions, higher emissions, or no difference whatsoever.[74] In the absence of a comprehensive international agreement, the actions of one nation to decrease its greenhouse gases will not necessarily result in lower worldwide levels of greenhouse gas emissions.

National-level measures are appealing because governments can implement these measures without an international consensus on how to construct a comprehensive solution.[75] If each state determines what its fair share of global greenhouse emissions should be, however, levels of greenhouse gases will be far above sustainable levels. This is not because of the bad intentions of any one state (or group of states) but because of different conceptions of what each state's fair share of global emissions is. While uncoordinated national-level measures might slow the rate of greenhouse gas emissions below what the rate would be with no national-level legislation at all, states tend to view their current rates of emissions (and even increased rates of emissions) as their fair share of global carbon emissions. As a consequence, national measures can only be interim steps to a global climate change solution.

70. *Id.*

71. Wiener, *supra* note 63, at 692-93.

72. HOUSER ET AL., *supra* note 66, at 2-10.

73. *Id.*

74. Babiker, *supra* note 62, at 441-43.

75. This is not to say that states (or the citizens within states) do not or should not have some moral obligation to undertake greenhouse gas reductions on a national level. What is morally required depends on one's moral philosophy. The argument here is that as a *consequential matter*, national regulation is not an effective means to ensure a globally sustainable level of greenhouse gas emissions. This argument has implications for moral requirements, though, if morality requires us to be concerned with the direct and indirect effects of our actions.

B. The Ineffectiveness of Uncoordinated National Policies

The difficulties in regulating greenhouse gases through national legislation remain even if many states decide to adopt domestic measures to curb greenhouse gas emissions. There is broad agreement among governments that climate change is happening and that it will lead to extreme environmental and economic results.[76] Yet there is no agreement on what criteria should inform the regulation of the planet's atmosphere going forward.[77] For example, should a state's past contribution to the current stock of greenhouse gases factor into the analysis? What about a state's level of development or population? Governments appear willing to bear a proportionate cost of solving the problem,[78] but what is a proportionate burden itself depends on what each state considers the relevant criteria of a fair regulatory scheme to be.[79] Among nations, there are widely divergent views of how to divide global greenhouse emissions, which current international law does not resolve.[80] As a result, the

76. *See* IPCC Report, *supra* note 56, at 2 (stating that the existence of global warming is "unequivocal" and that most of the temperature increase is "very likely" due to human activity); *see also* Wright, *supra* note 54, at 551-59 (noting scientific consensus that anthropogenic climate change is occurring and will persist with significant effects).

77. *See* Anil Agarwal, Ctr. for Sci. & the Envt., Making the Kyoto Protocol Work: Ecological and Economic Effectiveness and Equity in the Climate Regime 11-12 (2000); Ambuj D. Sagar, *Wealth, Responsibility, and Equity: Exploring an Allocation Framework for Global GHG Emissions*, 45 Climate Change 511, 512 (2000); Cass R. Sunstein, *The World vs. the United States and China? The Complex Climate Change Incentives of the Leading Greenhouse Gas Emitters*, 55 UCLA L. Rev. 1675 (2008); Sven Bode, *Equal Emissions per Capita over Time—A Proposal To Combine Responsibility and Equity Rights* (Hamburg Inst. of Int'l Econ., Discussion Paper No. 253, 2003), *available at* http://ssrn.com/abstract=477281.

78. Peter Singer, One World: The Ethics of Globalization 14-43 (2002).

79. *See* Daniel Bodansky, Pew Ctr. on Global Climate Change, International Climate Efforts Beyond 2012: A Survey of Approaches (2004), *available at* http://www.pewclimate.org/docUploads/2012%20new.pdf (discussing over forty different approaches to dividing global greenhouse gases).

80. Neither of the two existing multilateral agreements addressing climate change provides a roadmap of how to achieve a sustainable level of greenhouse gases. The first major climate change agreement, the United Nations Framework Convention on Climate Change (UNFCCC), commits all Member States to address climate change issues but does not include any concrete emissions targets. United Nations Framework Convention on Climate Change art. 4, U.N. Doc. A/AC.237/18 (Part II)/Add.1, 31 I.L.M. 849 (May 9, 1992). States can continue with their usual production of greenhouse gases and be in compliance with the treaty. There is near universal ratification of this agreement, arguably because the treaty imposes no real costs on governments. Jana von Stein, *The International Law and Politics of Climate Change: Ratification of the United Nations Framework Convention and the*

alternative to an international agreement—uncoordinated national action—will not be an effective means of addressing global warming. A series of uncoordinated national regulations will be better than no regulation (if carbon leakage levels are sufficiently low), but it will not provide a lasting solution to the dangers of climate change. This is not because any one nation has bad motives or is free-riding. Rather, if each government acts on its own conception of its fair level of emissions, then global emissions will be above sustainable levels.

In this debate, there are no neutral principles. Even non-nation-based regulations, such as establishing a global uniform tax on all greenhouse gas emissions or a global cap-and-trade system, are controversial.[81] A uniform tax

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Kyoto Protocol, 52 J. CONFLICT RESOL. 243, 244, 248 (2008) (explaining how countries could join the UNFCCC without fear of violating the agreement because the treaty did not create sufficient concrete incentives for countries to improve their behavior). The next major agreement, the Kyoto Protocol, builds on the UNFCCC treaty and imposes an obligation on developed states to reduce emission levels using a current-levels dividing principle. Kyoto Protocol to the United Nations Framework Convention on Climate Change, arts. 3-8, U.N. Doc. FCCC/CP/1997/L.7.Add.1, 37 I.L.M 22 (Dec. 10, 1997) [hereinafter Kyoto Protocol]. Developed countries, defined as those states identified in Annex I, have an obligation to reduce emissions from a year 1990 baseline. Kyoto Protocol art. 3. The list includes Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, European Community, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, and Ukraine.

Developing countries, identified in Annex II, have no specific obligations to reduce greenhouse gases at all. Kyoto Protocol art. 10. Going forward, engaging developing states in climate change mitigation is critical to achieving a viable solution. China has become the largest greenhouse gas producer; thus, a comprehensive treaty regime cannot exclude China from any obligations. Yet, unsurprisingly, extending the Kyoto Protocol's current-levels dividing principle to developing countries is a nonstarter for developing countries. *See* AGARWAL, *supra* note 77, at 3. Most notably, China and India have rejected the model of the Kyoto Protocol as the basis for a multilateral regime that could be expanded to include all major greenhouse gas producers. *See* Mark Landler, *Event Shows U.S.-India Split on Climate*, N.Y. TIMES, July 19, 2009, at A6. These governments argue that Kyoto's dividing principle is unacceptable when applied to developing states because it does not allow developing countries to industrialize by "dirty" means (as the Annex I countries did), and it does not hold the developed world accountable for the decades of emissions that have created the current stock of greenhouse gases. *Id.*

81. Cédric Philibert, *Lessons from the Kyoto Protocol: Implications for the Future*, 5 INT'L REV. ENVTL. STRATEGIES 311, 316 (2004) (noting that "[a]t the international level, uniform tax rates are required for reasons of cost-effectiveness, but the resulting distribution of costs may be unacceptable, especially by developing

or uniform market price assumes that all producers of greenhouse gases *should* pay the same amount for their emissions. Advocates from developing countries argue that developed countries industrialized when there was no tax and thus have gained the advantage of development for free.[82] They argue that emissions from developing countries should be taxed at a lower level than those from developed states. Policymakers in developed states who worry that such lower tax rates would put their industries at a competitive disadvantage oppose this approach.[83]

There are wide and significant differences among nations' views of how to regulate the planet's atmosphere.[84] The fight is largely distributional: How much should each state have to contribute to mitigation efforts? This Section reviews three different approaches to distributing the costs of global greenhouse gas regulation. The Section discusses these approaches to demonstrate the heterogeneity of views concerning who should bear the costs of mitigating climate change. Recognizing the wide difference between states' approaches to reducing greenhouse gas emission is critical to understanding why a series of unilateral measures will not be a successful *global* strategy. Each approach has significantly different implications for allocating emissions levels among states. If each state simply adopts its preferred approach, then global greenhouse gases will quickly surpass sustainable levels. Consequently, governments must reach an agreement on a coordinated strategy, i.e., a treaty, for there to be a lasting solution.

The three approaches to greenhouse gas regulation reviewed in this Section are not the universe of possible approaches. Rather, these three approaches are representative of the types of concerns that states offer when advocating for their preferred approach. The three main approaches set different baselines by which to limit national emission levels. Those baselines are: (1) the state's current level of emissions; (2) the state's historic levels of emissions; and (3) the state's level of emissions relative to some domestic measure, such as gross domestic product or population. Each approach creates a different principle for dividing use rights to the global commons. The goal here is to demonstrate the wide difference in states' positions, not to advocate one principle over another.

Industrialized states have endorsed the view that an international agreement should adopt status quo levels of emissions and reduce emission

countries, likely to ask for side-payments" and that these issues would make a global tax extremely difficult).

82. J. Timmons Roberts & Bradley C. Parks, *Ecologically Unequal Exchange, Ecological Debt, and Climate Justice: The History and Implications of Three Related Ideas for a New Social Movement*, 50 Int'l J. Comp. Soc. 385, 388 (2009) (describing the view that the developing world is owed an "ecological debt" by industrialized nations and discussing the development of a "climate justice" movement expressed by the G-77 and China at UNFCCC negotiations).

83. *Id.*

84. *See* Bodansky, *supra* note 79.

levels from this baseline.[85] This dividing principle thus gives precedence to the state's current level of emissions. This is the approach of the Kyoto Protocol for commitments by developed states and the approach of current United States legislative proposals. Whatever the state's level of emissions was in a chosen year—the year 1990 for the Kyoto Agreement (*only* with regard to developed states) and the year 2005 for the Lieberman-Warner bill (for all states)—becomes the standard from which the state must progressively decrease emissions levels.[86] On one side, this seems to be an intuitive bargaining principle: There is a global problem, and all states (or all developed states for the Kyoto Protocol) need to take steps to decrease their greenhouse gas emissions by some roughly equal rate. To the extent that we think international bargaining includes a status quo bias, this approach is cognitively appealing because it requires the least deviation from current practice.[87] Yet it is also an odd principle because it is the opposite of the "polluter pays" rule.[88] Rather than having an obligation to contribute *more* to the mitigation efforts, countries retain *greater* rights to emit if they have been significant emitters in the past. Developing states have resisted the idea that 1990 emissions levels or current emissions levels should be used as a baseline to reduce emissions globally. The Chinese and Indian governments, in particular, have been vocal in criticizing the current levels of emissions standard as one that would make it more difficult to raise living standards in already poor countries.[89]

In stark contrast with the current level of emissions standard, the "climate debt" or historic levels of emissions standard focuses on which states have

85. Kyoto Protocol, *supra* note 80, art. 3, para. 1 (obligating Annex I countries to reduce emissions by varying amounts below 1990 levels by 2008 to 2012).

86. Lieberman-Warner Climate Security Act of 2008, S. 3036, 110th Cong., tit. I, § 1201. The text places a ceiling on the total emissions allowances granted by the bill to covered entities. These goals are based on 2005 levels, mandating reductions of 4% by 2012, 19% by 2020, and 71% by 2050. Kyoto Protocol, *supra* note 80, art. 3, para. 1.

87. *See* William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. Risk & Uncertainty 7 (1988).

88. Stiglitz, *supra* note 52, at 175 ("[N]o one has really provided a reasoned defense of the premise underlying Kyoto."); *see also* Rio Declaration on Environment and Development, Principle 16, U.N. Doc. A/Conf.151/5/Rev.1, 31 I.L.M. 874 (June 14, 1992) ("National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.").

89. *See* Posner & Sunstein, *supra* note 4, at 1600 (discussing the Chinese government's demand that climate change mitigation efforts not restrict its ability to develop); Landler, *supra* note 80.

caused the current environmental harm.[90] Under this approach, developed states have created the global warming crisis and, thus, should bear the financial burdens of keeping emissions within sustainable levels. Much closer to the polluter pays principle, this approach is supported largely by states that are particularly vulnerable to the effects of climate change: island nations, states with low-lying cities, and states that do not have the wealth or technology to adapt to new climate patterns. It is not the mirror image of the current levels approach, however, because recent major emitters (namely China and India) would not have the same obligation to reduce emissions radically. Advocates of the climate debt approach to dividing emissions rights generally demand that developed nations make drastic cuts in their emissions levels—decreases of 40% to 50% of 1990 levels—by 2020.[91] As one would expect, policymakers in the developed world reject this approach as requiring too sweeping a change from the status quo.[92]

Other standards have been put forward that would link the states' emissions rights to national measures.[93] These standards embody a no-fault principle as to past greenhouse gas contributions by dividing emissions by metrics such as gross national product (GNP) or population size. The GNP measure tends to favor developed states, which have higher levels of production and is opposed by developing states, which argue that limiting a state's emissions rights is de facto limiting its means of development (and thus reifying the current levels approach). The per capita approach favors developing states that already have low per capita rates of greenhouse gas emissions. The per capita principle is an appealing one if the global atmosphere is considered a good to which all people should have an equal share. The per capita differences between states are also striking. In 2006, the average greenhouse gas emission

90. *See* Denis McDonough & Rebecca Schultz, Ctr. for Am. Progress, Balancing Our Climate Debt: The Group of Eight Have an Obligation, June 1, 2007, http://www.americanprogress.org/issues/2007/06/g8_climate_debt.html; Posting of Andrew C. Revkin to DOT EARTH, http://dotearth.blogs.nytimes.com/2009/11/10/fresh-demands-from-front-line-states-in-climate-fight/ (Nov. 10, 2009, 10:56 EST).

91. Posting of Elisabeth Rosenthal to DOT EARTH, http://dotearth.blogs.nytimes.com/2009/04/10/rich-poor-divide-still-stalls-climate-accord/ (Apr. 10, 2009, 10:26 EDT).

92. SINGER, *supra* note 78, at 14-43; STIGLITZ, *supra* note 52, at 175; *see also* Rosenthal, *supra* note 91 (reporting that developed states consider such a radical revision absurd).

93. *See* BODANSKY, *supra* note 79 (summarizing forty-four different principles); *see also* AGARWAL, *supra* note 77, Bode, *supra* note 77; Eric A. Posner & Cass R. Sunstein, *Should Carbon Emission Be Allocated on a per Capita Basis?*, 97 CAL. L. REV. 51 (2009) (arguing against this standard); Mathias Risse, *Who Should Shoulder the Burden? Global Climate Change and Common Ownership of the Earth* (Harvard Kennedy Sch. Faculty Research Working Paper Series, Paper No. RWP08-075, 2008), *available at* http://ssrn.com/abstract=1338257.

rate per capita in India was 1.16 tons and in China was 4.58 tons.[94] By contrast, the American per capita rate was 19.78 tons, and the German per capita rate was 10.40 tons.[95]

None of the three approaches outlined here need be adopted in its pure form. An international agreement can emerge from a mix of these considerations—for instance, a current levels baseline model with significant financial and technological transfers to developing states. Nonetheless, states need to engage one another in international negotiations to reach such an agreement. Because there is such a wide divergence between the views of governments on what a "fair" division of greenhouse gases entails, it is highly unlikely that a consensus will emerge without international talks. A compromise is reachable but almost certainly will not emerge from a series of unilateral national-level measures.

In sum, policymakers and academics alike acknowledge that the only means of successfully addressing the threat of climate change is an international agreement that includes the major greenhouse gas producers and most of the potential major greenhouse gas producers. Given the current state of technology, no one state can provide a clean atmosphere unilaterally, so collective action is necessary. Although uncoordinated national measures may succeed in lowering a nation's greenhouse gas emissions, these measures cannot assure that worldwide emissions will not be excessive. Only through *coordinated* multilateral action, i.e., treaty negotiations, can governments be confident that any mitigation efforts they take will result in a comprehensive solution to the dangers of climate change.

III. Analysis of Legislative Proposals

This Part examines four causal narratives of how national legislation can lead to greater support for an international agreement: (1) that national legislation directs economic resources to industries that will support an international agreement; (2) that national legislation demonstrates international leadership on climate negotiations, which will make an agreement easier to reach; (3) that industry will demand an international solution rather than accept a patchwork of national-level standards; and (4) that experience with a national-level environmental regime will foster a popular constituency that will demand a more comprehensive solution. It discusses current legislative proposals as examples of how national legislation can have mixed effects on international bargaining. It is not intended to be a section-by-section review of American legislation on climate change (the final form of which has yet to take shape). Rather, the following discussion illustrates how different legislative

94. *See* Union of Concerned Scientists, Each Country's Share of CO2 Emissions, http://www.ucsusa.org/global_warming/science_and_impacts/science/each-countrys-share-of-co2.html (last visited July 1, 2010).

95. *Id.*

provisions can have effects that are both helpful and detrimental to the conclusion of a comprehensive global warming agreement. In addition, it discusses legislative provisions as if they are independent, treating the domestic cap-and-trade program, for instance, separately from the proposal for a carbon tariff. This approach makes sense because the dynamic effects of each provision are different. The political reality in Washington may be that these provisions are linked; legislative support for a cap-and-trade program may be contingent on the acceptance of trade restrictions on foreign goods. Although a final legislative proposal may be a package deal politically, this analysis treats the design elements independently to highlight the dynamic and static effects of each.

Section III.A details the conventional wisdom that the proposed legislation is a stepping stone to an international agreement. Sections III.B and III.C analyze two design elements of the legislative proposals: (1) the proposed national cap-and-trade system; and (2) the proposed carbon tariff. The cap-and-trade system has mixed dynamic effects. The most positive effects are the incentive for low-cost reducers of emissions to cut their emissions significantly, and the incentive for greater research (at home and abroad) into cleaner sources of energy. There are some negative dynamic effects, such as the location of emissions-heavy production processes outside of the regulatory areas. The most important effect is not immediate carbon leakage, but "political leakage"—the growth of an industrial sector that has reason to oppose an international agreement. The second design element, the carbon tariff, also has mixed effects. Used as a multilateral sanctioning device, i.e., used as part of an international regime, a carbon tariff can help solve the free-riding and hold-out problems inherent in an international public goods agreement. Yet when the carbon tariff is used by one state in isolation, the negative dynamic effects are significant. When implementing a carbon tariff, a government unilaterally implements what it believes is an adequate environmental regulation. This can complicate international bargaining over greenhouse gas reductions and can distort public opinion about what a "fair" climate change agreement entails.

A. The Value of National Legislation

In the absence of prospects for a comprehensive international agreement in the near term, national and local governments have turned to domestic-level legislation to combat climate change.[96] Although there are serious questions about how effective such national or subnational measures will be in addressing global climate change issues, domestic legislation is politically achievable without multilateral consensus. Policymakers seeking to satisfy constituent

96. The European Union has established an emissions trading system. *See* Council Directive 2003/87, Establishing a Scheme for Greenhouse Gas Emissions Allowance Trading Within the Community and Amending Council Directive 96/61/EC, 2003 O.J. (L 275) 32.

demands that greenhouse gas emissions should be addressed are looking to their own legislatures.[97]

The conventional wisdom among interest groups, policymakers, popular commentators, and academics is that national climate change legislation is useful not because of its direct environmental effects but because it puts the nation on a path to achieving a comprehensive climate change solution. The United States could not provide the public good of sustainable global levels of greenhouse gases unilaterally, even if there were the political will to decrease American greenhouse gas emissions radically (a claim for which there is little evidence). Consequently, U.S. action needs to be seen in the context of collective action. The premise behind national-level climate change legislation is that it will lead to political changes at home and abroad;[98] that is, national-level emissions reductions will create a positive political feedback effect that will spur other states to alter their emissions levels as well and lead to greater support for an international agreement.

Discussions of the Waxman-Markey American Clean Energy and Security Act (the climate change bill that passed the House on June 26, 2009) as well as the Lieberman-Warner Climate Security Act (the Senate bill that failed to pass in 2008) reflect the accepted wisdom that national legislation will be a building block to an international agreement.[99] Although these climate bills are not sufficient to solve the problem of climate change, they set the United States on the path to greater international reductions in carbon emissions, greater domestic reductions, or both. For instance, President Obama's support for the Waxman-Markey Bill is premised on the assumption that it will produce a political dynamic that will lead to greater emissions reductions in the future.[100]

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97. In addition to federal measures, there are a variety of state and local climate change measures. Many states have adopted policies either unilaterally or regionally. For an accounting of such policies, see PEW CTR. ON GLOBAL CLIMATE CHANGE, CLIMATE CHANGE 101: STATE ACTION (2009), *available at* http://www.pewclimate.org/docUploads/Climate101-State-Jan09_1.pdf.

98. Posting of Andrew C. Revkin to DOT EARTH, http://dotearth.blogs.nytimes.com/2009/06/26/the-climate-bill-in-climate-context/ (June 26, 2009, 14:23 EDT) ("Some longtime opponents of regulatory approaches to climate run the numbers and show the scant impact of the bill in isolation. Supporters of the bill readily acknowledge that American action in isolation would be insufficient. But they say our action would galvanize the globe, including developing countries, to take on commitments, as well.").

99. Kevin Drum, *Is Waxman-Markey Worth It?*, MOTHER JONES, July 1, 2009, http://motherjones.com/kevin-drum/2009/07/waxman-markey-worth-it (arguing that the bill is worth passing because it provides the United States with a framework for more serious action in the future).

100. *See* Roundtable Interview, *supra* note 18. Former Vice President Al Gore noted that "[t]his bill doesn't solve every problem, . . . but passage today means that we build momentum for the debate coming up in the Senate and negotiations for the treaty talks in December which will put in place a global solution to the climate

President Obama responded to a question regarding European Union leaders' concerns that emission targets in the Waxman-Markey climate change bill are too weak by stating:

> Now, [Chancellor Angela Merkel and other European Union leaders] would like to see even more aggressive targets. My argument to her and to the Europeans is we don't want to make the best the enemy of the good . . . . I think legitimately people want the framework in place and for us to make strong, steady, gradual progress, as opposed to trying to shoot for the moon and not being able to get anything done. . . . I think that the Waxman-Markey bill represents a great start.[101]

Among academic commentators, the consensus is also that unilateral climate change legislation is a building block to a comprehensive agreement.[102] In fact, the vast majority of academic debate has been over whether national

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crisis." John M. Broder, *House Backs Bill, 219-212, To Curb Global Warming*, N.Y. TIMES, June 27, 2009, at A1 (internal quotation marks omitted).

101. Roundtable Interview, *supra* note 18.

102. *See* Robert N. Stavins, *A Meaningful U.S. Cap-and-Trade System To Address Climate Change*, 32 HARV. ENVTL. L. REV. 293 (2008) (arguing that the United States needs to adopt a national climate change program); Joseph E. Stiglitz, *A New Agenda for Global Warming*, 3 ECONOMISTS' VOICE 1, 1-4 (2006) (calling on the United States to reduce greenhouse gas emissions and advocating that other states impose trade sanctions on the United States if it does not); Freeman & Guzman, *supra* note 4, at 62 ("Though international cooperation should be pursued, the reluctance of others to fully engage the problem is not a sound reason for inaction by the United States. Whatever others do, the United States should move aggressively to reduce global GHG [greenhouse gas] emissions."); *see also* Reuven S. Avi-Yonah & David M. Uhlmann, *Combating Global Climate Change: Why a Carbon Tax Is a Better Response to Global Warming than Cap-and-Trade*, 28 STAN. ENVTL. L.J. 3, 21 (2009) ("[T]he United States remains a leading source of greenhouse gas emissions, and it is unlikely that the developed world will agree to mandatory reductions in 2012, if the United States has not taken steps to reduce its emissions before then. The new President and Congress in 2009 face the imperative of adopting measures to control greenhouse gas emissions in the United States and thereby establishing American credibility for the international negotiations on the next climate change treaty.").

Some commentators argue that unilateral measures should be taken in coordination with international action. *See* STEWART & WIENER, *supra* note 64, at 122-30 (arguing for a two-step program). Under Stewart and Wiener's framework, the United States first would adopt a voluntary emissions reductions program to help it prepare for later emissions reductions. The United States only would adopt the second step of mandatory reductions when it signed an international agreement with other major emitters. *Id.*

This view represents the conventional wisdom, but there are dissenting voices. *See* Posner & Sunstein, *supra* note 4, at 1600-01 (arguing that unilateral action by the United States produces little to no environmental benefit and thus would not pass a cost-benefit analysis); Sunstein, *supra* note 77, at 1677 (same).

legislation should take the form of a cap-and-trade system or a carbon tax, rather than whether national legislation should be undertaken at all.[103] A more limited debate also exists regarding the efficacy of state-level measures as a means of achieving (the presumably positive step) of uniform federal legislation.[104]

Similarly, interest groups have supported national legislation based on the idea that it is the first step to a more comprehensive solution. The United States Climate Action Partnership (USCAP), an NGO and industry group that lobbies on climate change,[105] argues that the "U.S. tradition on environmental

103. The literature is large. *See, e.g.*, STEWART & WIENER, *supra* note 64 (preferring the cap-and-trade system); Avi-Yonah & Uhlmann, *supra* note 102; Nathaniel O. Keohane, *Cap and Trade, Rehabilitated: Using Tradable Permits To Control U.S. Greenhouse Gases*, 3 REV. ENVTL. ECON. & POL'Y 42 (2009); Joseph E. Aldy & William A. Pizer, *Issues in Designing U.S. Climate Change Policy* (Res. for the Future Discussion Paper Series, Paper No. 08-20, 2008), *available at* http://www.rff.org/RFF/Documents/RFF-DP-08-20.pdf; Gilbert Metcalf & David Weisbach, *The Design of a Carbon Tax* (Univ. of Chi. Pub. Law Working Paper No. 254, 2009); Stavins, *supra* note 102; *see also* Paul Krugman, Op-Ed., *The Perfect, the Good, the Planet*, N.Y. TIMES, May 18, 2009, at A23 (arguing for a cap-and-trade system).

104. *See* Erik B. Bluemel, *Regional Regulatory Initiatives Addressing GHG Leakage in the USA*, *in* CLIMATE CHANGE AND EUROPEAN EMISSIONS TRADING: LESSONS FOR THEORY AND PRACTICE 225 (Michael Faure & Marjan Peeters eds., 2008) (arguing in favor of state-level measures); Carlarne, *supra* note 36 (same); Coglianese & D'Ambrosio, *supra* note 42 (arguing against the utility of state-level measures); DeShazo & Freeman, *supra* note 36, at 1500 (arguing that state-level measures are important catalysts for federal regulation); Douglas Kysar & Bernadette A. Meyler, *Like a Nation State*, 55 UCLA L. REV. 1621 (2008) (discussing the difficulty of establishing a robust state-level carbon trading system given American constitutional constraints); 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 (2008) (same); Patrick Parenteau, *Lead, Follow, or Get Out of the Way: The States Tackle Climate Change with Little Help from Washington*, 40 CONN. L. REV. 1453 (2008) (arguing in favor of state-level measures); Lesley Wexler, *Take the Long Way Home: Sub-Federal Integration of Unratified and Non-Self-Executing Treaty Law*, 28 MICH. J. INT'L L. 1, 18-20 (2007) (providing a framework for states and towns to implement the Kyoto Protocol without federal action); Wiener, *supra* note 42 (arguing against the utility of state-level measures); *see also* Jonathan Zasloff, *The Judicial Carbon Tax: Reconstructing Public Nuisance and Climate Change*, 55 UCLA L. REV. 1827 (2008) (advocating the use of public nuisance laws to decrease greenhouse gas emissions within the United States).

105. USCAP industry members include Alcoa, Dow, Duke Energy, DuPont, the Ford Motor Company, General Electric, General Motors, Johnson & Johnson, PepsiCo, Shell, and Siemens. Its NGO members include the Environmental Defense Fund, the Natural Resources Defense Council, the Nature Conservancy, and the World Resources Institute. United States Climate Action Partnership–About Us, http://www.us-cap.org/about-us (last visited July 1, 2010).

protection seems to dictate that the most difficult step is the first one . . . . But we shouldn't think for a second our job is done once the bill is passed."[106] The Union of Concerned Scientists, an NGO of environmental scientists, has supported domestic action, observing that the view among most advocacy groups involves an agenda through which they work together to strengthen the bill and ultimately see it enacted, while blocking political initiatives to water it down. The group added: "We also have to remember that it took many years to pass the Clean Air Act, which was later significantly strengthened through various amendments."[107] Even popular commentators have expressed the belief that the bill, even if flawed, is a step forward.[108] Paul Krugman has written that opponents of Waxman-Markey are "making the perfect the enemy of the good."[109]

In spite of the consensus that national climate legislation is a stepping stone to a more comprehensive solution, the mechanism for how it will occur is not fully articulated.[110] By more precisely articulating the underlying political logic, we see that it is far from obvious that the political dynamic is always supportive of greater environmental regulation. In particular, measures that are positive in a static sense can be self-defeating in a dynamic sense. This area is one where the institutional design of the national-level measure matters tremendously. As this Section demonstrates, however, each of these mechanisms has the potential to fizzle or even backfire, reducing political support for a comprehensive multilateral solution. All of these mechanisms can lead to greater support for an international agreement, but they can also entrench resistance to such an agreement. In other words, each can cut both ways. It is thus hard to predict whether national legislation will create greater support for an international agreement or entrench resistance against it. The framework developed here

106. *A Good Start*, *supra* note 46 (statement of Angela Anderson, Program Director for the U.S. Climate Action Network).

107. *Id.* (statement of Liz Martin Perera, Legislative Representative on Climate for the Union of Concerned Scientists); *see also id.* (statement of Denis Hayes, Chairman of the American Solar Energy Society) ("Waxman-Markey's flaws are huge but discrete, and they can be addressed in the years ahead.").

108. *Id.* (statement of Paul Hawken) (arguing that the Waxman-Markey bill "represents a direction, not a plan" and expressing the hope that "the bill will begin to form the basis of a more comprehensive energy strategy").

109. Krugman, *supra* note 103.

110. The consensus that the Waxman-Markey bill is a step forward to an international agreement is not unanimous. Most notably, Greenpeace has opposed the Waxman-Markey bill, stating: "The giveaways and preferences in the bill will actually spur a new generation of nuclear and coal-fired power plants to the detriment of real energy solutions. To support such a bill is to abandon the real leadership that is called for at this pivotal moment in history." Press Release, Greenpeace, Greenpeace Opposes Waxman-Markey: Climate Bill Not Science-Based; Benefits Polluters (June 25, 2009), *available at* http://www.greenpeace.org/usa/press-center/releases2/greenpeace-opposes-waxman-mark.

examines how national legislation will influence future political bargaining, both at home and abroad. Not all national-level measures are worth the political capital needed for passage. Some are worth pursuing but some are self-defeating.

B. The Proposed Cap-and-Trade System

1. The Cap-and-Trade Model

Almost all legislative proposals in the United States involve a cap-and-trade regime,[111] which is a system that imposes a ceiling on the level of emissions and then establishes a competitive market for the sale of emission rights.[112] A cap-and-trade system essentially privatizes the right to produce greenhouse gas emissions and turns the right into a tradable commodity.[113] This system deprives industrial producers (such as electricity plants) of the right to produce unlimited quantities of greenhouse gases. Under such a regime, the electricity plant would have to present an emissions credit for each unit of greenhouse gas it produced. If the electricity plant had an insufficient number of credits to cover its emissions, then it would have to purchase additional credits from other owners of credits. If the electricity plant had more credits than it needed, then it could sell its unused credits to other polluters. The process of buying and selling credits creates a market, where the price of a credit is determined by the demand and supply of credits.[114]

Credits can initially be dispensed in a number of ways.[115] The government determines how many total credits will be issued and thus sets a ceiling (or cap) on the level of greenhouse gas emissions in an industry. These credits can then be either allocated to industries (for free or for a set price) or sold at auction. The initial dispensing of credits has significant distributional effects—the government either gains the revenue from selling the credits at auction or gives the value of these credits to the industry—but the initial allocation should not

111. Keohane, *supra* note 103, at 42.

112. Brian C. Murray & Heather Holsterman, *Climate Change, Cap-and-Trade and the Outlook for U.S. Policy*, 34 N.C. J. Int'l L. & Com. Reg. 699, 707-10 (2009); Robert N. Stavins, *supra* note 102, at 296-99; *see also* Victor B. Flatt, *Taking the Legislative Temperature: Which Federal Climate Change Proposal Is Best?*, 102 Nw. U. L. Rev. 123, 135-138 (2007) (discussing specific legislative proposals).

113. For a general defense of a pollution rights system versus the alternative command-and-control system, see Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 Stan. L. Rev. 1333, 1335-40 (1985). *See also* Carol M. Rose, *Hot Spots in the Legislative Climate Change Proposals*, 102 Nw. U. L. Rev. Colloquy 189, 195 (2008) (describing cap-and-trade systems as creating property and discussing the political pitfalls of this approach absent sufficient monitoring).

114. Stavins, *supra* note 102, at 298-99.

115. Flatt, *supra* note 112, at 139-42; Stavins, *supra* note 102, at 298.

affect the functioning of the emissions credit market.[116] Once the government has allocated the credits, the price of each credit is determined by market forces, namely the industry need for more credits to cover its pollution and the number of excess credits available.[117]

A cap-and-trade regime, like a standard tax, raises the costs of carbon pollution. As the price of carbon increases, carbon reduction measures become more cost-efficient, so industries are more likely to take these measures. Other sources of energy also become more price-competitive. The promise of increasing costs on carbon production creates incentives to invest in cleaner energy sources because there is an expectation that the price of carbon emissions will continue to grow. All of this is good for the environment.

2. The Waxman-Markey Cap-and-Trade System

The Waxman-Markey bill establishes a cap-and-trade system for industries that are heavy greenhouse gas producers, including electricity producers, oil refineries, natural gas suppliers, and iron, steel, cement, and paper manufacturers.[118] Starting in 2012, all of these industries would have to present an emissions credit for each metric ton of carbon dioxide they produce. Other sources of pollution are brought under the cap by 2016.[119] The bill sets a cap for

116. Stavins, *supra* note 102, at 317-19.

117. *Id.* at 298 ("Regardless of how allowances are distributed initially, the need to surrender valuable allowances to cover any emissions and the opportunity to trade those allowances create a price signal for emissions. In turn, this price signal provides firms with an incentive to reduce emissions that influences their production and investment decisions. Because allowances are tradable, the ultimate distribution of emission reduction efforts necessary to meet the overall emissions cap is determined by market forces.").

Government action can influence the market in a number of ways. If the government decides to issue more credits than it initially allocated, then speculation can drive the price of credits down (because of the fear that there will be a flood of new supply). Changes in the government's definition of offsets can also affect the price of credits by increasing or decreasing the alternatives to credits.

118. H.R. 2454, 111th Cong., tit. III, subtit. E, § 312 (2009). For a detailed summary of the bill, see Pew Ctr. on Global Climate Change, Pew Center Summary of H.R. 2454: American Clean Energy and Security Act of 2009 (Waxman-Markey) (2009) [hereinafter Pew Center H.R. 2454 Report], *available at* http://www.pewclimate.org/docUploads/waxman-markey-detailed-summary-july2009.pdf.

119. In 2012, the program will cover an estimated 67% of U.S. emissions, while in 2014 it will cover 78% and in 2016 will reach its maximum of 85%. John Larsen & Robert Heilmayr, World Res. Inst., Emissions Reductions Under the Waxman-Markey Discussion Draft 4 (2009), http://pdf.wri.org/usclimatetargets_2009-04-22.pdf.

greenhouse gas production from these sources based on 2005 levels. Table 3 shows the emissions level goals and the total number of emissions credits available per year.

Table 3: Waxman-Markey Emissions Schedule[120]

Year	Cap on emissions, as reduction from 2005 levels	Number of emissions credits allocated, in billions (each credit covers one ton of carbon)
2012	3%	4.627
2020	17%	5.056[121]
2030	42%	3.533
2050	83%	1.035

In addition, the Waxman-Markey bill provides for offsets, which are credits for activities that decrease carbon levels, such as reforestation or preventing deforestation.[122] If an industry supports such an activity, then the industry can reduce the number of emissions credits that it needs to cover its pollution. As an example, assume that an electricity plant produces 100,000 tons of carbon dioxide per year. After 2012, the plant would have to provide 100,000 emissions credits to the government per year. If the electricity plant pays to put a forest under conservation (so the trees could not be harvested) and this is determined to capture 20,000 metric tons of carbon dioxide emissions, then the electricity plant would have to present only 80,000 emissions credits for that year.

Under the Waxman-Markey bill, polluters can claim up to two billion metric tons of carbon dioxide per year from offsets.[123] Offsets are not included

120. H.R. 2454, tit. III, subtit. A, § 311.

121. The number of emissions credits increases from 2012 to 2020 (in spite of the fact that carbon emissions are supposed to be lower by 2020) because the law progressively covers more entities.

122. *See* Steven Ferrey, *When 1 + 1 No Longer Equals 2: The New Math of Legal "Additionality" Controlling World and U.S. Global Warming Regulation*, 10 Minn. J. L. Sci. & Tech. 591, 604-10 (2009); Flatt, *supra* note 112, at 142-45; Murray & Holsterman, *supra* note 112, at 711-15; James L. Olmstead, *Carbon Dieting: Latent Ancillary Rights to Carbon Offsets in Conservation Easements*, 29 J. Land Resources & Envtl. L. 121, 122-24 (2009); Maria Savasta-Kennedy, *The Newest Hybrid: Notes Toward Standardized Certification of Carbon Offsets*, 34 N.C. J. Int'l L. & Com. Reg. 851, 858-71 (2009); *see also* Elizabeth Rosenthal, *In Brazil, Paying Farmers To Let the Trees Stand*, N.Y. Times, Aug. 22, 2009, at A1 (discussing such programs in Brazil and raising questions about these programs' effectiveness).

123. The U.S. Department of Agriculture (USDA), rather than the Environmental Protection Agency (EPA), determines what qualifies as an offset. Granting the offset authority to the USDA has been criticized because this agency does not have expertise in valuing carbon dioxide emissions. *See* Allison Winter, *Farm Groups Prevail as House Climate Bill Puts USDA in Charge of Ag Offsets*, Env't & Energy Daily, June 24, 2009, *available at* http://www.nytimes.com/cwire/2009/

in the national emissions cap. Thus, the actual level of U.S. carbon emissions per year is two billion tons higher than the scheduled amount. For instance, in 2012, covered industries will actually be able to emit up to 6.627 billion tons of carbon dioxide rather the published cap of 4.627 billion tons. Finally, the Waxman-Markey bill distributes emissions credits on a mixed free allocation and auction system. That is, when the government grants the yearly level of emissions credits, the government provides some of the credits at no cost to industry or public entities (including states) and sells the rest at a competitive price.[124] These allocations are scaled back over time.[125]

3. The Effect of the Waxman-Markey Cap-and-Trade System on International Negotiations

Imposing a cap-and-trade regime domestically directs economic resources toward industries in the United States that will have a greater incentive to support an international agreement. This happens for three reasons. First, U.S. industries that have to pay the carbon tax (directly through emissions credits or indirectly through higher electricity prices) will want other countries to have the same restrictions. Second, if the United States develops cleaner energy sources, these clean energy industries will want to expand the market for their products by raising environmental standards abroad. Third, and possibly most importantly, if there is innovation in the clean energy market, it has the potential to lessen the costs of addressing climate change, nationally and internationally. Innovation eases the distributional problem at the international level and makes an agreement easier to accept. These positive feedback effects are significant in developing support for an international agreement. As these effects are well-recognized in the academic and political press, this Subsection does not expand on them other than to emphasize the magnitude of the positive effects (particularly the innovation element).

On the economic reallocation downside, there are two main effects. First, there will be some carbon leakage to other states—some industries will shift production to other countries based on a number of factors such as tax rates, labor markets, the stability of the legal system, international barriers to trade, and transportation costs. On the margin, higher regulatory prices at home encourage relocation abroad. In the static analysis, this means that overall carbon emissions may increase. More important is the dynamic political effect of this leakage. If high-emissions industries move to developing countries, then we are changing the economic structure of those nations through selection

06/24/24climatewire-farm-groups-prevail-as-house-climate-bill-pu-24287.html (describing the debate over whether the EPA or the USDA should run the program and noting environmental groups' preference for the EPA).

124. *See* PEW CENTER H.R. 2454 REPORT, *supra* note 118, at app. A (summarizing the allocation of emissions allowances).

125. *Id.*

effects. Those economies may become more dependent on high carbon emissions and, worse, these industries may have greater political influence in developing states than they do in industrialized states. We might call this "political leakage." Although the cap-and-trade system increases demand in the United States for an international agreement, political leakage may decrease support for one in developing countries. In addition, the expectation that developing countries will progressively benefit from more relocation as the United States imposes gradually stricter environmental regulations makes the developing states want to remain open to the relocation of high-emissions industries.

It is unclear how much of the current impasse between the developed and developing countries observed at the G8 and the Copenhagen climate negotiations is a result of exactly these effects from EU regulations. Although the extent of current carbon leakage from EU emissions reductions is hard to determine (estimates range from as low as 5% to as high as 130%[126]), the expectation that developing countries can gain a competitive advantage from unilateral actions by developed states can decrease their support for an international agreement that includes their greenhouse gas emissions.

The primary noneconomic rationale for the Waxman-Markey bill is to establish U.S. leadership in international climate change negotiations. The view that the bill will signal leadership to the international community is widespread in the popular press. The Pew Center on Climate Change argues that:

> [t]he future of the international climate effort hinges in large measure on the United States, which as the world's largest economy and cumulative emitter of greenhouse gases, has both the capacity and the responsibility to lead. Other major emitters are unlikely to commit to stronger action without the United States.[127]

USCAP, the industry-environmentalist coalition, has also long argued that U.S. leadership is necessary for an international agreement on climate change and thus the United States needs to take domestic action to cut emissions, even if other nations do not take such action.[128]

126. *See* Babiker, *supra* note 62 (citing other studies that claim leakage rates are as low as 5% but finding that leakage could be as high as 130%).

127. Pew Ctr. on Climate Change, Climate Change 101: International Action 7 (2009), *available at* http://www.pewclimate.org/docUploads/Climate101-Intl-Jan09.pdf.

128. U.S. Climate Action P'ship, A Blueprint for Legislative Action: Consensus Recommendations for U.S. Climate Protection Legislation 3 (2009), *available at* http://www.us-cap.org/pdf/USCAP_Blueprint.pdf ("USCAP believes that international action is essential to meeting the climate challenge. U.S. leadership is essential for establishing an equitable and effective international policy framework for robust action by all major emitting countries. USCAP believes that adoption of mandatory U.S. climate policy is an essential precondition for a full and effective international framework. The mechanism that Congress establishes as part of U.S. climate legislation can play a crucial role

Environmental groups' support for the Waxman-Markey bill was explicitly linked to the international signal that the legislation would have.[129] Earthjustice supported the Waxman-Markey legislation, arguing that the "bill would provide needed momentum for an international climate agreement."[130] The Environmental Defense Fund described the legislation as historic because it places the United States in "a new position of leadership in the global effort to protect the climate."[131] The bill's detractors also explained their resistance in terms of the expected international effects. Greenpeace opposed the bill's "retreat from aggressive targets" because "[t]his legislation sends a strong and unmistakable signal to the world that the United States is not yet ready to show the leadership necessary to reach a strong agreement at Copenhagen in December [2009]."[132] The World Wildlife Fund expressed its view that the Waxman-Markey bill "falls short of what is needed to achieve a global agreement to manage climate change" and "[u]nless strengthened, this bill could undermine America's ability to secure an effective international agreement."[133] The key issue here is a comparative analysis of different signals:

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in encouraging broad international action. However, U.S. action to implement mandatory measures and incentives for reducing [greenhouse gas] emissions should not be contingent on simultaneous action by other countries.").

129. *See A Good Start*, *supra* note 46 (statement of Joseph Romm, Senior Fellow at the Center for American Progress) (noting that if the United States does not take any legislative action then "[s]erious U.S. action would be off the table for years, the effort to jumpstart the clean-energy economy in this country would stall, the international negotiating process would fall apart, . . . any chance of a deal with China would be dead[, and w]arming of 5 degrees C or more by century's end would be all but inevitable"). The Climate Group, a European environmental organization, agrees, noting that with the legislation, "the Obama Administration would have a domestically valid basis from which to negotiate international reduction targets in Copenhagen [in December 2009]." Press Release, Climate Group, Waxman-Markey Bill: Despite Compromises, A "Major Step in the Right Direction" (May 22, 2009), *available at* http://www.theclimategroup.org/our-news/news/2009/5/22/waxmanmarkey-bill-despite-compromises-a-major-step-in-the-right-direction/.

130. Press Release, Earthjustice, Earthjustice Thanks Chairmen Waxman and Markey for Leadership on Combating Climate Change (Mar. 31, 2009), *available at* http://www.earthjustice.org/news/press/2009/earthjustice-thanks-chairmen-waxman-and-markey-for-leadership-on-combating-climate-change.html.

131. Press Release, Environmental Defense Fund, Statement of EDF President Fred Krupp on House Passage of the American Clean Energy and Security Act (June 26, 2009), *available at* http://www.edf.org/pressrelease.cfm?contentID=10049.

132. Press Release, Greenpeace, Greenpeace Opposes Waxman-Markey (June 25, 2009), *available at* http://www.greenpeace.org/usa/press-center/releases2/greenpeace-opposes-waxman-mark.

133. Press Release, World Wildlife Fund, World Wildlife Fund Statement on the American Clean Energy and Security Act (May 14, 2009), *available at* http://www.worldwildlife.org/who/media/press/2009/WWFPresitem12397.html.

no national legislation, unambitious national legislation, and ambitious national legislation. Certainly, the bill demonstrates that the United States recognizes that global warming is a real environmental phenomenon that can lead to devastating consequences. This posture is arguably a change from United States policy that did not actively deny the existence of climate change but undertook little effort to decrease carbon emissions. Yet it is hard to argue that the acknowledgement of climate change is leadership.

Leadership involves both willingness to cooperate and the terms on which one will cooperate. The Waxman-Markey bill signals to the international community a willingness to reduce carbon emissions but also may signal the lack of political support for dramatic cuts. The current Waxman-Markey bill has been criticized from numerous sources for being insufficiently ambitious, particularly in the short term.[134] The United States has adopted modest goals for decreasing greenhouse gas emissions (17% of 2005 levels by 2020) and very liberal policies for carbon offsets (meaning that the actual cut in emissions will be much lower than 17%).[135] The rest of the world may see this as a statement that the United States is unwilling to shoulder much of the cost of climate change mitigation. Even with a Democratic President and Democratic control of both houses of Congress, the United States appears unable to adopt ambitious measures.

The crucial question here is how the signal will be interpreted compared to other signals. If the United States government fails to adopt any climate change legislation, then this failure would obviously be a worse signal. Beyond failing to lead, inaction would indicate that the United States is simply unwilling to engage in significant reductions of greenhouse gas pollution. The Waxman-Markey bill is an improvement over no action, yet it highlights a lack of political

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In the same vein, Congressman Dennis Kucinich of Ohio voted against the bill because the proposal did not go far enough to decrease emissions and thus "undermines our bargaining position in international negotiations in Copenhagen and beyond." Kucinich argues that "[a]s the biggest per capita polluter, we have a responsibility to take action that is disproportionately stronger than the actions of other countries." Press Release, Rep. Dennis Kucinich, Kucinich: "Passing a Weak Bill Today Gives Us Weak Environmental Policy Tomorrow" (June 26, 2009), *available at* http://kucinich.house.gov/News/DocumentSingle.aspx?DocumentID=134813.

134. Broder & Kanter, *supra* note 35 (reporting on Europe's pleasure with the Obama Administration's seriousness regarding climate change but displeasure with American short-term goals to reduce emissions); Greenpeace, *supra* note 132.

135. H.R. 2454, tit. III, subtit. A, § 311 (2009); *see* Stephan Power, *Impact of 'Offsets' To Reduce Emissions Is Uncertain*, WALL ST. J., June 27, 2009, at A2 (describing how two billion tons of the proposed reductions in greenhouse gas emissions could come from the offset system rather than current polluters); *see also* Posting of James Kanter to Green, http://greeninc.blogs.nytimes.com/2009/05/08/do-carbon-offsets-cause-emissions-to-rise/ (May 8, 2009, 6:50 EDT) (discussing research that suggests offsets do not lead to emission reductions and are difficult to verify).

will to lead in climate change negotiations. The bill signals that the United States is willing to curb greenhouse gas emissions but only to levels that would still allow the country to be among the planet's largest polluters, particularly over the next decade. Thus the bill may be a step toward an international agreement in that it demonstrates the willingness of the United States to engage in carbon emissions reductions, but it may simultaneously be a stumbling block as it announces how the United States expects to cooperate. This may be an advantageous bargaining position for the United States in terms of minimizing costs if an agreement is reached (by attempting to credibly signal that the United States will not bear more than a certain share of the common costs), but it also increases the likelihood that no international agreement will be reached.[136]

The third mechanism, creating a patchwork of regulations that inhibits interstate or international trade, is not one that comes into play in the cap-and-trade system. Unlike the California legislation that threatened to raise fuel economy standards for automobiles sold in California, the Waxman-Markey bill does not impose product standards, but rather taxes the carbon emissions in the manufacturing process.[137] That is, the bill does not regulate carbon emissions by banning the sale of end products that do not meet certain fuel-economy standards. For instance, American and foreign car companies are free to continue to sell SUVs and trucks that get relatively poor gas mileage on the American market.[138] As a result, there is no political rationale for manufacturers to demand uniform regulation at a higher government level (here, the international level). The bill permits the imposition of a carbon tariff on imported goods by 2020 (a design element that this Article addresses next) but only on goods from countries that have inadequate environmental regulations on the manufacturing process.[139]

The process of passing domestic legislation also raises public awareness of the problem of climate change. This can lead the public to change its beliefs about what needs to be done to address the issue. If the legislation makes the problem of climate change more salient or makes the public willing to shoulder a larger portion of the cost of an international agreement, then the legislation is a step forward. The cap-and-trade system can also build greater support among the public for additional environmental legislation by demonstrating that the legislation carries good value. If the public sees the benefits of the regulation and observes that the economic costs are low, then the public might demand

136. *See* Putnam, *supra* note 5.

137. *See* H.R. 2454, tit. III, subtit. A, § 311.

138. Interestingly, the bill does prohibit individual states from imposing any additional emissions cap at the state level until 2018. *See id.* tit. III, subtit. C, § 335; *see also id.* tit. III, subtit. B, § 321 (requiring that permits previously issued by California, the Western Climate Initiative, or the Regional Greenhouse Gas Initiative be traded in for the new federal allowances, thereby placing everyone on one system).

139. *Id.* tit. IV, subtit. A, § 401.

higher levels of regulation. The Congressional Budget Office estimates that the cost of the Waxman-Markey bill on the average household will be about $175 per year,[140] but other estimates are much higher.[141] If the costs of the climate change regulation are low, then the national legislation may garner widespread public support for greater regulation.[142] But if the cost of regulation is high or particularly salient (e.g., higher energy bills), then the public's support for further measures may be eroded.[143]

Here, the Waxman-Markey bill's subsidization of consumer electricity is notable.[144] Subsidizing electricity goes against the bill's broader efforts to reduce carbon emissions. If electricity prices are subsidized, then consumers will presumably use *more* electricity than they would at the market price, not less. Yet subsidizing electricity is important for maintaining public support for the cap-and-trade system. Although dramatically higher electricity prices may reduce carbon emissions in a static sense, higher prices may also undermine support for the current system and for later additions to the program.[145] Thus, in a dynamic analysis of the political economy of global warming, subsidization of consumer electricity prices is most likely a step forward to greater national and international regulation.

Finally, the cap-and-trade system can create positive feedback effects by building political bonds. Several environmental and industry groups worked together to lobby for the Waxman-Markey bill. This collaboration might create a lasting coalition that will make bargaining at the international level easier, because the base of domestic support for an international agreement is already established. But there are reasons to doubt that the coalition built to support the Waxman-Markey bill will also support an international agreement. First,

140. Cong. Budget Office, The Estimated Costs to Households from the Cap-and-Trade Provision of H.R. 2454, at 2 (2009), *available at* http://energycommerce.house.gov/Press_111/20090620/cbowaxmanmarkey.pdf.

141. At the high end, the Heritage Foundation predicts a cost of more than $1200 a year. William Beach et al., Son of Waxman-Markey: More Politics Makes for a More Costly Bill (2009), http://www.heritage.org/Research/EnergyandEnvironment/wm2450.cfm.

142. *See* Roundtable Interview, *supra* note 18 (statement of President Obama) (noting twice the importance of protecting consumers from spikes in electricity prices).

143. There is also concern that the American public does not understand what the real costs of effective action will be. *See Cap and Trade, with Handouts and Loopholes*, Economist, May 23, 2009, at 33, 34 (noting that "America's leaders do not seem to think Americans are ready for straight talk about" how much further action will cost).

144. *See* H.R. 2454 tit. III, subtit. B, § 321 (regarding emissions allowances for electric utilities that must be used to benefit consumers); *see also id.* tit. IV, subtit. C, § 431 (regarding tax credits and rebates for low-income households to help defray energy costs).

145. *See supra* text accompanying note 142.

industry groups that formed the coalition with environmental groups may have supported a national-level agreement as a means of *avoiding greater regulation* at the international level. To the extent that industries can say that they made significant progress on climate change issues by supporting a domestic measure that they can live with, these industries may resist an international agreement that requires higher levels of regulation. Second, industries might have only supported the Waxman-Markey bill because of the emissions subsidies provided by the federal government. If an international agreement would require further reductions and additional government subsidies were not forthcoming, then industry support could evaporate.

Whether the domestic legislation increases support for an international agreement also depends on the content of the international agreement. Although it is hard to predict what the exact content of the agreement will be, we can be relatively confident that the agreement will not divide greenhouse gas emissions between states based on historic levels of emissions. Thus the United States legislation, which promises to reduce our emissions levels to 97% of 2005 levels by 2012 and 80% of 2005 levels by 2020, probably still provides for a much higher level of emissions than an international agreement would mandate. An international agreement might require the United States to decrease its emissions levels more radically (imposing higher costs on American industries), while requiring that developing countries only slow their rate of emissions growth. American industry is unlikely to support such an agreement even if it supported domestic legislation.

In sum, the Waxman-Markey cap-and-trade system has the potential for significant positive dynamic effects although the picture is mixed. The system provides important financial incentives to invest in low-emissions sources of energy that could decrease the cost of emissions reductions both at home and abroad. Lowering the costs of emissions reductions also eases the distributional concerns at the international level making it easier for states to form a comprehensive climate change agreement. The Waxman-Markey bill also adopts counterintuitive policies (such as subsidizing consumers' electricity use) to maintain public support for environmental regulations. Yet the bill has the potential for negative feedback effects as it may lead to the growth of high-emission industries, which will oppose an international agreement, in developing states.

C. The Proposed Carbon Tariffs

1. The Carbon Tariff Model

A carbon tariff is a tax assessed at the nation's border that raises the costs of imported goods.[146] The tax can be structured in a number of ways. The first design issue is whether the carbon tax will be imposed multilaterally or

146. Gary C. Hufbauer, Steve Charnovitz & Jisun Kim, Global Warming and the World Trading System 38-46 (2009).

unilaterally. If a number of states establish a climate change treaty regime, then those states could impose a carbon tariff on any state that chooses not to join the regime. Used multilaterally, a carbon tariff can prevent states from free-riding on the efforts of others, which is a serious problem in a global public good scenario. The downside of the multilateral carbon tariff is that it requires an international agreement among a core group of states. Alternatively, a state can unilaterally impose a carbon tariff by applying a border tax to imports from states with inadequate environmental regulations or to imports that are produced by emissions-heavy processes.[147] The drawback of the unilateral carbon tariff is that each state can independently decide what good environmental policy is and impose carbon tariffs on imports that do not meet those criteria, which can result in conflicting national standards.

An issue for both multilateral and unilateral carbon tariff systems is deciding the magnitude of the border tax and what goods should be subject to it. The goal of the multilateral carbon tariff is to have states join the international agreement, so the size of the tariff should be sufficiently high to make the costs of joining the international agreement less than the costs of remaining outside of the agreement. In theory, the tariff need not apply only to goods with an emissions-heavy production process. If the goal is to have states join the environmental agreement, then the best strategy may be to impose a high tax on goods produced by politically powerful domestic entities.[148] Here, the carbon tariff functions like any other sanctioning regime.[149] Governments may want to impose the tariff on emissions-heavy products to reduce carbon leakage in the immediate term, but the tariff need not be limited to these goods.

147. *See* Aaron Cosbey, Int'l Inst. for Sustainable Dev., Border Carbon Adjustment 1 (2008), *available at* http://www.iisd.org/pdf/2008/cph_trade_climate_border_carbon.pdf; Houser et al., *supra* note 66, at 29-37; Hufbauer et al., *supra* note 146, at 39-45; Howard Chang, *An Economic Analysis of Trade Measures To Protect the Global Environment*, 83 Geo. L.J. 2131 (1995); Laura Nielsen & Steve Charnovitz, *Trade and Climate Change: Limits for Consumption Based Trade Measures?*, 7 Manchester J. Int'l Econ. L. (forthcoming 2010).

148. *See* Daryl J. Levinson, *Collective Sanctions*, 56 Stan. L. Rev. 345, 403-06 (2003); Daryl J. Levinson, *Making Government Pay: Markets, Politics, and the Allocation of Constitutional Costs*, 67 U. Chi. L. Rev. 345, 354-57 (2000).

149. This is the approach to retaliation in the WTO regime (although there are some restrictions on when cross-sectoral and cross-agreement retaliation can be used under Article 26 of the Dispute Settlement Understanding, Understanding on Rules and Procedures Governing the Settlement of Disputes, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 2, Legal Instruments—Results of the Uruguay Round, 33 I.L.M. 1125 (1994)). *See* Jide Nzelibe, *The Credibility Imperative: The Political Dynamics of Retaliation in the World Trade Organization's Dispute Resolution Mechanism*, 6 Theoretical Inquiries L. 215, 222-28 (2005); Warren F. Schwartz & Alan O. Sykes, *The Economic Structure of Renegotiation and Dispute Resolution in the World Trade Organization*, 13 J. Legal Stud. 179, 188-92 (2002).

The goal of a unilateral carbon tariff is less clear. A tariff can be a means of encouraging other states to adopt higher environmental standards, although what are adequate standards is determined by the tariff-imposing state unilaterally. A carbon tariff would only apply to the tariff-imposing state's internal market (not to several states' markets as with a multilateral tariff).[150] Consequently, the effectiveness of a unilateral tariff depends on the importance of the tariff-imposing state's market to foreign exporters. The larger a state's market, the greater the ability it has to encourage other states to adopt higher environmental standards.

A state may also have the goal of attempting to preserve its national competitiveness.[151] Industry groups often criticize environmental regulation because it allegedly puts national industry at an unfair competitive disadvantage to industries in other nations that lack such regulation.[152] Industry groups often advertise a carbon tariff as a means of leveling the playing field.[153] There are two concerns with this approach to defending a state's competitiveness. First, a carbon tariff does not preserve the competitiveness of a nation's exports. The tariff applies only to the state's internal market and does not raise the cost of

150. The most effective carbon tariff would be a multilateral one that includes the world's largest import economies. Together, the European Union and the United States consume over half of the world's exports. E.U. imports represent approximately 40% of the world's total exports. American imports represent 14.5%. *See* WORLD TRADE ORG., INTERNATIONAL TRADE STATISTICS 2008, at 11 (2008), *available at* http://www.wto.org/english/res_e/statis_e/its2008_e/its2008_e.pdf.

151. *See* HOUSER ET AL., *supra* note 66, at 2; HUFBAUER ET AL., *supra* note 146, at 12; *see also Cap-and-Trade Bill Will Protect U.S. from Unfair Competition, Dingell Predicts*, 25 Int'l Trade Rep. (BNA) 372 (Mar. 13, 2008) (discussing how a carbon tariff could protect the international competitiveness of American industry).

152. *See, e.g.*, Letter from Thomas J. Gibson, President & CEO, Am. Iron & Steel Inst., to Members of the House Steel Caucus (Aug. 11, 2009), *available at* http://www.steel.org/AM/Template.cfm?Section=200910&CONTENTID=33768&TEMPLATE=/CM/ContentDisplay.cfm; *see also* HOUSER ET AL., *supra* note 66, at 2-10; Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1212 (1977) (discussing the competitive advantage that one jurisdiction can gain by having environmental policies that are less restrictive than competing jurisdictions). *But see* Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation*, 67 N.Y.U. L. REV. 1210, 1211-12 (1992) (arguing that competitive advantages based on lower regulation do not necessarily lead to a race to the regulatory bottom).

153. *See* Jagdish Bhagwati & Petros C. Mavroidis, *Is Action Against US Exports for Failure To Sign Kyoto Protocol WTO-Legal?*, 6 WORLD TRADE REV. 299, 309 (2007); The Conscience of a Liberal, http://krugman.blogs.nytimes.com/2009/06/29/climate-trade-obama/ (June 29, 2009, 9:07 EDT) (stating that a carbon tariff is "a matter of leveling the playing field").

foreign competitors' goods in foreign markets. Consequently, a carbon tariff only protects goods in the national market, which will be useful to import-competing industries but less so to export-oriented industries. Second, establishing what a level playing field is can be difficult, particularly with the global warming issue. Whether the carbon tariff is a fair correction for differences in environmental regulation,[154] on the one hand, or an unfair protection of domestic producers,[155] on the other, is determined by our theory of how much greenhouse gas pollution each nation should be allowed to produce. This point engages the same issues currently under discussion at the international level of how to divide the world's greenhouse gases; whether China is producing too many greenhouse gas emissions requires a theory that determines how much pollution China is permitted to produce.[156] Because there is no consensus on how much greenhouse gas a state should be allowed to produce, there is no uncontroversial or normatively neutral means of applying a carbon tariff.

Consequently, a key feature of any domestic legislation that chooses to incorporate a carbon tariff is how to judge what is adequate or comparable action. As discussed in the following Subsections, governments tend to judge other nations' emissions levels based on the government's preferred theory for dividing global greenhouse gases. In the Lieberman-Warner bill, the United States would impose a carbon tariff on states that did not achieve the same proportionate reduction in greenhouse gases as the United States.[157] This metric matches the American position that states should freeze greenhouse gas pollution at current levels and decrease emissions from this baseline. Thus, if the United States reduced emissions by 7% from a 2005 baseline, then other states would have to do the same to avoid the imposition of a carbon tariff. This metric is far from uncontroversial as it gives greater rights to pollute in the future to states that have historically polluted the most.[158]

154. Joseph Stiglitz has argued that countries should be applying countervailing duties to the United States based on an "antidumping" or actionable subsidy basis. *See* STIGLITZ, *supra* note 52, at 177-78. As Joost Pauwelyn discusses, Stiglitz's theory does not fit well within the current international trade doctrine regarding subsidies or dumping. *See* Joost Pauwelyn, *U.S. Federal Climate Change Policy and Competitiveness Concerns: The Limits and Options of International Trade Law* 13-16 (Nicholas Inst. Working Paper, No. 07-02, 2007), *available at* http://nicholas.duke.edu/institute/internationaltradelaw.pdf.

155. *Ex-USTRs Urge Caution as Congress, Administration Draft Climate Policies*, 26 Int'l Trade Rep. (BNA) 1152 (Aug. 27, 2009) [hereinafter *Ex-USTRs Urge Caution*] (describing the letter sent by former United States Trade Representatives warning that carbon tariffs can be a "disguised form of protectionism").

156. *See supra* Section III.B.

157. S. 3036, 110th Cong., tit. XIII, §§ 1311-1315 (2008).

158. *See supra* Section II.C.

Needless to say, other states would not agree on this basis for applying a carbon tariff. The European Union could choose to apply a carbon tariff to any state that has not signed on to the Kyoto Protocol (which is what some European leaders are threatening if the United States adopts a carbon tariff).[159] The EU standard would include the United States but not China or India. In addition, China and India could apply a tariff based on their per capita emissions levels. The tariff would apply to any state with per capita emissions over the Chinese level or the Indian level. This standard would include the United States and the European Union. As a consequence, the application of a carbon tariff does not necessarily lead to a uniform isolation of states with "poor" environmental regulation. Rather, the lack of consensus regarding how much carbon each state should be allowed to produce creates a patchwork of tariff barriers that encompass different conceptions of adequate environmental policies.[160] So, in judging the effect of a carbon tariff, one needs to include the costs and benefits of the United States tariff as well as the costs and benefits of having several carbon tariffs based on each country's view of what the division of greenhouse gases should be.[161] As of the writing of this Article, no country has imposed a carbon tariff, although several countries have stated that they will do so if the United States proceeds with a carbon tariff.

159. *France To Push EU Member States To Embrace Carbon Border Taxes*, 26 Int'l Trade Rep. (BNA) 817 (June 18, 2009) (describing the efforts of French President Nicolas Sarkozy to have the EU implement a carbon tariff on non-Kyoto members); *see also* Frank Biermann & Rainer Brohm, *Implementing the Kyoto Protocol Without the USA: The Strategic Role of Energy Tax Adjustments at the Border*, 4 CLIMATE CHANGE 289 (2005) (providing a rationale for such a measure under GATT law).

160. For such reasons, United States Trade Representatives have been wary of carbon tariffs because they fear retaliation from other states. *See* Letter from Susan Schwab, U.S. Trade Representative, to Rep. Joe Barton, Ranking Member of the House Energy and Commerce Comm. (Mar. 4, 2008), *available at* http://commontragedies.files.wordpress.com/2008/03/document_daily_01.pdf [hereinafter Schwab Letter] (noting that carbon tariffs "could easily backfire. . . . [a]nd other countries could well turn to [carbon tariffs] themselves and develop their own import restrictions, based on their own unilateral definitions of what constitutes adequate action by other countries"). Statements from the White House in 2009 were skeptical about the use of a carbon tariff. *See* Greg Hitt & Naftali Bendavid, *Obama Wary of Tariff Provisions*, WALL ST. J., June 29, 2009, at A3.

161. *See* Schwab Letter, *supra* note 160; *see also Climate Change: Competitiveness Concerns and Prospects for Engaging Developing Countries: Hearing Before the Subcomm. on Energy and Air Quality of the H. Comm. on Energy and Commerce*, 110th Cong. (2008) (statement of Gary Clyde Hufbauer, Reginald Jones Senior Fellow, Peterson Institute for International Economics), *available at* http://energycommerce.house.gov/images/stories/Documents/Hearings/PDF/110-eaq-hrg.030508.Hufbauer-testimony.pdf (discussing how the most relevant risk of a carbon tariff was the threat of tit-for-tat retaliation).

2. Waxman-Markey and the Lieberman-Warner Carbon Tariffs

Both the Waxman-Markey bill and the Lieberman-Warner bill provide for the establishment of a carbon tariff, but the two bills do so on different terms. Under the Waxman-Markey bill, a carbon tariff would apply to imports from a foreign state starting in 2020, if two conditions applied: (1) the state had not joined an equitable international agreement; and (2) the state's greenhouse gas intensities in the relevant sectors were higher than those of the United States.[162] If a country did not sign onto the agreement by that time (or an agreement was not achieved by that time), then only exports from sectors that had higher greenhouse gas intensities than the United States would be subject to the tariff.[163] To reduce the threat of carbon leakage, the Waxman-Markey bill provides rebates to carbon-intensive firms until 2035.[164]

The Lieberman-Warner bill would establish a stricter carbon tariff, one that would most likely apply to more countries. Also, beginning in 2020, a carbon tariff would be applied to exports from countries that have not taken action "comparable" to that of the United States.[165] Comparable action is defined as achieving the same percentage decrease in greenhouse gas emissions as the United States achieves from a 2005 baseline.[166] Thus, if the United States managed to achieve a 17% decrease in emissions from 2005 levels by 2020, countries that did not also achieve the same percentage decrease would be subject to a carbon tariff. This would almost certainly include most developing countries where rates of emissions are still increasing (although their per capita rate of emissions are far better than that of the United States) and could conceivably include some developed countries (who might have better percentage rates of decrease if judged from a 1990 baseline but have worse rates if judged from a 2005 baseline).

The Waxman-Markey bill has yet to pass the Senate, and members of the Senate appear much more supportive of a carbon tariff than their counterparts in the House.[167] There are demands from key lawmakers that the Senate's

162. H.R. 2454 tit. IV, subtit. A, § 401. The carbon tariff would not apply to countries that the United Nations has classified as "least developed countries," countries that produce less than 0.5% of the global greenhouse gases, or countries that represent less than 5% of U.S. imports in a particular sector. *Id.*

163. *Id.*

164. The Waxman-Markey bill begins to phase out the rebates in 2025, but the program continues until 2035. *Id.*

165. S. 3036 tit. XIII, §§ 1311-1315.

166. *Id.* The President must notify countries of the estimated percentage change in U.S. emissions over a ten-year period. *Id.* § 1313(c). As with the Waxman-Markey bill, there are exceptions for economically small states. *See supra* note 162.

167. *Senate To Revise Carbon Tariffs, Kerry Says; Other Democrats Seek Stronger Protections*, [2009] World Trade Org. Rep. (BNA) D2 (July 9, 2009) (quoting

version of the bill include a stricter carbon tariff, so that the final Waxman-Markey version would impose the tariff beginning in 2012, when the domestic cap-and-trade program begins.[168] Thus, the final bill to emerge from Congress may have yet another version of a carbon tariff.[169]

3. The Effect of the Proposed Carbon Tariff on International Negotiations

Carbon tariffs are double-edged as a policy tool. The economic goal of a carbon tariff is to preserve the competitiveness of national industries (and thus prevent carbon leakage to lower regulation states), but the tariff can also be a source of protection for national industries (and thus provide industries with a competitive advantage that they will be loath to forego). This Article examines both possibilities. To the extent that it is narrowly tailored to industries that face high regulatory costs and easy relocation abroad, a carbon tariff can have positive feedback effects for the demand for an international agreement. The carbon tariff can keep industries in a high-regulation jurisdiction and thus increase the demand for cleaner sources of energy. In addition, carbon leakage to developing countries slows. The political demands within developing countries to resist an international agreement because of the competitive advantages will lessen. Both of these effects should aid international negotiations.

A carbon tariff can also have some negative dynamic feedback effects. If the carbon tariff applies to industries more broadly, the probability that it is being used for protectionist purposes increases. Firms are more likely to receive protection that they do not need. For instance, under the Lieberman-Warner bill, firms from developed countries with strong environmental regulation would be subject to a carbon tariff if the exporting country did not match the U.S. percentage decrease in greenhouse gas emissions. In these cases, domestic firms and foreign firms are arguably already playing on a level field in terms of environmental regulation. (The threat of a carbon tariff is particularly galling for developed countries that have joined the Kyoto Protocol as Annex I countries and thereby adopted costly environmental regulations while the United States refused to adopt any greenhouse gas limits.) Here, the carbon tariff would provide the domestic firm with a price advantage over its foreign rivals that is unrelated to differences in national regulations. If carbon tariffs are used as a tool of protection, domestic firms will fight to hold onto them once

Senator Kerry as stating: "We have already come to the conclusion in working on the Senate bill that we are going to have to change [the carbon tariff provision]."

168. *Id.* (discussing some Democratic Senators' views that stricter carbon tariffs are needed and that the current House bill is unacceptable).

169. *Obama Urged To Support Border Adjustments in Bill To Cap U.S. Greenhouse Gas Emissions*, 26 Int'l Trade Rep. (BNA) 1235 (Sept. 17, 2009) (reporting on a letter sent by members of the House supporting a stricter carbon tariff).

they are provided. Domestic firms may resist an international agreement on climate change if it entails removing the carbon tariff against key competitors. Thus, domestic legislation can be a stumbling block to an international agreement; it creates an advantage for domestic firms, which exists only as long as international negotiations on a comprehensive agreement languish.

Examined under this framework, the Waxman-Markey bill is a notable improvement over the Lieberman-Warner bill. The Waxman-Markey bill reduces carbon leakage by providing rebates to carbon-intensive sectors rather than imposing a carbon tariff. Unlike a carbon tariff, the rebates are not linked to the successful conclusion of an international agreement.[170] Thus, domestic industries have an economic incentive to support an international agreement as a way to impose the higher regulatory costs on foreign firms. In addition, if a carbon tariff is applied, it will be applied in a fine-grained manner. Only foreign goods in *sectors* that have higher greenhouse gas intensity than U.S. firms would be subject to the tariff. This tariff would hit many developing countries but would be less likely to include developed states with high environmental standards.

By contrast, the Lieberman-Warner bill would apply the carbon tariff to more of the carbon-intensive goods produced in a country that did not match the U.S. percentage rate of decrease in greenhouse gases. This approach lumps a country's goods together for the purposes of the carbon tariff instead of applying a sector-by-sector test as the Waxman-Markey bill does. In addition, the Lieberman-Warner bill could apply to developed states that have high environmental regulation but nonetheless are unable to achieve the U.S. rate of emissions reductions. The United States is relatively late in adopting greenhouse gas regulations for a developed country and thus might be able to achieve a greater percentage decrease in emissions than other developed countries that have equally rigorous (or more rigorous) environmental standards.[171] As a result, this provision of the Lieberman-Warner bill is more likely than the provision in the Waxman-Markey bill to lead to negative political feedback effects, where domestic firms view the carbon tariff as a competitive advantage over foreign firms and thus oppose an international agreement that would withdraw these benefits.

170. The rebates are allocated regardless of the status of international negotiations. H.R. 2454 tit. IV, subtit. A, § 401.

171. The Lieberman-Warner bill uses a 2005 emissions level as a baseline. This disadvantages many Kyoto Protocol Annex I countries that started reducing greenhouse gas emissions in the 1990s in fulfillment of their legal obligations to reduce greenhouse gas emissions relative to 1990 levels. Consequently, many developed states already had undertaken the most cost effective emissions reduction methods by 2005. The United States had not done so by 2005, and thus its rate of decrease in greenhouse gas emissions may be higher (judged against a baseline of 2005) than equally rigorous action taken by other developed states. *See supra* Section III.A.

As a matter of leadership in international negotiations, a carbon tariff is controversial. If an environmental agreement has the support of a core set of states, a multilateral carbon tariff may be an effective means of encouraging wide membership. Where there is not an international agreement in place, however, the threat of a unilateral carbon tariff can complicate international negotiations.[172] The international system is still in the process of creating consensus on how to address climate change. Countries still have widely varying views on the best approach to achieving sustainable levels of emissions.[173] The threat of a carbon tariff has damaged this country's attempt to provide leadership in international climate change negotiations, because it de facto sanctions foreign countries if they do not meet the standards unilaterally established by the United States.

Developing nations view the U.S. demand that other nations either match American reductions in emissions (the Lieberman-Warner draft) or mandate industries where energy-intensity levels match or exceed those of U.S. industries (the Waxman-Markey draft) to avoid a carbon tariff as a step back in international negotiations. They note that their per capita emissions rates are far below American rates and emphasize that, on the per capita standard, they already have "cleaner" economies than the United States. Developing nations view greenhouse gas emissions as a by-product of development.[174] Thus, proposals to freeze their current rates of emissions are effectively demands that they sacrifice their development goals.[175] For instance, the Indian government has refused to accept binding limitations on emissions until it achieves a higher level of development. Responding to American requests to adopt caps on emissions, the Indian environmental minister, Jairam Ramesh, publicly rebuked Secretary of State Hillary Clinton during her visit to India for the American threat to impose a tariff on Indian goods when the country had such low levels of per capita emissions.[176] Developing countries also argue that the threat of a carbon tariff ignores developed states' responsibilities for the current climate

172. Christopher Weber & Glen Peters, *Climate Change Policy and International Trade: Policy Considerations in the United States*, 37 ENERGY POL'Y 432 (2009); *Ex-USTRs Urge Caution*, *supra* note 155 (quoting a letter from four former U.S. Trade Representatives that urged Congress "to give the Administration the authority, flexibility and support to negotiate mutually satisfactory outcomes with recalcitrant nations. . . . One cannot legislate what must be negotiated." (alteration in original)) .

173. *See supra* Section II.C.

174. *See* Keith Bradsher, *American Officials Push China on Climate*, N.Y. TIMES, July 16, 2009, at A10; Landler, *supra* note 80.

175. *See* Shai Oster, *Beijing Softens Stand on Emissions Cap*, WALL ST. J., Aug. 6, 2009, at A7 (noting that China is considering legislation that would result in its carbon dioxide emissions peaking in 2030, the same time that China expects its own gross domestic product to exceed that of the United States).

176. Landler, *supra* note 80.

crisis.[177] China's lead climate change negotiator, Yu Qingtai, put the point this way: "The developed countries, in realizing their industrialization, have discharged a large amount of greenhouse gases in the course of one or two centuries. The cumulative emissions by the developed countries have caused global warming. Who should take the historical responsibilities?"[178]

Here again, the carbon tariff in the Waxman-Markey bill, while potentially a stumbling block, represents an improvement over the Lieberman-Warner tariff. The Waxman-Markey bill gives the President discretion on when to apply the carbon tariff, which allows the tariff to be a flexible and sophisticated instrument of diplomacy. Hence, the legislation could provide countries with a disincentive from delaying a compromise for too long, but it gives countries the space to reach a consensus without the use of sanctions. By contrast, the Lieberman-Warner bill is a blunt instrument that does not aid the search for an international compromise. The carbon tariff would apply to countries that do not reduce their greenhouse gas emissions at the same rate as the United States.

The Lieberman-Warner proposal further undermines United States leadership because, until a new international agreement is established, there is not a safe harbor for countries that wish to sign on to an international agreement (as there is no treaty regime to join). Ratifying the Kyoto Protocol is not sufficient to exempt a country from the American carbon tariff because the United States does not view the Kyoto Protocol as an equitable agreement.[179] Thus, many developed and developing countries, which would prefer to cooperate internationally but are insufficiently influential to bring the major players to an agreement, cannot avoid American carbon tariffs even if they are actively engaged in the international negotiation process.

If other states responded in kind to the United States carbon tariff, then the tariff has the potential to create an industry demand for an international agreement. A patchwork of national-level carbon tariffs could be a significant

177. *See* Oster, *supra* note 175 (noting that China views limits on emissions as a form of discrimination against poorer countries). This does not mean, however, that China is not taking steps to include environmental goals in its development plan. While relying on coal to produce most of its power, the Chinese government has been building high efficiency power plants at rates much higher than the United States. Keith Bradsher, *China Far Outpaces U.S. in Building Cleaner Coal-Fired Plants*, N.Y. Times, May 11, 2009, at A1.

178. Michael Wines, *China Sees Progress on Climate Accord but Resists an Emissions Ceiling*, N.Y. Times, Aug. 6, 2009, at A8.

179. *See* S. 3036, 110th Cong., tit. VI, § 6003 (2008) (defining U.S. negotiation goals for an international treaty as an agreement that commits "all major greenhouse gas-emitting nations to contribute equitably to the reduction of global greenhouse gas emissions"); *see also* S. Res. 98, 105th Cong. (1997) (declaring that any international agreement that does not place emissions caps on developing countries would not be equitable).

barrier to trade.[180] For instance, steel exports from the United States might face one carbon tariff to enter the European Union market, another tariff to enter the Chinese market, and yet a third to enter the Canadian market. If the barriers to trade created by this patchwork regime were sufficiently high, then national industries in the United States and abroad might prefer an international agreement that imposed uniform environmental regulations simply as a means of creating certainty.[181] Creating barriers could also be counterproductive to climate change negotiations, however. Some industry groups may prefer an international agreement to eliminate barriers to trade, but other industry groups may appreciate having more barriers to trade.[182] For instance, American industries with carbon-heavy production processes may lobby for a carbon tariff as protection from international competition and subsequently fight any legislation that would remove the carbon tariff.[183] Consequently, carbon tariffs may entrench national positions in international negotiations rather than making compromise easier to achieve.

One of the greatest concerns with a carbon tariff is its potential effect in framing public opinion regarding what the continuing responsibility of the United States is and what a fair international agreement would entail. The national legislation has the potential to lull the public into believing that the nation has done its part in addressing the issue of climate change.[184] A carbon tariff reinforces this view; the measure creates a framework that defines national regulation of greenhouse gases as adequate while defining many foreign regulations as inadequate. This view may give credence to a counterproductive belief that, having passed national legislation, the nation has fulfilled its responsibilities for controlling global warming and that further measures are the responsibility of other nations, such as China and India.

In a related vein, the carbon tariff can skew the public's view of what standards a fair international agreement would adopt. The concern is that the national regime's approach to applying a carbon tariff will become the public's metric for judging whether an international agreement is equitable. The Lieberman-Warner carbon tariff effectively requires other states to freeze emissions at 2005 levels and reduce emissions at the same rate as the United States. The Waxman-Markey bill requires states to have industries with the same carbon intensity as American industries. Yet both of these standards are nonstarters for developing states, who are at different stages of development and have very different views of what an equitable international agreement

180. *See* Schwab Letter, *supra* note 160 (noting that a carbon tariff "could easily backfire. . . . [a]nd other countries could well turn to [carbon tariffs] themselves and develop their own import restrictions, based on their own unilateral definitions of what constitutes adequate action by other countries").

181. ACKERMAN & HASSLER, *supra* note 39; Elliott et al., *supra* note 39.

182. HOUSER ET AL., *supra* note 66, at 2-10.

183. *See supra* p. 298.

184. *See* Coglianese & D'Ambrosio, *supra* note 42, at 1425.

would involve. In this case, the carbon tariffs may be priming the American public to resist an international agreement that adopts standards different from the carbon tariff.

In sum, a multilateral carbon tariff, undertaken as part of an international climate change agreement, is likely to be a building block to a comprehensive solution to the problem of global warming. The tariff imposes a cost only on states that refuse to join the international regime. This fact carries two benefits. First, it helps reduce the relocation of production to states that remain outside of the regime. Second, it links contribution to a nonexcludable good (the global atmosphere) to an excludable good (access to the markets of the regime members) in a uniform manner and thus gives nonmembers an incentive to join the environmental regime. Nonmembers of the environmental regime can be economically isolated.

By contrast, the Waxman-Markey and the Lieberman-Warner carbon tariffs lack many of the multilateral tariff's benefits. The unilateral tariff is less effective in preventing the relocation of industries because the unilateral tariff only applies to the home state's internal market. In addition, the unilateral tariff does not target states that refuse to sign an international agreement but rather all of the states that the home state considers not to be doing their part. Other states can play this game as well and impose their own unilateral carbon tariffs. The result is that many states will be subject to a host of different carbon tariffs (the United States is unlikely to pass the China's standards for a carbon tariff), rather than a few states being economically isolated.

IV. Implications and Extensions

This Article has examined the effects of national legislation on the provision of global public goods through the lens of climate change, but the implications of this framework are not limited to the global warming context. Regulation of global public goods in other areas faces similar two-level games. National-level legislation influences international negotiations concerning public goods in positive and negative ways by changing the incentives of private and public actors both at home and abroad. This Part discusses the issue of international corruption and American legislative efforts to address this problem unilaterally through the Foreign Corrupt Practices Act (FCPA). The issue of international corruption is too complex to address fully in this work, but the example of the FCPA demonstrates that many of the same dynamic feedback effects that exist in the climate change context emerge here as well. National legislation changed the global politics of corruption, sometimes in ways that were beneficial and, other times, in ways that were counterproductive.[185]

185. *See* Daniel K. Tarullo, *The Limits of Institutional Design: Implementing the OECD Anti-Bribery Convention*, 44 Va. J. Int'l L. 665 (2004).

A. *Global Anticorruption Efforts*

Governmental corruption takes a heavy toll on many societies: It undermines countries' achievement of their development goals, provides undemocratic regimes with the resources to maintain power, and warps policymaking in democratic regimes.[186] Corruption is a "global bad" because the costs of corruption are not limited to the nations in which it occurs.[187] Criminal organizations that exist due to corruption in one country (such as Mexican drug cartels or the Russian mafia) export crime to other states.[188] Corruption also reduces the value of foreign aid and leads to higher levels of communicable disease.[189] Finally, it distorts international commerce; firms that

186. *See* John Brademas & Fritz Heimann, *Tackling International Corruption*, FOREIGN AFF., Sept.-Oct. 1998, at 17, 18-19 (1998); *see also* Daniel Kaufmann, *Corruption: The Facts*, FOREIGN POL'Y, Summer 1997, at 114. Governmental corruption is now largely accepted as a problem for economic growth and good governance. This has not always been the case, however. In the 1960s, many political and economic theorists viewed corruption as a means of improving the efficiency of developing countries. *See, e.g.*, SAMUEL HUNTINGTON, POLITICAL ORDER IN CHANGING SOCIETIES (1968) (arguing that corruption helped development in many societies); J.S. Nye, *Corruption and Political Development: A Cost-Benefit Analysis*, 61 AM. POL. SCI. REV. 417, 420 (1967) (discussing the advantages and disadvantages of corruption and noting that corruption could be beneficial since it allows for greater entrepreneurship). This theory is now largely discredited based on empirical studies. *See, e.g.*, Pierre-Guillaume Méon & Khalid Sekkat, *Does Corruption Grease or Sand the Wheels of Growth?*, 122 PUB. CHOICE 69, 91 (2005) (rejecting strongly the idea that corruption aids economic development even in nondemocratic regimes); *see also* Kenneth W. Abbott & Duncan Snidal, *Values and Interests: International Legalization in the Fight Against Corruption*, 31 J. LEGAL STUD. S141, S158-60 (2002) (tracing the history of scholarly thinking on corruption and development).

187. *See* Patrick Glynn et al., *The Globalization of Corruption*, *in* CORRUPTION AND THE GLOBAL ECONOMY 6, 10-17 (Kimberly Ann Elliott ed., 1997).

188. Robert S. Leiken, *Controlling the Global Corruption Epidemic*, FOREIGN POL'Y, Winter 1996-1997, at 55, 56. This crime can be a major security problem for Western nations. For instance, governmental corruption effectively permitted the sale of nuclear material after the end of the Cold War. *Id.*

189. See Transparency Int'l, *Corruption in Humanitarian Aid* (Transparency International, Working Paper No. 3, 2006), *available at* http://www.transparency.org/content/download/6474/38543/file/working_paper_humanitarian_aid.pdf (discussing how corruption directs aid funds away from the intended population); Transparency Int'l, *Corruption and HIV/AIDS* (Transparency International, Working Paper No. 2, 2006), *available at* http://www.transparency.org/publications/publications/policy_positions/ti_pp_hiv (discussing how corruption undermines efforts to combat the spread of HIV/AIDS, particularly in Africa).

do not pay bribes are at a competitive disadvantage for government procurement contracts.[190]

The paradigmatic case of corruption is a government procurement contract (such as the contract to build a road, construct a power plant, or purchase military equipment), where the government official accepts the bid from the private firm that offers the highest bribe rather than the best economic value for the country.[191] Bribery can engage lower-level government officials as well, as is the case with bribery of customs officials not to collect taxes or of inspectors to overlook violations of labor regulations.[192] In some regions, bribery of government officials is necessary to receive government services, such as receiving police protection or filing a lawsuit.[193]

International efforts to fight corruption have focused primarily on the supply side.[194] That is, anticorruption efforts have targeted the bribers—the private actors offering payments to government officials—rather than the officials accepting the bribes. This path is taken for pragmatic reasons; it does not reflect a moral view that offering a bribe is worse than accepting a bribe. Foreign states that enact anticorruption measures often do not have jurisdiction over the foreign government actors who elicit or accept bribes. By contrast, foreign nations frequently do have jurisdiction over the multinational corporations who offer the bribes.

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190. Wayne Sandholtz & Mark M. Gray, *International Integration and National Corruption*, 57 Int'l Org. 761, 769 (2003).

191. *See* Lucinda A. Low et al., *Enforcement of the FCPA in the United States: Trends and the Effects of International Standards*, *in* The Foreign Corrupt Practices Act: Coping with Heightened Enforcement Risks 83 (Lucinda Low et al. eds., 2007); Tarullo, *supra* note 185, at 668-70.

192. The Foreign Corrupt Practices Act could cover these acts of corruption as well. *See* United States v. Kay, 359 F.3d 738, 756 (5th Cir. 2004) (indictment of American businessmen for the bribery of a foreign customs official).

193. *See* Transparency Int'l, Global Corruption Barometer 9 (2009), *available at* http://www.transparency.org/content/download/43788/701097 (collecting statistics on petty bribery including payments to the police, basic service providers, and members of the judiciary). Under U.S. law, firms are permitted to make "grease" payments, i.e., bribes, to government officials in return for services to which the firm is legally entitled. *See* Lucinda A. Low, *Transnational Corruption: New Rules for Old Temptations, New Players To Combat a Perennial Evil*, 92 Am. Soc'y Int'l L. Proc. 151, 152 (1998).

194. *See* Low, *supra* note 193, at 152-56 (discussing how the FCPA and the OECD treaty target the supply side of corruption); Barbara Crutchfield George, Kathleen A. Lacey & Jutta Birmele, *On the Threshold of the Adoption of Global Antibribery Legislation: A Critical Analysis of Current Domestic and International Efforts Toward the Reduction of Business Corruption*, 32 Vand. J. Transnat'l L. 1, 5 (1999) (discussing the FCPA's criminalizing the offer of a bribe rather than the receipt of a bribe).

Preventing international corruption requires collective action; the actions of one state alone cannot provide the good. Addressing the issue of international corruption requires coordination of the governments that regulate multinational corporations operating in their jurisdiction.[195] Attempts by a single government to fight international corruption are likely to be ineffective because other companies outside of the regulating state's jurisdiction can continue to offer bribes. Thus, the regulating government is putting itself at a competitive disadvantage while not achieving the goal of eliminating governmental corruption.[196]

This national legislation has important political feedback effects. As the next Section describes, multinational corporations that operate in jurisdictions that adopt anticorruption legislation will suffer competitive disadvantages relative to companies that operate in jurisdictions that do not have such rules. Perhaps counterintuitively, this creates a positive feedback effect. The regulated multinational corporations will thus support an international agreement that extends anticorruption rules to more jurisdictions.[197] There are negative feedback effects as well. Firms located in countries that do not regulate international corruption will have a competitive advantage over their regulated competitors.[198] Thus, these firms may resist an international agreement to maintain their advantage.[199] We see both of these effects at work in the development of the FCPA and OECD treaty on anticorruption efforts.[200]

B. Background to the FCPA

In 1977, in the wake of the international corruption scandals that became public during the Watergate hearings, the United States passed its first iteration of the FCPA.[201] The Act, which applies to all American corporations, criminalizes any attempt to bribe a foreign government official done with the purpose of obtaining or retaining business.[202] American corporations vocally protested the implementation of the FCPA because the Act was viewed as putting American corporations at a competitive disadvantage to European or

195. Abbott & Snidal, *supra* note 186, at S161-62.

196. David A. Gantz, *Globalizing Sanctions Against Foreign Bribery: The Emergence of a New International Legal Consensus*, 18 NW. J. INT'L L. & BUS. 457, 461 (1998).

197. Abbott & Snidal, *supra* note 186, at S162; Low, *supra* note 193, at 153; Tarullo, *supra* note 185, at 675.

198. Abbott & Snidal, *supra* note 186, at S164; Tarullo, *supra* note 185, at 674.

199. Abbott & Snidal, *supra* note 186, at S162-64; Tarullo, *supra* note 185, at 674, 687.

200. Tarullo, *supra* note 185, at 668-80.

201. Gantz, *supra* note 196, at 459; George et al., *supra* note 194, at 5; Alejandro Posadas, *Combating Corruption Under International Law*, 10 DUKE J. COMP. & INT'L L. 345, 348-59 (2000).

202. Low, *supra* note 193, at 151-52 (citing 15 U.S.C. §§ 78dd-1(a), 78dd-2(a) (1994)).

Asian enterprises.[203] The FCPA did not apply to foreign corporations unless they had sufficient contacts within the United States or conducted some part of the bribery scheme within the territory of the United States.[204] Of equal importance, in 1977, the United States government was the only government to prohibit the bribery of foreign officials abroad.[205] The President insisted that other states would follow the country's lead and adopt similar restrictions, but other governments declined to do so.[206]

After the passage of the FCPA, American firms faced a significant disadvantage when competing for international contracts.[207] American firms were subject to civil and criminal penalties if they offered "anything of value" to foreign officials for the purposes of obtaining or retaining business.[208] By contrast, European and Asian firms could continue to offer bribes abroad and not fear prosecution under the laws of their home countries, if not the laws of the host country. In fact, many governments classified foreign bribes as a tax-deductible business expense.[209] The FCPA hurt American business abroad. Although it is always difficult to put a dollar amount on the losses from such a policy, one accounting put the loss at $5.5 billion per year.[210]

The passage of the FCPA gave non-American firms a competitive advantage. Foreign governments and firms recognized this advantage. As Patrick Glynn describes:

> Since Congress's passage of the Foreign Corrupt Practices Act in 1977, European and Asian states have been by and large content to regard the US law as yet another peculiar expression on America's Puritanism penchant for international moralizing. Industrial countries continued to permit their firms to bribe abroad and deduct such bribes on tax returns; not only were European and other governments happy to reap the competitive windfall from America's lonely boy scout posture, but

203. Glynn et al., *supra* note 187, at 18; Sandholtz & Gray, *supra* note 190, at 769.

204. *See* Low, *supra* note 193, at 151-52.

205. Abbott & Snidal, *supra* note 186, at S161; George et al., *supra* note 194, at 19; Glynn et al., *supra* note 187, at 22; Sandholtz & Gray, *supra* note 190, at 769; Tarullo, *supra* note 185, at 673-75.

206. Abbott & Snidal, *supra* note 186, at S162; Benjamin W. Heineman, Jr. & Fritz Heimann, *Arrested Development*: *The Fight Against International Corporate Bribery*, NAT'L INTEREST, Nov.-Dec. 2007, at 80, 81.

207. *See* Abbott & Snidal, *supra* note 186, at S162; Leiken, *supra* note 188, at 70; Low, *supra* note 193, at 153; Tarullo, *supra* note 185, at 675-76.

208. Low, *supra* note 193, at 152; *see also* Paul B. Stephan III, *International Law at the Supreme Court*, 1990 SUP. CT. REV. 133, 140-41 (discussing the effect of the FCPA on bidding for foreign government contracts).

209. Heineman & Heimann, *supra* note 206, at 81; Leiken, *supra* note 188, at 70.

210. Glynn et al., *supra* note 187, at 18; Leiken, *supra* note 188, at 56.

> anecdotal evidence suggests that some European embassies also even facilitate such bribery in foreign capitals.[211]

Daniel Tarullo quotes a European official as stating that his country's companies needed a competitive advantage over their more efficient U.S. competitors.[212]

American industry took a two-track approach to addressing this competitive disadvantage.[213] First, many American firms sought to repeal or significantly weaken the FCPA.[214] This approach was opposed by some American businesses that perceived anticorruption policies as good business practices and sought to keep at least their American rivals bound to the same rules.[215] Second, American firms pushed the United States government to negotiate an international anticorruption agreement.[216] The goal of the international agreement was to level the playing field by imposing the same constraints on foreign rivals.[217] American industry was nearly unanimous in its support for an international agreement because it both embodied anticorruption principles and eliminated the competitive disadvantage.[218] An international agreement was preferable to national action because it would be "collective disarmament" rather than "unilateral disarmament."[219]

C. International Negotiations at the OECD

Although the United States government attempted for several decades to negotiate an international anticorruption agreement, other governments were (perhaps unsurprisingly) less than receptive.[220] The FCPA had in fact created a competitive advantage for foreign firms, and foreign governments were

211. Glynn et al., *supra* note 187, at 22.

212. Tarullo, *supra* note 185, at 674 n.26.

213. Abbott & Snidal, *supra* note 186, at S162.

214. *See* Paul Cheeseright, *Congress Poised for Final Action*, FIN. TIMES, Aug. 2, 1982, at I3 (discussing efforts to alter the FCPA to increase U.S. exports); Stuart Taylor, Jr., *U.S. Revising Antitrust Stand*, N.Y. TIMES, Sept. 1, 1981, at D11 (discussing efforts by the Reagan Administration to eliminate provisions of the FCPA that would prohibit the use of foreign intermediaries in facilitating bribes).

215. Abbott & Snidal, *supra* note 186, at S162-63.

216. Tarullo, *supra* note 185, at 674-75.

217. Abbott & Snidal, *supra* note 186, at S162-63; Low, *supra* note 193, at 153.

218. Leiken, *supra* note 188, at 70-71.

219. Abbott & Snidal, *supra* note 186, at S162-63.

220. Glynn et al., *supra* note 187, at 20; Posadas, *supra* note 201, at 376-79; Peter Schroth, *The United States and the International Bribery Conventions*, 50 AM. J. COMP. L. 593 (2002).

reluctant to forego that advantage.[221] From 1977 to 1994, American efforts to reach an international agreement on anticorruption efforts went nowhere.[222] It was not until the late 1990s that an OECD anticorruption treaty gained sufficient political support, when the European public's shock from a series of national corruption scandals allowed popular support for anticorruption efforts to overcome industrial opposition to such policies.[223] The European public's support for an anticorruption treaty itself may have been, in part, the product of growing anticorruption norms fostered by organizations such as Transparency International.[224]

In 1999, over two decades after the United States passed the FCPA, an OECD treaty that criminalized the offer of bribes to foreign public officials became effective.[225] Compliance with the OECD treaty is lacking because governments see an advantage to cheating on the agreement.[226] For instance, the Blair Government halted an investigation examining the alleged bribery of Saudi officials by its national aerospace company, British Aerospace Engineering (BAE).[227] The evidence from other countries is mixed. Some European governments appear similarly reluctant to enforce anticorruption measures rigorously,[228] but others are increasing their enforcement efforts. For instance, the German government brought prosecution against Siemens for its use of bribes overseas.[229] Siemens settled the case by paying over $1 billion in fines.[230] Yet the U.S. Department of Justice remains responsible for over half of all foreign bribery prosecutions in OECD countries even though it accounts for only 10% of OECD exports.[231] Although the treaty is in place, some domestic

221. Abbott & Snidal, *supra* note 186, at S164.

222. *See* Posadas, *supra* note 201, at 360-69; Tarullo, *supra* note 185, at 677.

223. Abbott & Snidal, *supra* note 186, at S164; Glynn et al., *supra* note 187, at 20; Heineman & Heimann, *supra* note 206, at 81; Tarullo, *supra* note 185, at 678.

224. Abbott & Snidal, *supra* note 186, at S164-65.

225. Convention on Combating Bribery of Foreign Officials in International Business Transactions, OECD/DAFFE/IME/BR(97)16/FINAL, 37 I.L.M. 1 (1998) (entered into force Feb. 13, 1999).

226. Tarullo, *supra* note 185, at 680-709.

227. Heineman & Heimann, *supra* note 206, at 82-83. The British government recently brought suit against BAE based on a much smaller transaction with the Tanzanian government. *See* Christopher Drew & Nicola Clark, *BAE Settles Corruption Charges*, N.Y. Times, Feb. 5, 2010, at B1.

228. Tarullo, *supra* note 185, at 683-87.

229. Josh Meyer, *Siemens To Pay Fines in Criminal Probe*, L.A. Times, Dec. 16, 2008, at C1.

230. *Id.*

231. Heineman & Heimann, *supra* note 206, at 83.

governments may still want to maintain a competitive advantage for their national firms.[232]

D. The Dynamic Effects of National Legislation in Providing Global Public Goods

The FCPA legislation highlights the benefits and the pitfalls of unilateral national legislation in negotiating an international agreement. Unilateral action at the national level changes bargaining at the international level.[233] In the FCPA case, the United States legislation had two dynamic political feedback effects. For American firms, the FCPA created a competitive constraint; U.S. companies were barred from using the business practices that their international competitors used. This constraint actually created a demand among domestic firms for an international agreement. Because American firms were bound by antibribery laws, they wanted their foreign rivals to face the same restrictions.[234] For foreign firms, the United States legislation created an unexpected competitive advantage. Non-American companies obtained international business through corruption, which they would not otherwise have received.[235] Once granted this advantage, foreign firms (and their governments) resisted attempts to address global corruption for two decades.[236]

Analyzing the ultimate usefulness of the FCPA in advancing international efforts to curb global corruption is difficult because it requires constructing a counterfactual situation; we do not know how anticorruption efforts would have proceeded without the FCPA. But the costs and the benefits of the national legislation become clearer when the law is considered as part of a dynamic process of international bargaining regarding a public good. The FCPA certainly decreased the number of bribes offered by American corporations, but it did not necessarily aid the cause of eliminating international corruption, since non-American firms did not face similar restrictions. A market for bribes continued to exist. The FCPA certainly helped catalyze an American business campaign to create a treaty regime to address international corruption. This effort probably would not have come into being without the FCPA. But the FCPA also created resistance to an international agreement among foreign firms and governments. The members of the OECD have subsequently settled on an international agreement that criminalizes bribery of foreign government officials. But is this a success? The treaty came into force twenty-two years after

232. Tarullo, *supra* note 185, at 686, 709.

233. *See supra* Section II.B.

234. Abbott & Snidal, *supra* note 186, at S162-63; Low, *supra* note 193, at 153; Tarullo, *supra* note 185, at 675.

235. Glynn et al., *supra* note 187, at 18; Leiken, *supra* note 188, at 56.

236. Abbott & Snidal, *supra* note 186, at S162-63; Glynn et al., *supra* note 187, at 20; Tarullo, *supra* note 185, at 675.

the United States enacted the FCPA. Without the negative feedback effect created by United States action, a treaty might have been possible long before 1999. The same dynamics that led foreign governments to resist a treaty still exist and arguably cause those governments to adopt lax enforcement procedures. There is no certain answer to whether the passage of the FCPA was a wise decision if the goal of the United States government was to reduce global corruption. To evaluate this legislation properly, we must take into account the effect of the FCPA on actors at home and abroad. But we can say that the national legislation had mixed effects on international anticorruption efforts; it shifted the bargaining environment at the international level for good and for ill.

Conclusion

Deciding whether to pursue incremental legislation is a constant dilemma in political life.[237] A partial measure is more easily achieved and provides supporters with limited benefits. Incremental steps also have dynamic effects; the interim measure alters political conditions going forward.[238] A half measure influences when (and if) policymakers will return to issue in the future and affects public support for additional measures.[239] These dynamic effects of incremental legislation can be positive or negative; they can build greater support for a more comprehensive regime or undermine progress on a policy agenda.

The importance of dynamic political feedback effects of incremental measures is heightened when addressing issues that require international cooperation, where national measures are often a prelude to international negotiations. This truth is particularly salient when addressing global public goods. Unlike international arenas where recalcitrant countries can be cut out of the benefits of cooperation (such as international trade),[240] the global commons is nonexcludable.[241] As this Article discusses, a solution to the climate change crisis requires multilateral cooperation. National legislation is easier to achieve in the short term, but depending on the dynamic effects of the legislation, it may or may not be beneficial to the long-term goal of crafting a comprehensive solution.

As a consequence, the question of how national-level measures affect international negotiations should be central in evaluating the merits of national

237. *See* Pierson, Politics in Time, *supra* note 2; Tilly, *supra* note 2; *see also* Gabriella Blum, Islands of Agreement (2007) (discussing whether interim agreements are useful for concluding a final peace between nations).

238. *See* North, *supra* note 2.

239. Pierson, *Increasing Returns*, *supra* note 2.

240. Alessandra Casella, *On Markets and Clubs: Economic and Political Integration of Regions with Unequal Productivity*, 82 Am. Econ. Rev. 115, 117 (1992).

241. *See supra* Section II.A.

legislation. This requires a change from the traditional orientation of considering national measures to one that incorporates the insights of the two-level game. These insights include a more international view of the effect of legislation, examining not only the effects of the legislation at home but the effects on domestic politics in foreign countries as well. In addition, we must focus more attention on the mechanisms that lead to dynamic political change, analyze the productive and counterproductive effects of each, and construct legislation to promote positive feedback effects. National legislation at one point in time can help shape what is politically feasible (domestically and internationally) later in time. An agreement that is not possible now may become so if national legislation is crafted carefully to build greater support for an international agreement over time.