

## International Environmental Treaty Engagement in 19 Democracies

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*This study examines the regular pattern of involvement of 19 democratic states in relation to 15 international environmental treaties over the past 20 years. An attempt is made to understand what accounts for the international environmental engagement of democratic states through an empirical evaluation of four theories, specifically structural conditions, political institutions, idea-based, and international connectivity theory. Rather than case study analysis or an evaluation of a single country or theory, the value of the study is its comparative statistical evaluation of multiple indicators of four rival theories across 19 countries. Empirical findings reveal that the strongest causal forces underlying collaborative democratic state behavior are the citizenry's postmaterial orientations and executive-centered political institutions. International environmental commitments among democracies are constructed by the cultural composition of the polity and institutional rules that centralize ratification procedures, rather than by structural conditions and international forces. The study thus corroborates the idea-based theory's emphasis on the underlying values of the citizenry and the institutional theory's emphasis on domestic policy processes.*

In the 20th century, nation-states have enacted a host of new treaties directed at protecting natural resources and the environment. In 1920, the estimated total number of environmental treaties was only 8. This grew to about 20 by 1940 and then dramatically expanded to about 100 by 1970. In 2000, the cumulative number of environmental treaties—bilateral, regional, multilateral, and international—is estimated to be about 160 (United Nations, 2000). From conservation and resource-based issues (such as ocean preservation) to ecological issues (such as biological diversity and global warming), nations have steadily agreed to adopt and collaborate on a wide range of rules and agreements aimed at protecting the environment. Over the past 2 decades, the ability of nation-states to achieve broad-scale resolutions on global environmental problems challenges conventional notions about the underlying composition of political authority and state behavior.

International environmental treaties have been seen as fundamental mechanisms for the preservation of the well-being of humans and richness of the world. The maintenance and preservation of biological diversity and species, the elimination of harmful chemicals on the ozone layer, improvements in water quality, as well as proposed reductions in carbon dioxide emissions and usage have been attributed to state activities within international environmental accords (Wapner, 1996). Nonetheless, the Bush administration argues that the United States should opt out of “defective” multilateral treaties, whereas the prime minister of the United Kingdom, Tony Blair, has declared that international treaties are indispensable for the protection of Britain's and the world's environment. The rapid surge in interna-

tional environmental cooperation raises important policy questions about the key causal forces accounting for variations in democratic state international treaty engagement.

Although vibrant and consistent, democratic state commitments to multilateral environmental treaties have been far from uniform and vary from “moderate” to “internationalist” behaviors (Choucri, 1993). Understanding the motives and rationales for these variations in international commitments is especially complex because the “remote” international arena displays much weaker norms and ambiguous signals than the domestic arena or even regional-level interactions. One theoretical explanation assesses whether the state’s cost-benefit and strategic concerns are accomplished by adopting or rejecting international accords (Kegley, 1995). State sovereignty grants policymakers the ability to do whatever is necessary to maximize national interests in relation to *systemic opportunities and constraints*, such as the nation’s economic development and ecological circumstances (Sprinz & Vaahtoranta, 1994; Kegley, 1995; Sandler, 1997). The “same” policy commitment within a treaty thus affects each nation differently because each country’s material, power, and economic conditions vary substantially. The primary motivation underlying international engagement is ultimately rooted in calculations of what can be gained or lost (e.g., cost-benefit) in committing to treaty provisions (Keohane, 1986).

Rather than emphasizing national interests and systemic conditions, alternative theories argue that the state behavior of democratic countries is derived from a broader set of dynamics and characteristics rooted within domestic, institutional, and even transnational processes (Axelrod, 1984; Keohane & Nye, 1989; Kegley, 1995). These theoretical explanations stress that domestic-level or transnational forces, such as the composition of the citizenry’s ideological perspective, institutional policy processes, or international organizational pressures, construct and shape international policy positions of democratic states (Rosenau & Czempiel, 1989; Sprinz & Vaahtoranta, 1994; Meyer, 1997). With democratic consolidation at home and a growing globally interdependent world, a diverse array of factors and processes is making democracies more receptive to domestic or supranational pressures and more amenable to international negotiation and collaboration. Citizen preferences and international linkages can effectively place their concerns on the state’s international policy agenda and construct the international behavior of democratic states (Rosenau & Czempiel, 1989; Meyer, 1997). The essential theoretical dilemma to resolve is whether international environmental commitments of democracies are formed by more “objective” systemic circumstances (e.g., economic wealth or ecological conditions), internal processes (e.g., citizen pressures, environmental groups, or institutional rules), or transnational forces (e.g., international economic interdependence).

Analyzing state environmental treaty commitments provides an almost ideal policy area for crossnational comparisons and evaluations of the explanatory power of rival theoretical perspectives. Certain policy areas, such as security, immigration, or crime, may have unequal relevance and salience or differ so greatly in national conditions that comparisons are difficult to make. Economic activity and

production, however, make environmental pollution a problem requiring some type of state intervention and policy response. Over the past 20 years, every advanced democratic nation has institutionalized an environmental agency and has adopted a set of laws aimed at environmental protection. Moreover, since pollution emissions do not respect national boundaries and political jurisdictions, their regulation almost necessarily requires some degree of international coordination. Democratic states must resort to some discernable action in relation to the same policy commitment, even if it is not to participate in the negotiations at all. Quite simply, nations must take one of four courses of action during the course of treaty making: not to participate at all in treaty negotiations, to participate in the negotiations but not sign the treaty, to sign but not ratify the treaty, or to sign and ratify the treaty.<sup>1</sup>

The objective of this article is to explain the primary reasons underlying the overall levels of international environmental commitments made by 19 democracies. I examine the empirical patterns of democratic state participation across the 15 international environmental treaties over the past 20 years. By collecting evidence on state engagement, I attempt to make a causal inference about the dominant factors that undergird international treaty commitments.

Previous studies of environmental treaty participation have generally focused on one particular treaty (e.g., Benedick, 1991), a specific country's international environmental commitments (e.g., Choucri, 1993; Haas, Levy, & Parson, 1992; Sprinz & Vaahtoranta, 1994), or looked exclusively at the explanatory power of a single theory (e.g., Roberts, 1996; Meyer, 1997; Frank, 1999). Although case studies provide useful clues and insights, they do not generate reliable systematic evidence that transcends the context of each treaty or the particularities of the countries selected. In addition, improving the development of theory of environmental treaty engagement requires disproving or confirming theoretical assertions based on evidence across a number of cases rather than focusing on a single theory or case study analysis (King, Keohane, & Verba, 1994, pp. 19–22). Broadening the scope of analysis to examine general patterns of numerous countries and to attempt to invalidate or corroborate several plausible theories should provide a useful framework for exploring the key elements underlying specific historical cases and, more generally, democratic policymaking and international collaboration.

David Frank's (1999) study evaluates environmental treaty engagement in many countries. However, the sample of countries includes many developing economies and authoritarian countries. Authoritarian regimes can willingly exclude or squash citizen interests and do not need to follow policy procedures or institutional rules. The inclusion of authoritarian countries in the analysis prevents an accurate understanding of key theoretical dynamics of democratic policymaking. Indeed, understanding and explaining why democratic states are more active than other democracies remains an important, unresolved theoretical and causal issue.

Policy processes in democratic states purportedly attempt to respond to citizen demands and interest groups and must adhere to constitutional or prescribed treaty ratification procedures. The theoretical inquiry focuses on long-standing theoretical contentions, such as institutional rules and citizen pressures, that occur primarily within democratic polities.

The article proceeds in four steps. First, I present an overview of four theoretical perspectives that provide competing causal explanations for international environmental engagement. These theories provide a comprehensive and divergent set of key indicators and hypotheses for empirical examination. Second, I introduce the measure used to rank and compare each nation's overall commitment to international environmental treaties. Third, I use several statistical tests to explore the connection between competing explanatory variables and international treaty engagement. And fourth, I conclude by reflecting on what the findings imply for an understanding of democratic state policy behavior and international cooperation.

### **Explaining International Environmental Treaty Engagement: Four Theoretical Perspectives**

This study examines a comprehensive and comparable standard of governmental performance and international cooperation: democratic state commitments to international environmental treaties. The focus is thus exclusively on policy "outputs" and the legal passage or ratification of environmental treaties. According to David Easton (1979), policy *outputs* are those legal systems enacted that deal with rules and regulations, whereas policy *outcomes* are the actual impact of laws. In terms of international treaties, a policy output signifies formal ratification of the treaty, whereas a policy outcome is the actual effect of the implementation of that treaty. My analysis focuses exclusively on signing and ratifying an international environmental treaty rather than on its effective political execution or impact on ecological or environmental quality.

Theoretical explanations of democratic state international cooperation emphasize several key elements and dynamics (Roberts, 1996; Frank, 1997, 1999). The primary formulations and contentions are subsumed within four theoretical perspectives. These four theories provide elaborated explanations and fully specified operational hypotheses required for empirical testing. *Structural constraint* theory deals explicitly with contentions about rational-oriented calculations and cost-benefit calculations with structural conditions, namely economics and environmental pollution. *Institutional* theory examines arguments related to the primacy of state sovereignty and the impact of policymaking procedures. *Idea-based, or interest-based*, theory analyzes claims that point to the effect of internally driven, constituent pressures and ideological preferences. *International connectivity* theory centers on the influence of external transnational pressures and global interactions.

The *structural constraint* theory predicts that "objective" systemic considerations influence state international commitments. As a byproduct of increased consumption and production, economic development is clearly the source of many environmental problems and the rise of private corporate entities and interests. However, stronger economic development provides the financial resources, technological capacities, and tax revenues that can be allocated for environmental protection. Countries that have already attained material prosperity are expected to have citizens secure enough to sacrifice further consumption and economic gains. In cost-benefit terms, with increasing economic wealth a condition of "declining marginal utility" develops, whereby further economic gains and accumulation might not be as

valued as noneconomic concerns, such as environmental protection. In contrast, less developed economies appear primarily motivated by increasing economic prosperity and are consequently more likely to avoid international accords that might inhibit economic growth (Hurrell & Kingsbury, 1992; Haas, Keohane, & Levy, 1993).

The specific operational indicators and data sources used to test the structural constraint indicators as well as the other theoretical factors are summarized in Appendix A. Economic development is measured by the average annual income from 1990 to 1996, per capita gross domestic product, derived from World Bank data. Although the sample of countries involves mainly advanced industrial nations, annual income levels range from \$350 per year in India to almost \$28,000 for the United States.

The structural constraint theory also contends that ecological deterioration will create weaker incentives for coordinating the management of environmental pollution at international forums (Caldwell, 1990; Lester, 1994). More visible consequences of industrialization, population density, deforestation, and pollution should lead to weaker state responses because of the increased complexity required for compliance and economic changes. Severe ecological problems are expected to lead the state away from formal regulations involved with international environmental conventions. As a less burdensome cost, states with cleaner environments are more amenable to accepting treaties as a mechanism to improve the country's general pollution levels and prevent external sources of pollution.

Ecological severity is measured through the Palmer Index that summarizes a nation's per capita carbon dioxide emissions, fertilizer consumption, and deforestation (Palmer, 1994). The Netherlands, with the lowest and cleanest annual emissions, receives a 23, whereas Canada, with the highest annual emissions, receives a score of 88. Carbon dioxide emissions, as an index of consumption, represents the overall levels of consumption and production within a nation and is an important proxy for the quality of other key environmental realms, such as air and water quality. Fertilizer consumption also indicates the likelihood and prevalence of pesticides and agrochemicals employed within the nation. This index score has been used by several comparative scholars, including Arend Lijphart (1999) and Lyle Scruggs (1999), to assess a nation's overall ecological health and environmental performance.

The *institutional* theory maintains that domestic institutional arrangements, mainly the degree to which decision making is centralized and has limited veto points, may encourage the representation of "diffuse interest" and therefore promote international policy commitments (Weaver & Rockman, 1993). Helen Milner (1993, p. 347) maintains that a state's capacity to make international commitments involves mainly "the ability to impose losses on powerful groups, represent diffuse interests, and maintain policy stability." The objective of environmental treaties is directed at collective goods (e.g., environmental protection), and their diffuse benefits are granted to the general public rather than to a particular constituency or sector. Environmental treaty commitments may intrude on specific domestic industries, organizations, or practices affected by adopting new environmental regulations or practices. Thus, the overall ability of political institutions and policy processes to

ward off “narrow” interests and represent diffuse or general interests is expected to facilitate international environmental cooperation.

Majoritarian political institutions, with policy processes centralized in a central location, appear to have a stronger capacity to constrain the access of minority “veto” groups and therefore provide for wider engagement in international environmental treaties (Milner, 1993). Centralized policymaking decisions, such as cabinet-level decision-making processes and strong party discipline, may limit the opportunity of well-situated groups and political parties outside these core institutions and organizations to veto foreign policy commitments. In contrast, consensual political institutions, with shared and dispersed policymaking processes, accept a wider array of political parties and interests into foreign policy decisions, thereby allowing “parochial” concerns the ability to block the ratification of international treaties. For instance, multiple political parties with a stake in executive decision making may allow the opportunity for vetoes on treaty ratification and limit the state’s capacity to partake in international environmental commitments. I use Arend Lijphart’s (1999) composite score of majoritarian institutions, which measures the degree of power concentration and dominance (versus shared and dispersed) across five separate indicators of executive powers and political parties, specifically the number of parties, one-party cabinet coalitions, executive dominance, group pluralism, and electoral disproportionality (see Appendix A). Countries with more dispersed policy processes and more political parties receive a higher score, whereas countries with centralized procedures and fewer political parties receive a lower score.

In addition, institutional theorists, such as Milner, maintain that granting stronger ratification authority to an executive allows for better diffuse representation and more decisive international policy commitments because legislators cannot encroach on treaty making decisions. Executive-centered institutions empower the executive with almost complete control over international negotiations who then more readily secures domestic passage of international treaties. On the other hand, an executive dependent on legislative support for international engagements allows for the possibility of legislative “checks” and interference. Weak executives are those who share ratification procedures with legislators, thereby allowing the potentially parochial concerns of legislators the opportunity to block treaty ratification.

The executive dominance scale from Lijphart (1999) effectively measures the degree to which executives are granted autonomy over treaty ratification.<sup>2</sup> The 5-point scale reflects shared versus centralized executive policy powers. The lowest score for the United States reflects the requirement that 67 senators must also consent and ratify a treaty, whereas the United Kingdom receives the highest score because the political executive ratifies a treaty unconstrained by legislative checks because of unanimous support from the majority party.

The *idea-based* theory argues that democratic states respond to public pressures and the internal dispositions, cognition, and organizational affiliations of the citizenry. Democratic theorists claim that democratic policymakers act on and anticipate diffuse, ideological dispositions of the citizenry and organized interests (Keohane & Nye, 1989; Sprinz & Vaahoranta, 1994; Jasanoff, 1996). The impact of

values and ideology is mediated and channeled primarily through elections, and political representatives behave in a manner that mirrors the values of their domestic constituents (Katz & Wessels, 1999).

Group theorists, from James Madison to Gabriel Almond, contend that the essence of politics is a struggle among rival "factions" or groups. Group interactions and influences have a powerful effect on individual attitudes and behaviors and may shape quite importantly the content and substance of foreign policy behaviors. Environmental organizations are an effective integrative mechanism that can articulate and aggregate environmental interests toward decision makers, elites, and the general public (Milbrath, 1984; Dalton, 1994). As Russell Dalton (1994, p. 1) contends, "The existence of an active environmental movement is a sign of the public's interest in environmental issues, as well as a stimulant for politicians and the public to pay even greater attention to environmental concerns." In contrast, Sheila Jasanoff (1996) argues that the growth of scientific expertise severely diminishes the role of citizen interests and governmental responsiveness.<sup>3</sup>

Postmaterial value orientations are also strongly associated with support for environmentalism and internationalism. For quite some time, postmaterial publics have been seen as a significant precursor of environmentalism (Milbrath, 1984; Inglehart, 1995). The correlation between postmaterialism and environmentalism is so solid that some see environmental concern and postmaterialism as intertwined. Ronald Inglehart (1995, 1997) argues that environmentalism epitomizes core elements of the postmaterial shift that has occurred in advanced industrial societies. Inglehart shows through survey research that when material and security concerns are satisfied, quality-of-life concerns, such as environmentalism, take greater priority over economic growth. Postmaterial orientations have also been linked with stronger support for supranational affiliations and institutions, such as the European Union, foreign aid, and international law.

All of the data on idea-based factors are taken from the 1992 results of the World Values Survey (Inglehart, 1992).<sup>4</sup> The World Values Survey assesses the extent to which individuals identify with certain interests and values as well as their affiliations with various political groupings. Left-wing ideology, values, postmaterial orientations, and environmental group membership scores are the self-identified values given by each nation's respondents.<sup>5</sup> The measures for these factors reflect the nation's average support for these values or political associations. For advanced democratic countries, survey methods are the most reliable and accurate. Well-established survey organizations, such as Gallup, conduct the surveys, and respondents in these countries can freely voice their opinions without fear of political reprisals (Inglehart, 1997).

The *international pressure* theory contends that stronger interdependency and connections with international society provide the main force underlying international engagement (Ruggie, 1998). Although the growing transfer of capital provides a subtle inducement for antienvironmental challenges, economic linkages appear to actually prod and induce nations to participate in international forms of coordination. With increased forms of economic interdependence, states could

effectively meet their interests by pooling sovereignty collectively and cooperating internationally to promote shared concerns (Wapner, 1996). This theory relates more to countries on the periphery, rather than to “core” advanced industrial democratic states; however, analysis would be incomplete by omitting this theoretical perspective. The overall level of trade flows, imports, and exports provides a critical indicator for economic interdependency. Trade relations indicate the state’s overall level of economic exchanges and connectivity with other countries. This measure is taken from World Bank data on the state’s level of imports and exports from 1990 to 1992.<sup>6</sup>

Aside from economic interdependence, Meyer (1997) and Meyer, Boli, Thomas, and Ramirez (1997) argue that the overall discourse created by multitudes of transnational relationships and international organizations has potent effects. Increased levels of exchange and connectivity lead nation-states to forgo strategic concerns and respond in a regular, cooperative manner. The presence of international organizations, such as Greenpeace and Friends of the Earth, and participation within international regimes, such as the United Nation Environmental Program, are expected to open democratic regimes outwardly toward deeper supranational affiliations and acceptance of international collaboration (Kegley, 1995). International organizations and regimes enhance cooperation because they perform the valuable tasks of discourse, linkage, and trust without frontally challenging state sovereignty (Dietz & Kalof, 1992; Roberts, 1996).

One indicator for each country’s level of international discourse and exchange is its participation within different types of intergovernmental organizations and international environmental organizations. The *Green Globe Yearbook of International Co-operation on Environment and Development* (1994) assesses each country’s involvement in 12 intergovernmental organizations (e.g., the World Conservation Union and International Chamber of Commerce) and the presence of 13 international environmental organizations (e.g., Earthwatch and World Wide Fund for Nature) within each country.

Another indicator is each state’s involvement in international regimes and institutions, such as the International Bureau of Education or the United Nations Environmental Program. The measure is taken from each state’s involvement in 60 different international regimes and entities compiled by the *Directory of International Organizations* (Schraepfer, 1996). Although these two measures of international exchange and discourse appear very similar, none of the organizational indicators for these two measures overlap. One measure assesses the presence of international organizations and intergovernmental organizations, whereas the other examines solely international regime participation. These measures tap into two fairly distinct elements and the correlation between these two measures is fairly moderate ( $r = 0.43$ ).

### **Measuring State Engagement in International Treaties**

This section measures in a comprehensive and longitudinal manner the regular, cooperative international environmental engagement of 19 democratic states. My analyses are based on 15 international environmental treaties deposited in the United Nations registry and the Consortium for International Earth Science Information Network as of December 21, 2001. The registry includes all of the inter-



national environmental treaties over the past 20 years.<sup>7</sup> By international, I mean that all of the nations in this study were invited and capable of participating in these multilateral forums. Certainly, many other environmental treaties exist, but many of these involve strictly bilateral or regional commitments, for example, the protection of the Black Sea or European Union environmental accords, and so were explicitly excluded. In sum, the international treaties deal with a wide and diverse range of policy domains, from the protection of marine fisheries to air pollution, sulfur emissions, hazardous waste, climate change, and biological diversity.<sup>8</sup> Table 1 lists and provides general information on the international environmental treaties used in the analysis.

**Table 1. Environmental Treaties Used for Rankings**

<i>Treaty</i>	<i>Year</i>	<i>Signed</i>	<i>Ratified by Dec. 2001</i>
1. Prohibition of Hostile Use of Environmental Modification Techniques	1976	17	13
2. Prohibitions of the Use of Certain Conventional Weapons	1980	18	17
3. UN Convention on the Law of the Sea	1982	16	14
4. Reduction of Sulphur Emissions by 30%	1985	12	12
5. Vienna Convention for Protection of Ozone Layer	1985	19	14
6. Montreal Protocol on Substances that Deplete Ozone Layer	1987	19	18
7. Basel Convention on the Movements of Hazardous Wastes	1989	19	17
8. Convention on Oil Pollution Preparedness, Response, and Cooperation	1990	14	12
9. Convention on Environmental Impact Assessment	1992	15	10
10. UN Framework Convention on Climate Change	1992	19	18
11. Convention on Biological Diversity	1992	19	18
12. Convention on Chemical Weapons	1993	19	16
13. UN Convention to Combat Desertification	1994	19	12
14. Comprehensive Nuclear Test Ban Treaty	1996	18	11
15. Prohibition on Anti-Personnel Mines	1997	16	13

*Note.* Year = the year in which the treaty was adopted;

Signed (*Signatories*) = the number of the 19 states in the sample listed as signatories in the UN report;

Ratified (*Ratification*) = the number of the 19 states in the sample listed as ratifiers of the treaty in the UN report.

The 19 nation-states selected are countries that have been continuous democracies for at least 20 years. Democratic regimes are more likely to exhibit features of compromise and accommodation necessary for international cooperation (Dahl, 1998). In fact, most democratic countries have participated fairly strongly and consistently in environmental treaty making, at least in terms of signing the agreements. Consequently, analysis centers on the variations in countries that are either moderate or active participants rather than on isolationist or bystander countries, which are more typical of authoritarian regimes, poorer economies, and non-Western countries. Moreover, with the growing convergence of continental Europe due to the Maastricht Treaty requirements and the European Union, many European countries are strongly compelled to participate in environmental negotiations (Vogel, 1998).

Democracies provide a valuable lens to evaluate the efficacy of key theoretical propositions about international policy behavior based on the interplay of systemic conditions, citizen pressures, domestic institutional processes, and globalization. In contrast, authoritarian governments participate in international forums primarily based on the orientations and desires of the leadership or the ruling party rather than on citizen pressures or even transnational forces. For example, within authoritarian countries, institutional rules or policy procedures related to treaty ratification, if they exist at all, can be ad hoc or entirely neglected (Dahl, 1998).

The democracies included in the study are all significant international actors that are normally invited to take part in international treaty negotiations. Moreover, with the exception of India, these nations are all advanced industrial economies. These criteria avoid any potential biases that may occur when including small democratic countries, such as the Bahamas, that are not regularly included in treaty negotiations. By selecting only democratic countries with fairly similar political, economic, and international positions, extraneous and less theoretically relevant factors can be held "constant" and in the background. Thus, a most similar comparative approach allows analysis to focus exclusively on the causal force of those variables under theoretical consideration.<sup>9</sup>

International treaty engagement essentially comes down to two stages: (1) the signing of the treaty at an international forum and then (2) the ratification of the treaty by domestic policymakers and institutions. Although a critical step, a country's signature on a treaty is an initial *symbolic* gesture of a nation's support for the treaty and reflects mainly the preferences of the country's executive. Ratification reflects the formal legitimacy of the nation as a whole and legally binds the nation domestically and internationally. In fact, most democracies in the sample are willing to "sign" international environmental treaties but are much more reluctant to ratify. Out of the 19 countries in this study, signatures were placed on environmental treaties in 90% of the instances, whereas ratification occurred at a lower rate, 76% of the time.<sup>10</sup>

The study focuses only on those countries that have a general propensity to sign and ratify most, but not all, international environmental treaties. Robert Dahl (1998) notes that the endemic features of compromise and accommodation existing

within mature, democratic states leads them to be more inclined to international collaboration. Therefore, analysis centers on variations between democratic states that participate “often” and those that participate “nearly all the time.” As a word of caution, since most democracies are moderately or actively involved in the first place, this places limitations on the generalizability of the conclusions because these countries have already chosen to participate in environmental treaties. It would be inappropriate to transpose these findings to countries at a different stage, such as transitional democracies, authoritarian regimes, or even poor economies, that have not taken the initial steps toward international environmental cooperation. In fact, analysis of treaty engagement that includes authoritarian governments and transitional democracies, such as eastern European countries, that are weakly involved in treaty making displays substantially different results, such as the pronounced causal effect of international pressures (Frank, 1999).

Since the legitimacy of a treaty depends primarily on ratification, not only empirically but also in principle, I placed more weight on ratification in measuring overall state engagement. A nation is given a single point for being a signatory on the treaty, and 3 additional points are then added for ratification. In sum, a nonsignatory country receives 0 points, a state that signs but does not ratify a treaty is granted 1 point, and a nation that signs and ratifies a treaty receives 4 points.<sup>11</sup> After several statistical analyses using various weights for ratification, I find that the allocation of points for ratification does not significantly change the rankings. Moreover, correlation analysis across different weights for ratification were virtually indistinguishable and over ( $r = 0.99$ ).

Table 2 lists the rankings of the 19 states in terms of their overall commitment to international environmental treaties. The one immediate pattern is the fairly distinct regional differences. Five Nordic countries occupy the top seven positions, with Norway, Sweden, and Finland in the top three positions and the Netherlands and Denmark in the fifth and seventh positions, respectively. Germany and Canada round out the upper rankings, with Italy, the United Kingdom, and France in the middle portions. The two largest economies in the world, the United States and Japan, occupy two of the five lowest rankings. Situated alongside these economic superpowers are the less economically developed countries in the sample, such as Spain, Ireland, India, and Portugal.

The rankings illustrate that northern European countries, particularly Nordic countries, are the most active in terms of international environmental commitments. Nordic countries consistently provide the highest per capita amount of international aid and relief to developing countries (Palmer, 1994). The correlation between per capita international aid and international environmental commitment is very robust ( $r = 0.71^{**}$ ), revealing that the index score reflects a proactive “internationalist” foreign policy. Also, part of this is attributable to the growing political and economic (and cultural) integration of the European continent through the European Community (EC). Western European countries have been called a “confederation” in which EC institutions are steadily increasing its governing authority (Vogel, 1998). However, member governments must ratify treaties on their

own and through domestic policy processes. In fact, Spain, Portugal, and Ireland are member nations of the EC but have relatively moderate participation levels. It is important to note that since continental European countries appear to be active participants, the key variations in engagement are generated by countries outside of central Europe, namely India, Ireland, Japan, Portugal, Spain, and the United States.

### A Multivariate Analysis of Environmental Treaty Engagement

This section analyzes the empirical linkages between rival theoretical indicators and international environmental treaty engagement. With such a small sample size, in order to avoid problems of multicollinearity while maintaining a rigorous evaluation of each factor, multivariate analysis is performed across a series of equations with a few variables.

The first regression equation includes the most powerful bivariate factors and the most plausible theoretical factors within each theoretical formulation. The base model reveals the significant causal strength of each variable while holding the most robust and theoretically relevant factors constant. Then, to be certain that these significant variables provide stable effects, additional indicators from four theoretical perspectives are evaluated against the robust variables derived from the base model.

A series of multivariate statistical tests that cut across rival theoretical indicators severely limits the possibility of spurious relationships and biased causal estimates that occur from omitted variable bias. Statistical tests that thoroughly evaluate their comparative strength across theoretical boundaries avoid inflated causal weights. For example, international regimes could be significantly correlated with

**Table 2. Rankings and Scores of 19 Countries**

Nation	Total Score	Signed	Ratified by Dec. 2001
1. Norway	57	15	14
2. Sweden	57	15	14
3. Finland	56	14	14
4. Germany	56	14	14
5. Denmark	53	14	13
6. Netherlands	51	14	12
7. Italy	50	15	12
8. United Kingdom	50	14	12
9. Canada	50	14	12
10. France	49	13	12
11. Switzerland	48	15	11
12. Austria	47	14	11
13. Belgium	47	14	11
14. Spain	46	13	11
15. Japan	43	13	10
16. Ireland	42	12	10
17. India	38	11	9
18. Portugal	37	13	8
19. United States	30	12	6

Note. Score represents overall index of state commitment to international environmental treaties, the dependent variable. For each treaty, 1 point is granted for a signature, and 3 points are granted for ratification.

international engagement simply because a high concentration of international regimes tends to coexist within those countries with high levels of postmaterial ori-



**Table 3. Regression Results of International Environmental Engagement and Four Models and Base Model**

Variables	Base model		Structural theory		Institutional theory		Idea-based theory		International pressure theory	
	B	(0.88)	B	(1.3)	B	(3.2)	B	(2.1)	B	(3.9)
Environmental severity	32	(0.88)	0.00009	(1.3)						
Wealth			4.9**	(3.6)	4.2**	(3.2)	2.9*	(2.1)	5.6**	(3.9)
Executive dominance	4.1**	(3.1)			5.8**	(2.9)				
Consensual institution			1.6**	(3)	1.5**	(2.9)	1.3**	(2.6)	2.2**	(4.1)
Postmaterialism	1.8**	(3.4)					0.35	(0.87)		
Ideology (left-wing)							0.65	(1.9)		
Environmental values							0.86	(1.7)		
Environmental group membership									0.0003	(0.07)
World embeddedness									0.40	(1.1)
Transnational forces									0.02	(0.18)
International regimes									19	(3.8)
Constant	28**	(6.0)	35*	(4.1)	28**	(6.4)	11.7	(0.84)		
F	7.2**		2.1		7.6**		2.1		4.8**	
Adjusted R	0.49		0.20		0.46		0.57		0.31	
N	19		19		19		19		19	

Note. Numbers in parentheses are t-statistics. \*  $p > = 0.05$  \*\*  $p > = 0.01$



entations. Both indicators are inflated and biased if they are not included together within a multivariate equation. As King, Keohane, and Verba contend (1993, p. 137), omitted variable bias “limit[s] the generality of our conclusion or the certainty in with which we can legitimately hold it.”

I start with a base model that includes the most relevant factor from each theory and those that displayed the most vibrant bivariate strength.

- Environmental Severity
- Executive Dominance
- Postmaterialism
- Transnational Forces (e.g., international organizations)

Table 3 displays the results of the base model and four theoretical equations regressed against international environmental treaty engagement. The impact of theoretical indicators from ecological conditions and international pressures is reduced to insignificance when the other potent variables are analyzed. One finding, although insignificant, shows that polluted democracies are no more likely to be actively engaged in international environmental conventions, even though these states are the prime source of environmental pollution. This combination of moderate to passive international environmental behavior and high pollution in some countries, which have been termed “dragger” nations by Sprinz and Vahtoranta (1994), presents a complex governance problem for international society. The overall efficacy of international environmental accords and ecological sustainability of the global commons is jeopardized if high-pollution states do not become actively committed to environmental treaties. As for international pressure theory, the presence of international environmental organizations within a country displays only slight influences on state policy behavior. The presence of international environmental groups does not necessarily pave the way for substantially higher levels of international environmental engagement.

The base model reveals that a factor from institutional theory, executive dominance theory, and interest-based theory—postmaterialism—displays robust effects. Postmaterialism not only displays the most robust bivariate correlation ( $r = 0.67$ ) but is also the strongest predictor in a multivariate equation. The significant influence of strong executive power confirms the belief that inhibiting legislative “checks” and centralizing power in an executive appears to widen the state’s ability to intervene internationally, in this case, in a positive, cooperative manner.

The next step is to expand the model to include additional theoretical variables and to further assess the independent strength of executive dominance and postmaterialism. The second equation assesses the impact of a structural constraint factor, economic wealth. Even though the sample involves industrial economies, income differences across these nations are sufficiently diverse. The insignificance of the effects of the structural-constraint indicators suggests that decisive considerations for democracies are unrelated to what are deemed “objective” systemic cir-

cumstances, such as economic wealth or environmental pollution. It appears that democracies are guided more by internal dynamics than by cost-benefit analyses of what can be gained or lost through the adoption of environmental treaties.

The third equation tests the explanatory power of political institution theory. The findings reveal that strong executive powers and consensual institutions are both robust predictors of state behavior. Contrary to expectations, in bivariate analysis, consensual political institutions are seen as quite capable in maintaining united international policy stances and engaging actively in international treaties. This confirms Lijphart's (1999) assertion that consensual institutions, by including more voices and minority concerns, promote "kinder and gentler" policies not only for minority groups and social welfare policy domains but also for international collaboration. Once other noninstitutional, theoretical variables are added to the equation, however, results reveal that consensual institutions no longer retain significant, independent causal strength.

The fourth equation tests several factors from the idea-based theory. This model provides the strongest overall explanatory power, with an adjusted R-squared of 0.57. Citizen-based preferences and demands, namely strong environmental sentiments and environmental group membership, both display fairly robust connections with international treaty commitments. The influence of left-wing ideology appears largely undercut by the presence of the three other value-based indicators. In fact, left-wing ideology is moderately correlated with postmaterial orientations ( $r = 0.29$ ), and environmental groups are significantly correlated with environmental values ( $r = 0.51$ ). Future work, with more elaborate data and time-series analysis, might indicate a causal pathway, such that left-wing ideology underlies the development of postmaterialism, and at the same time, environmental group strength underlies environmental values, which predicts overall variations in international environmental engagement.

The fifth equation presents the findings from the international connectivity theory. This equation shows that transnational forces, both economic connections and discursive, weakly impact democratic international environmental engagement. Trade flows and economic interactions do not provide a crucial causal nexus for subsequent treaty commitments. Also, enhanced participation in international regimes does not necessarily lead the state to stronger forms of environmental treaty engagement. The empirical evidence suggests that global economic pressures and political forces do not appear to penetrate into the depths of the state policy apparatus of advanced industrial democracies. However, these countries sampled are primarily advanced economies, and as "core" countries, they do not fall prey to international economic power as easily as "periphery" countries. This makes broader comparisons to other analyses with developing or periphery economies inapplicable (Frank, 1997; Meyer et. al., 1997).

Despite the small sample size and across a diverse range of theoretical equations, two factors, postmaterialism and executive dominance, display consistent significant effects on international environmental commitment. As for the specific, independent effects of these variables, a 1-point percentage shift in the populace's

support for postmaterialism was connected with the ratification of two more treaties. For executive dominance, along the 5-point scale, a 1-point increase in executive strength related to the enactment of approximately four more treaties. In short, active international environmental behavior of advanced democratic states is thus best predicted when the states have citizens who are willing to prioritize quality of life concerns (e.g., postmaterial) over economics and have institutional procedures that centralize policy processes within the executive.<sup>12</sup>

Postmaterial values appear necessary for the public to look beyond material or strategic concerns and accept potential international intrusions on certain economic activities and strategic interests. More importantly, the primacy of the citizenry's ideological composition diminishes the autonomous role of elite "rational" calculations as well as the force of international pressures because state international behavior appears to reflect the values of ordinary citizens. Postmaterial orientations of citizens are not only necessary, they also appear to be easily transferred onto a democratic country's foreign policy agenda. Ronald Inglehart (1997) argues that postmaterialists are better educated, participate more in politics, and are more willing to take elite-challenging forms of behaviors. Citizen interests and orientations might require vocal articulation and efficacious participatory acts to move beyond abstract notions to concrete international policy positions.

Postmaterialist publics are noted for their strong acceptance and support of international connectivity, international aid, and supranational regimes and institutions. Postmaterial citizens display the strongest support for involvement in and enhancing the strength of the European Union and the North American Free Trade Agreement (Inglehart, 1997). According to Gallup survey results (Dunlap, Gallup, & Gallup, 1993), those countries with high numbers of postmaterialists strongly support contributing tax money *and* giving authority to an international environmental agency.<sup>13</sup> Germans, Dutch, and Finnish citizens, with some of highest numbers of postmaterialists, express the strongest support for contributing money and granting authority for an international environmental agency and are at the highest levels of international engagement. On the other hand, those countries with lower levels of postmaterialism, United States and Japan, that also show weak financial and political support for an international environmental agency are less active participants (Dunlap et al., 1993).

This study appears to show that countries with lower levels of postmaterialism tend to favor economic considerations and display "isolationist" sentiments. Postmaterial orientations appear to tap into a cosmopolitan world view and "internationalist" tendency within a polity. These values, once widespread among the public, tend to infiltrate the international behavior of democratic states. The postmaterial value dimension should be accorded greater attention by scholars as a key influence in enhancing international collaboration and international aid amongst democracies.

Secondly, when supportive orientations are present among the public, an executive-centered policy process provides the necessary mechanism to avoid domestic checks and ensure diffuse representation. The two first-place nations,



Norway and Sweden, had only one executive signature that failed to convert into ratification. These two countries were able to successfully transfer their executives' signatures into formal ratification in 93% of the instances. In the aggregate, strong executive states converted signatures into ratification 90% of the time, whereas weak executives secured ratification at a lower rate, 76%.<sup>14</sup> Strong executive-centered states ratified on average 12.4 treaties and 83% out of the possible treaties, whereas weaker executives ratified on average 10.4 treaties and 71% of the potential cases.

Executive-centered procedures clearly appear more capable of transferring signatures into ratification and avoiding vetoes by more isolationist elements within domestic political institutions. If, as Weaver and Rockman (1993) contend, maintaining international commitments is an important indicator of governmental performance, strong executive powers might be necessary to bolster a regime's capacity to overcome powerful veto groups and promote prospects for international treaty ratification. It is important to emphasize that some countries, such as Italy and Switzerland, with relatively weak executives still maintained an active role in international policy, whereas Spain, with relatively strong executive powers, displayed only a moderate role. This signifies that the existence of executive-centered institutions in itself does not determine international engagement.

The general finding implicates shared legislative power and weak executives as institutional obstacles to wider forms of international collaboration. The United States and Portugal, with very weak executive powers, both failed to transfer their executives' support for the Convention of Environmental Impact Assessment into domestic, legislative ratification. The weak American and Portuguese executives have transferred their signature into ratification at the *lowest* rates, 58% and 75% of the time, respectively. The average signature to ratification conversion rate for the other countries is 88%. Rather than simply faulting political executives for weak international commitments, one can partially attribute the passive international role of some countries, such as the United States and Portugal, to the reluctance of "anonymous" domestic legislators in ratifying treaties. Weak executive states might compromise the credibility and legitimacy of their countries' negotiating positions because their executives cannot guarantee formal legislative ratification.

The U.S. constitution explicitly stipulates that treaty ratification is shared coequally across the executive and legislative branches and based on the "advice and consent" of the U.S. Senate. The United States has probably the most stringent treaty ratification requirements of any democracy, a "super-majority" threshold of *two-thirds* of the Senate. The U.S. constitution was designed to deliberately make it difficult for the country to make treaty commitments. Over the past 6 years, the U.S. Senate has demanded an even larger role over international environmental negotiations. For instance, before the Kyoto global warming negotiations even started, the Senate unanimously (99-0) passed a resolution demanding that three conditions be inserted into the agreement in order for it to be ratified by the Senate.

Institutional rules are policy procedures that guide the process of treaty ratification and appear to promote or inhibit diffuse representation and international environmental treaty engagement. However, weak executive powers in Italy and

Switzerland were not a barrier to fairly active environmental commitments because of the overriding influence of postmaterial orientations. Institutional rules are directed and interact with the dominant values and interests of the citizenry. The United States's last-place ranking can be attributed not only to severe legislative encroachments and a weak executive power but also to the American public's relatively low levels of support for postmaterialist values and international environmental commitments in general.

## Conclusion

Empirical analysis finds that a parsimonious explanation of state cooperative behavior can be achieved through an integration of a key element of idea-based theory, value orientations of the citizenry, and institutional theory, executive dominance. The orientations and value priorities of "ordinary" citizens are critical in the active construction and development of international environmental rules and conventions. Postmaterialism among the citizenry appears to be essential for value priorities that emphasize environmentalism and for the state to accept broader support for international environmental accords. Indeed, the reality of increasing international treaty commitments over the past 20 years confirms the thesis that the post-material value shift has occurred. International treaties are a beneficial way for citizens and democratic states to promote their common and shared interests rather than to simply act upon security, instrumental, and "material" interests.

However, democratic institutions are not simply a neutral arena mediating citizen interests and carrying out public opinion. Formal treaty ratification for democratic nations must be channeled through institutional procedures that must overcome the threat of legislative vetoes. Ratification procedures that enhance the ability of legislators to reject international commitments allow domestic, "parochial" concerns that inhibit ratification. Consequently, strong executive-centered ratification power, by avoiding vetoes from isolationist or antienvironmental legislators, ensures the diffuse representation of international environmental protection and cooperation.

There are three other important implications of the analysis both for the discussion of environmental treaties and for international cooperation. First, the weak empirical connection between pollution levels and international collaboration suggests that severely polluted states have not made active efforts to counteract their environmental deterioration. These dragger states may continue to be only moderately involved with international environmental accords while emitting high levels of pollution within and across their borders. An inducement to involve dragger states in international environmental conventions would be to make participation in other important international regimes and policy domains, such as economics, trade, currency, and the like, contingent on active engagement within environmental treaties.

Second, not only does centralizing power in an executive increase state capacity to declare war and perhaps repress citizens, the study shows that strong executive power also enhances the prospects for *peaceful* and cooperative forms of behavior. One possible procedural solution for enhancing treaty ratification

prospects is to explicitly restrict legislative encroachments over treaty approval. For example, the United States has limited legislative considerations during trade negotiations by granting its president "fast track" authority, which was seen as critical for passage of the North American Free Trade Agreement (Recchia, 1996). Rather than excluding legislators, another solution would be to directly include and build consensus with influential legislative leaders and political party leaders. Directly inviting key legislators into the negotiation process would give them a vested interest in the proceedings and allow them to voice their essential conditions during treaty negotiations. The proper choice of inclusion or exclusion likely depends on the country's particular executive-legislative relations and domestic and international context.

More generally for understanding international cooperation, the growth of international environmental cooperation shows that stable democracies are willing to assent to limitations on the state as an autonomous policymaking entity. The study shows that most democratic countries do not react automatically to structural, objective economic and ecological conditions or externally-driven, international pressures. The evidence suggests, however, that democratic states behave fairly predictably based on an interaction between the country's institutional design related to treaty ratification and citizen constructions of national priorities. Strong executives sign more treaties and secure ratification when citizen's demands for international environmental protection are solid.

We must caution against overly broad and sweeping claims about these findings. The countries sampled are all stable democratic regimes and fairly wealthy nations. The viability of international environmental cooperation in nondemocratic or industrializing countries will not necessarily be influenced by these significant factors because of differences in their economic and political development. Authoritarian regimes are dominated by a clan or a single political party, and treaty engagement does not depend on (nonexistent) policy procedures and independent-minded legislators. Moreover, for nondemocracies, ratification depends almost entirely on the concerns and whims of the ruling elite or even on global economic ties and connections. This should make it very difficult to discern a "common" set of causal forces that function in all places, political regimes, or economic stages. More practically, to agree on a common framework and appropriate methods for managing global environmental threats across the conflicting cultural orientations, regime types, and levels of economic development of 180 states and billions of people may prove to be an enormous challenge.

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## Appendix A. Predictors of International Environmental Treaty Engagement

<i>Categories of variables</i>	<i>Operational definition</i>	<i>Data source</i>	
<b>Structural constraint theory</b>	<i>Wealth</i>	Per capita GDP, 1996	World Bank (1990-1997)
	<i>Environmental severity</i>	Index of carbon dioxide emissions, fertilizer consumption, and deforestation	Palmer (1994)
<b>Political institutional theory</b>	<i>Majoritarian vs. consensual features</i>	Overall index of 5 variables (parties, cabinet coalitions, exec. dominance, group pluralism, electoral disproportionality)	Lijphart (1999)
	<i>Executive powers (subset of index)</i>	Executive dominance	Lijphart (1999)
<b>Idea-based theory</b>	<i>Ideology</i>	Self-identification as left-wing, 1991	Inglehart (1992)
	<i>Values</i>	Willingness to accept higher taxes for environmental protection, 1991	Inglehart (1992)
		Postmaterialist scale, 1991	Inglehart (1992)
<i>Environmental group membership</i>	Per capita membership in environmental group, 1991	Inglehart (1992)	
<b>International connectivity theory</b>	<i>World embeddedness</i>	Openness of trade flows, 1990-92	World Bank (1997)
	<i>Transnational forces</i>	Level of involvement in intergovernmental and international environmental org's	Green Globe Yearbook (1994)
	<i>Regimes and international institutions</i>	State involvement in international regimes and international institutions	Schraepler (1996)

## Appendix B. Descriptive Statistics on Independent Variables

<i>Variable</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>
Treaty engagement (dependent variable)	30	57	47.7
Environmental severity	23	88	66
Wealth	350	27,821	19,725
Executive dominance	1	5.52	3.11
Consensual institutions	-1.21	1.77	0.38
Postmaterialism	2.6	26.2	16
Left-wing ideology	6	32.3	16
Environmental values	40	77	60
Environmental group membership	0.8	24	6.3
World embeddedness	18	137	63
Transnational forces	22	44	33
International regimes	24	47	34

### Notes

<sup>1</sup> Another important factor of international environmental commitment is the implementation of the treaty, which is beyond the scope of the study. The study's findings can be found at the Inter-university Consortium for Political and Social Research.

<sup>2</sup> The scale ranges from 1 to 5.52. A high score signifies relatively autonomous treaty ratification processes for the executive, whereas a low score signifies a "shared" ratification process between the executive and legislature.

<sup>3</sup> Several indicators, such as per capita level of scientists, the share of the world scientific literature in refereed journals, and citations of scientific literature per paper, were evaluated, but none revealed significant findings. This indicator is removed for clarity and weak empirical evidence.

<sup>4</sup> Just as any other survey, the results from the World Values Survey may have certain flaws and do not fully capture citizen attitudes. However, for advanced industrial democracies, the survey methods are conducted by well-established, professional survey organizations, such as Faits et Opinion in France, Gallup-Canada, and the Danish National Institute of Social Research, and are seen as the most reliable and accurate. As Inglehart states (1997, pp. 346-347), "The surveys from low-income countries tend to have larger error margins than those from other countries." The sample sizes in advanced democracies are also larger, thereby reducing sampling errors. National indicators for postmaterialism and environmental values are highly correlated ( $r = .95$ ) across the 1981 and 1990 World Values Survey. Spain and Italy were the only countries in the sample with substantial changes from 1981 to the 1990s. Furthermore, the results from the World Values Survey are very similar to those found by other surveys. Another comprehensive 16-nation survey of environmental attitudes conducted by the Gallup International Institute (Dunlap et al., 1993), Eurobarometer surveys, and

survey analysis performed by Riley Dunlap (1997) displays very similar patterns with the World Values Survey.

<sup>5</sup> The respondents were asked the following questions: Ideology—"In political matters, people talk of the 'Left' and the 'Right.' How might you place your views on this scale, generally speaking"; Environmental Values—"I would agree to an increase in taxes if the extra money is used to prevent environmental pollution"; Postmaterialism—12-item indicator; Environmental Group membership—"Which, if any, groups or voluntary associations do you belong to: Conservation, the environment, ecology?"

<sup>6</sup> The openness of trade flows is measured by adding a state's imports to its exports and then dividing this number by current international prices.

<sup>7</sup> The time frame ranges from 1976 to 1999 to allow an appropriate time lag for state ratification.

<sup>8</sup> Some note that the last few treaties on chemical weapons, nuclear test bans, and antipersonnel mines appear to be more about security than environmental protection. These treaties deal with weapons and materials that threaten the sustainability of the natural environment. In fact, many call these the ultimate environmental threats. The Cronbach alpha and intra-class correlation results shows that these items are consistent with the other treaties within the index. More significantly, analysis has been performed without these treaties and the substantive findings have not changed.

<sup>9</sup> To emphasize the point, one potential problem of including mainly advanced democratic economies may hinder the explanatory power of international connectivity theory. Theorists point to the effects of globalization on poorer economies that are compelled to enter into international agreements, but advanced democratic economies, on the other hand, are not as susceptible to globalization.

<sup>10</sup> This was derived by taking the actual amount of signatures or ratification in the numerator and dividing it by the maximum possible amount of opportunities for signature or ratification in the denominator. The key point is that signatures are almost universally granted by most democratic countries, whereas ratification procedures, the formal acceptance of the treaty, are more difficult.

<sup>11</sup> The importance of granting more weight to ratification relates to the formal and legal legitimacy conferred upon ratification, both domestically and internationally. More importantly, it makes virtually no statistical difference whether ratification was increased exponentially by a sum of 2, 4, and 6. In addition, reliability analysis was performed on each item (signing and ratifying) to determine their internal consistency for summation purposes and to identify potentially incompatible problem cases. The reliability estimate had a Cronbach alpha of .78, exceeding minimal requirements, and the split half method also displayed significant intra-class correlations. The results are sufficiently robust to use the coding scheme as an additive index and as an indicator of international environmental engagement (McIver & Carmines, 1981; Dunn, 1989). Scholars argue that a hegemonic country behaves differently because of its reduced power position in multilateral forums. Regression analyses were conducted without the United States; however, the statistical findings are upheld without the inclusion.

<sup>12</sup> The data points on the regression line are fairly tight and represent a normal scatter. I also performed residual analysis, Cook's D, for the five regression equations. All of the Cook's Distances were under .4, which signifies a normal scatter. Therefore, the issue outliers driving the relationship does not deserve further scrutiny. Scholars argue that a hegemonic

country behaves differently because of its reduced power position in multilateral forums. Regression analyses were conducted without the United States; however, the statistical findings are upheld without the inclusion of the United States.

<sup>13</sup> The question asked respondents was, "Would you favor or oppose giving an international agency the authority to influence our government's policy in environmentally important areas: strongly favor, somewhat favor, somewhat oppose, or strongly oppose?"

<sup>14</sup> The characteristic of having relatively strong executives signifies the group of countries above the median score for executive dominance.

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