Article

Journal of Conflict Resolution
2015, Vol. 59(6) 1074-1100

DOI: 10.1177/0022002713520533
jcr.sagepub.com
SAGE

When International Organizations Bargain: Evidence from the Global Environment Facility

Patrick Bayer[1], Christopher Marcoux[2], and Johannes Urpelainen[3]

Abstract

Who gets what in bargaining between states and international organizations (IOs)? Although distributional conflict is unavoidable in international cooperation, previous research provides few empirical insights into the determinants of bargaining outcomes. We test a simple bargaining model of cooperation between states and IOs. We expect that nonegalitarian international organizations, such as the World Bank, secure more gains from bargaining with economically weak than with economically powerful states. For egalitarian international organizations, such as most United Nations (UN) agencies, the state's economic power should be less important. We test these hypotheses against a novel data set on funding shares for 2,255 projects implemented under the auspices of the Global Environment Facility, from1991 to 2011. The data allow us to directly measure bargaining outcomes. The results highlight the importance of accounting for the interactive effects of international organization and state characteristics.

[1]Department of Political Science, University of Mannheim, Mannheim, Germany
[2]Department of Political Science, DePauw University, Greencastle, IN, USA
[3]Department of Political Science, Columbia University, New York, NY, USA

Corresponding Author:
Johannes Urpelainen, Department of Political Science, Columbia University, 420 West 118th Street, 712 IAB, MC 3320, New York, NY 10027, USA.
Email: ju2178@columbia.edu

Keywords
international cooperation, international organizations, bargaining, global environment, foreign aid

Who gets what when states and international organizations (IOs) bargain? Many IOs are both chastised and praised for playing hardball with states. For example, both the World Bank (WB) and the International Monetary Fund (IMF) frequently attach stringent conditions to concessional loans (Kilby 2009; Stone 2011). Though politically controversial, these conditions benefit the major powers that dominate decision making in these organizations.

While international relations scholars have examined IO–state bargaining (Nielson and Tierney 2003; Kilby 2009; Stone 2011), their theories mostly do not distinguish between different IO types. For example, previous theories do not theorize about the different effects of state power on bargaining outcomes in negotiations with the IMF and different United Nations (UN) agencies. Yet, it seems plausible that the IMF and other organizations governed by the "one dollar, one vote" principle would respond to increased state power differently than UN agencies and other organizations governed by the "one country, one vote" principle.

This lack of attention to IO types in bargaining raises important questions. Can one fruitfully theorize about IO–state bargaining without accounting for the IO's type? Given how many IOs frequently bargain with states on the distribution of gains from cooperation, understanding the effects of IO type could also solve important empirical puzzles. For example, it could explain why different multilateral development organizations, such as UN agencies and the WB, are more or less able than others to pursue their political–economic goals through project implementation in recipient countries.

This article offers an empirical test of hypotheses derived from a stylized formal model of IO–state bargaining. While the general argument applies to a wide range of bargaining settings, from accession negotiations to budget contributions, we focus on burden sharing in project lending for concreteness. Specifically, we examine how much the IO contributes relative to the state's contribution. For example, the model could be applied to explain how much a development bank must contribute to an infrastructure project to "seal the deal" with a recipient developing country.

The stylized and stylized model generates hypotheses on the interactive effects of IO type and the state's economic importance. Some organizations, such as UN agencies, hold "egalitarian" preferences. For such organizations, we do not expect the state's economic importance to play a major role. Given the egalitarian bias, the IO's bargaining power does not decrease as the state's economic importance grows. Other international organizations, such as the WB, are "nonegalitarian." Their ability to secure concessions depends critically on the state's economic importance. Given the

importance of power politics in these organizations' decision making, they are willing and able to extract large concessions from economically weak states.

To test the two hypotheses, we leverage a new data set on bargaining between the Global Environment Facility (GEF) and 157 recipients for 2,255 environmental projects implemented in the years 1991 to 2011. This large data set on projects allows us to account for variation in both recipient and project characteristics. The GEF data set also provides us with a direct measure of the bargaining power. For every project that the GEF has funded, we have data on the GEF's funding share. Falling on the [0,1] interval, this variable allows us to directly measure the bargaining outcome. Moreover, the GEF delegates the implementation of each project to an "implementing agency," such as the WB. While all GEF projects are grants, not loans, administered under GEF rules, the implementing agencies are responsible for negotiating and implementing the contracts. Thus, we can explore variation in bargaining outcomes across different IO types while holding constant several contextual factors.

The results largely support the hypotheses. Most importantly, when a GEF project is implemented by the WB, a canonical nonegalitarian organization, the recipient's economic importance is a powerful predictor of the GEF's funding share. But when the GEF delegates project implementation to more egalitarian agencies, small recipients do no worse than large recipients.

Our analysis sheds new light on the interactive effects of IO and state characteristics in strategic interaction. Previous research has recognized that both the characteristics of international organizations (Barnett and Finnemore 2004) and states (Stone 2008; Kilby 2009) influence their strategic behavior, but the interactive effects of these characteristics have not been theorized. Our analysis shows that this omission can lead to misleading conclusions. For example, we found that only nonegalitarian organizations are sensitive to the state's economic importance, and so variation in states' economic strength will have contingent effects on their abilities to bargain with different international organizations.

The empirical findings have some troubling normative implications. Compared to the UN agencies, the WB is a much more important source of development assistance. If GEF projects implemented by the WB have a clear bias in favor of wealthy, powerful recipients, then the least developed countries benefit from these resources the least. Might prevails over right, and the full potential of international environmental assistance for sustainable development remains unrealized.

International Organizations and Bargaining

IO–state bargaining is common in international politics. For example, an IO could offer accession to a potential candidate state. Given this offer, the IO and the state would bargain over the terms of accession. The state could offer policy concessions, while the IO could offer to allow early accession or changes to institutional design. Bargaining determines how the gains from accession are distributed.

When allocating resources, IOs engage in bargaining with states over the terms of a contract. Multilateral development banks such as the Asian Development Bank can provide funds to their member states, but the available funds are scarce. Most member states prefer to maximize their share of the funds received, while the bank prefers policy concessions at the lowest possible price (Nielson and Tierney 2003; Addison, McGillivray, and Odedokun 2004). This distributional conflict prompts bargaining.

Previous studies offer several insights into the determinants of bargaining power. IO voting rules are a natural point of departure. When an IO bargains with a state, the state may gain bargaining leverage through voting rules in at least two ways. First, as a formal member of the IO, the state would be able to vote on the IO's policy. Second, even if the bargaining state is not a member, voting rules could favor or discriminate against members who are allied with the state in focus. The state could encourage its allies to support policies that increase the state's bargaining power.

The evidence for this intuitive notion remains scarce. Nielson and Tierney (2003) find that voting power influences "agency slippage" for environmental lending in the WB. States that are pivotal in coalition formation among the membership exert considerable influence on the WB's environmental lending decisions. Similarly, Lyne, Nielson, and Tierney (2009) show that member states' preferences and voting power influence the nature of the social projects that different development banks implement. However, neither article specifically focuses on the distribution of gains from bargaining.

The preferences of major powers also matter for bargaining. If key members of the IO have a preference for a given outcome, then this outcome can be expected to emerge from IO–state bargaining. For example, suppose the WB bargains with a state on project implementation. Intuitively, this state should do better if it is an important ally of the United States, the largest shareholder of the WB.

A burgeoning empirical literature has analyzed this issue. Stone (2004) shows that the IMF imposes less severe punishments for violating conditionality on African countries that are allies of the United States and France. More recently, Stone (2011) shows that this is generally how the IMF treats different member states in need: if a member state is important for the United States, the member state obtains loans with less stringent conditions attached. Fleck and Kilby (2006) and Kilby (2009) find that the United States influences resource allocation in the WB. However, none of these studies focuses on situations characterized by purely distributive bargaining. Some recipient governments may prefer IMF conditionality to tie their hands (Drazen 2002; Vreeland 2003), while the size of an IMF or a WB loan may reflect recipient needs. Our analysis complements these studies by focusing on a clear instance of zero-sum bargaining.

Recipients' characteristics also matter. Some recipients are strategically important, either because they are highly relevant for the issue at hand or otherwise influential in world politics. For example, one may conjecture that large economies capable of influencing global economic growth should perform better than small economies when bargaining with economic IOs (Stone 2002). Similarly, countries

with large rainforests should perform better in bargaining with environmental IOs focusing on biodiversity (Hicks et al. 2008).

For this hypothesis, some indirect evidence exists. Hicks et al. (2008) show that countries that are geographically close to donors obtain more aid focused on local environmental problems, suggesting that environmental significance could enhance a recipient's ability to issue demands concerning the types of environmental projects that donors fund. Similarly, Stone (2002) shows that the IMF has been unable to credibly threaten large Eastern European countries, especially Russia, with punishment for violating IMF conditions. However, both studies provide only indirect evidence for the determinants of bargaining outcomes.

In the analysis, we focus on distributional outcomes conditional on IO design. In doing so, we recognize that institutional design is itself endogenous to state preferences (Downs, Rocke, and Barsoom 1996; Abbott and Snidal 1998; Koremenos, Lipson, and Snidal 2001) and a subject of intense bargaining (Krasner 1982; Gruber 2000). In a full model of the causal chain, state preferences and contextual factors determine IO design, and the organization itself plays the role of an ''intervening variable'' in the determination of outcomes (Krasner 1982). Our focus is on the second component of the chain.[1]

Formal Model

Our simple and stylized bargaining model generates intuitive, empirically testable hypotheses about the determinants of bargaining power in IO–state cooperation. While the model is not complex, we prefer formalizing the theory to ensure deductive validity and derive an internally consistent set of hypotheses. For concreteness, we assume the state is a ''recipient country'' negotiating over project funding. However, the bargaining model is intended to apply to a wider variety of strategic settings. Among other things, the IO could bargain over control of WB project implementation, IMF conditionality, or European Union accession.

Both the IO and the recipient country value the project, but project implementation is costly. Our analysis concentrates on the distribution of project costs. When the IO is in a strong bargaining position, it need not contribute much. When the IO is in a weak bargaining position, it contributes large sums to project implementation. From the IO's perspective, this is rational. For example, consider environmental protection. The lower the IO's contribution per project, the more and larger projects the IO can implement. Overall, the IO achieves better environmental outcomes by minimizing contributions per project.

We focus on two theoretically informed independent variables. First, we measure IO type. We distinguish between ''egalitarian'' and ''nonegalitarian'' IOs. Egalitarian IOs are biased toward the preferences of poor and small countries. While these IOs bargain with countries over burden sharing, they do not behave differently vis-à-vis countries of different size: the determinants of bargaining power are orthogonal to structural power. For example, with the exception of the Security Council,

decisions within UN agencies follow the "one country, one vote" principle. Given this institutional rule, interactions in egalitarian IOs mitigate power asymmetries between countries such as Zambia and the Russian Federation.

Conversely, nonegalitarian IOs are willing to exploit poor and small countries' vulnerability to external pressure for bargaining advantage. In general, they subscribe to the "one dollar, one vote" logic (Young and Boehmer-Christiansen 1997, 196). Consequently, they should achieve better outcomes in bargaining with economically weak countries than in bargaining with economically powerful countries. For example, both the IMF and the WB are more sensitive to major shareholders' concerns than to other countries' concerns (Woods 2006; Stone 2011).

The distinction between nonegalitarian and egalitarian organizations focuses on bargaining, and we do not attempt to theorize about the relevant channels of influence. Some scholars emphasize "informal governance" as major powers circumscribe formal rules (Stone 2011), while others focus on voting rules (Nielson and Tierney 2003). We also do not attempt to evaluate the relative power of the United States and other major donors in GEF negotiations.

Our second independent variable is the expected availability of *private capital* for project implementation. If private capital is in abundant supply, we assume the recipient country obtains ancillary benefits from project implementation. Infusion of private capital creates employment opportunities, adds value to the national economy, and often allows technology transfer (Glass and Saggi 2002; Javorcik 2004; Blalock and Gertler 2008). Therefore, the recipient's valuation of the project increases: in addition to the direct benefits of IO funding, the recipient obtains private capital that generates economic rents for domestic constituencies. In turn, the IO does not need to contribute as much to seal the deal with the recipient.

Bargaining Game

Formally, we consider a Nash (1950) bargaining model between two players. While the Nash model was initially designed for cooperative game theory, Binmore, Rubinstein, and Wolinsky (1986) show that it approximates the solution of Rubinstein's (1982) noncooperative bargaining game with repeated offers, provided that the time between offers is small enough. Therefore, we can apply the Nash approach to analyze the outcome of noncooperative IO–state bargaining under anarchy.

Suppose an international organization, IO, and a recipient country, R, bargain over the implementation of a project. Their strictly positive valuations of project implementation are denoted by V_{IO} and V_R, respectively. The cost of the project is denoted by C and assumed to be strictly positive. Project implementation is mutually profitable whenever $V_{\mathrm{IO}} + V_R \geq C$. Otherwise, project implementation is too costly. Our analysis focuses on the case of collective profitability, because unprofitable projects do not induce any distribution of gains.

The Nash (1950) approach to bargaining is based on the simplest possible game: the IO and the recipient simultaneously propose their funding shares, t_{IO} and t_R. For

successful project implementation, the sum of these contributions must cover the project cost. Unless $t_{IO} + t_R = C$, the project fails and disagreement payoffs are allocated. Without loss of generality, we normalize both disagreement payoffs to zero.

While we assume the IO prefers to minimize its funding share, this does not mean that the IO does not face pressure to implement projects. Even if the IO faces bureaucratic pressures to provide money (Tendler 1975), it prefers to minimize its funding share for any given project. Formally, the IO could be punished for failing to implement the project, so that the pressure to implement projects would be captured in the outside options.

International Organization's Payoff

Upon successful project implementation, the IO's payoff U_{IO} is the difference between its project valuation, V_{IO}, and its funding share, t_{IO}. The IO's project valuation can be thought of representing the donors' collective valuation of the project's benefits. For example, in environmental assistance, these benefits might depend on the donors' vulnerability to negative environmental externalities (Sprinz and Vaahtoranta 1994) and the political clout of environmental interest groups (Dai 2005). In part, the collective valuation could also reflect the IO staff's preferences (Nielson and Tierney 2003). Since this funding share can be expressed as overall project costs net of the recipient country's financial participation, successful project implementation leaves the IO with a payoff of

$$U_{IO} = V_{IO} - (C - t_R) = V_{IO} - t_{IO}. \quad (1)$$

The IO's payoff increases with its own valuation of the project, V_{IO}, and with the recipient's funding share, t_R. The payoff decreases with the total project cost, C. Notably, this expression also highlights the zero-sum dimension of the bargaining problem: the IO prefers higher contributions by the recipient country. In equilibrium, t_{IO} decreases as the IO's bargaining power increases.

Recipient's Payoff

Upon successful project implementation, the recipient country's payoff is the difference between project valuation, V_R, and the funding contribution, t_R. We conceptualize the recipient's project valuation V_R as the sum of *direct* project benefits, B, and *indirect* ancillary benefits P from project implementation. In view of our empirical application, the indirect project benefits P can be seen as the availability of supplementary private capital that the project leverages. For example, in the case of the GEF, private cofinancing is considered an important "institutional and operational efficiency [criterion] of the GEF" (Clémençon 2006, 51) because it reduces the need for public funding.

The ancillary benefits P increase with the project's ability to leverage additional private capital. In project implementation, core funding is assumed to be public. It is provided by the IO and the state. However, public funding for project implementation

creates lucrative business opportunities. If the project generates profitable opportunities for businesses, they invest in it, as explained previously. For example, a transportation infrastructure project in Africa could leverage private capital for improved port facilities or even give rise to new export businesses. In this case, the value of P would be high. The recipient benefits from reduced unemployment, economic growth, new technology, and so on. We assume private capital is supplied by markets, so that investors do not participate directly in bargaining. For example, this assumption is met in the case of the GEF because investors do not participate in negotiations on project implementation.

Given successful project implementation, we require that t_{IO} and t_R cover the full project cost C. Therefore, the recipient's payoff is

$$U_R = V_R - t_R = B + P - (C - t_{\mathrm{IO}}). \tag{2}$$

The higher the recipient's valuation of the project and the more funding the IO provides, the better off the recipient is.

Bargaining Weights

Bargaining power need not be equally distributed between the IO and the recipient. A simple way to allow for asymmetric power is to introduce bargaining weights. Specifically, $\theta \in (0, 1)$ denotes the bargaining power of the recipient R, while $1 - \theta$ captures the bargaining power of the IO.

We suppose that the recipient country's bargaining power is, among other things, increasing in a country's economic importance, s. Formally, the recipient's bargaining power θ is an increasing function of its economic importance. Mathematically, we write $\theta = \theta(., s)$, where $(., s)$ is shorthand for all unmodeled variables and economic importance s.

The effect of economic importance s is assumed to depend on IO type. We assume economic importance s is more central to bargaining with nonegalitarian than with egalitarian IOs. In nonegalitarian IOs, negotiations are heavily influenced by power politics at the expense of other considerations, such as equity (Steinberg 2002; Stone 2011). Conversely, egalitarian IOs hold a bias in favor of the least developed countries. Thus, being an economically powerful country is more important when bargaining with a nonegalitarian IO than when negotiating with an egalitarian IO. Formally, this means that the following condition must hold:

$$\left[\frac{\partial \theta(., s)}{\partial s}\right]_{\mathrm{IO = nonegalitarian}} > \left[\frac{\partial \theta(., s)}{\partial s}\right]_{\mathrm{IO = egalitarian}} \geq 0. \tag{3}$$

Analysis

We now solve the game and derive empirically testable hypotheses. The formal details can be found in the supplementary Appendix.

Nash Bargaining Solution

In a Nash (1950) bargaining model, the IO and the recipient simultaneously propose funding shares t_{IO} and t_R. If the suggested financial commitments cover the project costs C, so that $t_{\mathrm{IO}} + t_R = C$, the project is implemented. If the funding shares fall short, $t_{\mathrm{IO}} + t_R < C$, bargaining fails and the players receive zero payoffs. Thus, bargaining succeeds whenever $U_{\mathrm{IO}}, U_R \geq 0$.[2]

To find the distribution of *equilibrium* funding shares t^*_{IO} and t^*_R, we maximize the Nash (1950) product with respect to funding shares subject to the constraint that the project is implemented:

$$\max_{t_{\mathrm{IO}}, t_R} (U_{\mathrm{IO}})^{1-\theta} \cdot (U_R)^{\theta} \quad \text{subject to } t_{\mathrm{IO}} + t_R = C, \tag{4}$$

where U_{IO} and U_R are given by equations (1) and (2), respectively. Solving this maximization problem yields the equilibrium funding shares

$$t^*_{\mathrm{IO}} = \theta V_{\mathrm{IO}} - (1-\theta) V_R + (1-\theta) C. \tag{5a}$$

$$t^*_R = (1-\theta) V_R - \theta V_{\mathrm{IO}} + \theta C. \tag{5b}$$

Equilibrium payoffs are given by

$$U^*_{\mathrm{IO}} = (1-\theta)(V_{\mathrm{IO}} + V_R - C). \tag{6a}$$

$$U^*_R = \theta(V_{\mathrm{IO}} + V_R - C). \tag{6b}$$

In equilibrium, the IO's and the recipient's payoffs are increasing in their own bargaining power as well as project valuations V_{IO} and V_R. However, the payoffs decrease as project costs increase.

Hypotheses

The first hypothesis concerns the different treatment of the recipient country depending on the IO's type. The IO's funding share, t^*_{IO}, increases as the recipient country's economic importance s increases. More powerful recipients are in a better bargaining position vis-à-vis the IO. However, the importance of economic strength depends on IO type. Given successful project implementation, the effect of economic strength s on the IO's optimal funding share t^*_{IO} is

$$\frac{\partial t^*_{\mathrm{IO}}}{\partial s} = \frac{\partial \theta(.,s)}{\partial s}(V_{\mathrm{IO}} + V_R - C) > 0. \tag{7}$$

This positive effect should be stronger for nonegalitarian IOs than for egalitarian IOs.

$$\left[\frac{\partial t^*_{\mathrm{IO}}}{\partial s}\right]_{\mathrm{IO}=\mathrm{nonegalitarian}} > \left[\frac{\partial t^*_{\mathrm{IO}}}{\partial s}\right]_{\mathrm{IO}=\mathrm{egalitarian}} > 0, \tag{8}$$

Therefore,

Hypothesis 1: The IO's funding share is an increasing function of the recipient's economic strength. Ceteris paribus, this effect is stronger for nonegalitarian than for egalitarian IOs.

The second hypothesis concerns the availability of side benefits from private capital, P. If the implementation of the project leverages private capital, the recipient's valuation of the project increases relative to a situation wherein the private capital is not available. Thus, if the project can leverage private capital, the IO need not contribute as much to induce the recipient to participate, because the IO understands that its contribution is crucial for leveraging private capital.[3] All else constant, we expect additional private capital P to decrease the IO's funding share, t^*_{IO}:

$$\frac{\partial t^*_{\mathrm{IO}}}{\partial P} = -(1-\theta) < 0. \tag{9}$$

Thus,

Hypothesis 2: The IO's funding share is a decreasing function of the project's ability to leverage private capital. However, this effect does not depend on the IO's type.

As private capital becomes available, the recipient's expected benefits grow. The abundance of supplementary private capital means that the recipient cannot credibly threaten to reject the project. Whether nonegalitarian or egalitarian, the IO need not provide as much funding to induce the recipient to cooperate on project implementation. Thus, both egalitarian and nonegalitarian organizations can reduce their contributions, directing the newly available resources to other recipients and purposes.

Research Design

To evaluate our hypotheses on IO–recipient bargaining, we created a data set of all GEF projects from 1991 to 2011. While bargaining is a general phenomenon regardless of what is being distributed, this data set has the major advantage of allowing us to directly quantify the equilibrium outcome of our model: for each project, we know the share of total project cost funded by the GEF. Formally, our dependent variable (GEF funding share) operationalizes t^*_{IO} in the Nash (1950) bargaining solution.

Since 1991, the GEF has funded 2,795 projects, 538 of which have a regional or global focus. Since we are interested in IO–state bargaining, we exclude these regional and global projects, leaving us with a data set of 2,255 projects.[4]

Table 1. Top Twenty Recipients of GEF Projects, 1991 to 2011.

Numbers	Country	GEF projects	% GEF	WB projects	% WB
1	China	96	4.25	41	7.52
2	India	49	2.17	14	2.57
3	Brazil	44	1.95	16	2.94
4	Mexico	43	1.91	24	4.40
5	Russian Fed.	41	1.82	11	2.02
6	Philippines	38	1.68	15	2.75
7	Vietnam	36	1.60	14	2.57
8	Peru	33	1.46	11	2.02
9	Indonesia	32	1.42	17	3.12
10	South Africa	29	1.28	11	2.02
11	Colombia	28	1.24	11	2.02
12	Kenya	27	1.20	8	1.47
13	Argentina	25	1.11	11	2.02
14	Ecuador	24	1.06	8	1.47
15	Egypt	24	1.06	5	0.92
16	Ghana	23	1.02	9	1.65
17	Jordan	23	1.02	5	0.92
18	Morocco	23	1.02	5	0.92
19	Tanzania	23	1.02	5	0.92
20	Chile	22	0.97	5	0.92

Note: GEF = Global Environment Facility; WB = World Bank. The first column shows the number of GEF projects, while the third column shows how many of those were funded by the WB. The second and fourth columns show the country's share of all GEF and WB projects, respectively.

The GEF is ideal for our purposes because it finances projects in a wide variety of countries, and because GEF bargaining has been politically controversial for recipients (Streck 2001). We have substantial variation in recipient bargaining power, as our data set of GEF projects comprises 157 recipient countries. A list of leading recipients is shown in Table 1. The twenty leading recipients secured only 30 percent of projects, meaning that the distribution of GEF projects is relatively even across recipients despite stark differences in size.

Dependent Variable

For each project, we divide GEF project funding by total project cost. We exclude failed and canceled projects from the analysis to ensure that the officially allocated funds are really being disbursed.[5] Normalizing by project size ensures that our dependent variable corresponds directly to the variable t_{IO} in our theoretical model. The resulting "GEF funding share" ranges from 0.7 to 100, that is, from 0.7 percent to 100 percent of total project cost.

While the funding share is ideal for measuring the theoretical concept of interest, it is also true that ratio variables may cause problems for the econometric estimation. In the supplementary appendix, we therefore estimate models that have the IO's logarithmized contribution as the dependent variable, while total project cost is included only as a control variable. The results are identical to those from our main specifications.

Sometimes recipients secure funding from third parties to cover their share of project costs. This need not present difficulties for our analysis. Our theory and empirics can account for private capital, as discussed subsequently. Moreover, if a recipient secures a loan from an international organization, it must pay back the loan.[6] This means that the recipient is ultimately paying the cost, so our model's premises continue to hold. The only problematic form of third-party cofinancing is that by nongovernmental organizations (NGOs). Our model cannot account for such financing. However, in the supplementary Appendix, we examined a random sample of fifty projects to verify that few involve any funding by NGOs.

We report results from both ordinary least squares and β regression models. The latter are a generalization of the logit model for dependent variables that fall on the [0,1] interval (Paolino 2001; Ferrari and Cribari-Neto 2004; Smithson and Verkuilen 2006). They are useful because the data contain boundary values 0 and 1, which could introduce bias in a standard regression. The β regressions can handle these boundary values. The supplementary Appendix reports even more models, such as tobit and ordered probit regressions.

Independent Variable: International Organization

The GEF delegates project design and implementation to an implementing agency such as the WB or the UN Development Programme (UNDP). The GEF itself is simply a "capital provider" that does not directly participate in project implementation. Andler (2007, 15) notes that "for the time being, the [GEF] secretariat has not been able to generate any direct influence on the implementation of projects on the ground." This warrants our focus on implementing agencies, rather than the GEF itself.

It would be misleading to apply our distinction between nonegalitarian and egalitarian implementing agencies if GEF agencies were selected *after* financial questions had been settled, but this is not the case. Project proposals are developed by recipients in consultation with an implementing agency. This initial proposal specifies expected GEF contributions as well as expected levels of cofinancing. While the GEF secretariat and council provide feedback regarding proposals, both initial requests and ultimate project approval occur at the agency level.[7]

Accordingly, we split our sample by the type of the implementing agency for each GEF project. By doing so, we can implement a stringent hypothesis test. Our theory does not predict mean differences between egalitarian and nonegalitarian organizations; instead, it predicts that IO type modifies the effects of bargaining power within

each sample. Even if some types of projects are implemented by nonegalitarian organizations while other types of projects are implemented by egalitarian organizations, our formal model produces valid comparative statics within each sample. Nonetheless, we implement several tests to account for more complex selection patterns. As documented in the supplementary appendix, these tests give us confidence that our results are not biased by forms of agency selection.

We are left with two samples: 545 projects managed through the WB and 1,710 projects managed through the more egalitarian agencies. Originally, the latter included only the UNDP and the UN Environment Programme. As a result of subsequent restructuring, GEF agencies were expanded to include additional UN agencies, such as the Industrial Development Organization, and several regional development banks (RDBs) like the Asian Development Bank. Despite this proliferation in implementing agencies, only 3.8 percent of projects in our data set were implemented through RDBs. The WB accounts for 24.2 percent of all projects and UN agencies implement the remaining 72.0 percent.[8]

In regard to this distinction, two issues warrant a discussion. First, recipients can, to some extent, self-select into collaboration with the WB and UN agencies. Our selection tests, as detailed subsequently, suggest that this does not cause bias in the estimates. Theoretically, there are also good reasons to believe that recipients expecting a bad deal from the WB may be unable to implement a particular project with the UN agencies. UN agencies have resource constraints, and some projects may fall outside their domain of expertise. Therefore, countries with little bargaining power sometimes have to collaborate with the WB. This explains why we sometimes see structurally weak recipient countries collaborating with the WB, in spite of the potentially superior deal from an egalitarian implementing agency. Since the possibility of selection bias remains, we present subsequently some tests designed to test for it and alleviate concerns about its effects on the estimations.

Second, there are differences between the WB and other agencies other than the distinction between egalitarian and nonegalitarian bargaining. Most important, the WB is a larger organization than UN agencies. This difference does not seem to explain our findings, though, as the WB's size should *increase* its ability to contribute to small countries in need of funds. Another difference between the WB and the UN agencies is that the WB focuses on a wider range of projects and often operates on a larger scale. The control variables included in the models allow us to guard against possible bias from this.

Independent Variable: Bargaining Power

According to the theoretical model, nonegalitarian IOs should do better in bargaining with economically weak recipients. To capture recipients' bargaining power, or s in our bargaining model, we use their logarithmized gross domestic product (GDP), measured in constant 2,000 dollars.[9]

Although the logarithm of GDP is a simple measure, it is useful for understanding recipients' bargaining power. With respect to nonegalitarian international financial institutions in particular, recipients with larger domestic economies are likely to present greater long-term payoffs. Whether the environmental content of a GEF project is primary or whether it is "additional" to economic development, recipients with larger economies should be in a better bargaining position.

The existing literature on international environmental politics supports our claim that economic strength confers leverage. Barkin and Shambaugh (1999) note that nearly all environmental goods exhibit characteristics of common pool resources. For example, production of ozone-depleting substances is rival if maintenance of stratospheric ozone requires limiting aggregate production. Thus, free riders do not simply receive benefits without incurring costs; they can also reduce overall benefits through overproduction or overconsumption. Because of this, "free riders should be able to gain concessions in international environmental negotiations that approach the costs that they can impose by overconsuming the [resource]" (Barkin and Shambaugh 1999, 16). In other words, one of the major sources of power in international environmental bargaining is the "power to destroy" (Downie 1999). A country's economic power influences its ability to threaten a wide range of environmental resources.[10]

The international regime to prevent ozone depletion demonstrates this dynamic well. Originally, the Montreal Protocol was seen as an effective instrument because it enjoyed participation by countries representing nearly all existing production of ozone-depleting substances. However, the Protocol was not immediately ratified by a number of developing countries. In the years following the adoption of the Montreal Protocol, reductions in chlorofluorocarbon (CFC) production in developed countries threatened to be offset by increases in developing countries. As Downie (1999) notes, CFC production in India quadrupled between 1986 and 1993. Industrializing countries thus enjoyed a power to destroy in two senses. They possessed the industrial capacity to deplete stratospheric ozone, despite reductions elsewhere. Because of this, they also enjoyed the power to destroy international cooperation on ozone depletion. As a consequence, proponents of the ozone regime bargained with industrializing countries, leading to the creation of new rules that were beneficial to the latter (e.g., the creation of a multilateral fund to facilitate financial transfers).

Independent Variable: Private Capital

According to Hypothesis 2, the availability of private capital, captured by P in our formal model, should decrease the IO's funding share. Unfortunately, no direct measure of this variable is available for all recipients, over all years. While some GEF project documents summarize private cofinancing, many do not.

The literature on environmental finance suggests that the availability of private capital varies significantly across different issue areas. Specifically, private capital is most readily available for climate projects, since many such projects offer

investment opportunities. In comparison, investment opportunities in resource preservation are much scarcer (Clémençon 2006).

As Dixon, Scheer, and Williams (2011) point out, many developing countries are net energy importers. To the extent that many climate projects involve clean energy and energy efficiency, they serve both environmental and development interests. In practice, GEF projects for energy efficiency have been remarkably successful in leveraging private capital: Dixon, Scheer, and Williams find that GEF grants totaling US$2.7 billion have succeeded in leveraging US$17.1 billion in cofinancing. An example of this is the Hungary Energy Efficiency Co-Financing Program (GEF project #111), which provided credit guarantees to help Hungary obtain private sector financing for investment in energy efficiency. According to GEF estimates, a US$5 million GEF commitment helped leverage US$20 million in cofinancing over the duration of the project (GEF 1996). By coding a random sample of fifty projects, we verified that private capital is indeed heavily concentrated in the climate focal area; we show this in the supplementary Appendix.

Accordingly, we created a dichotomous variable equal to one if the focal area of a GEF project is climate change, or zero if the focal area is elsewhere. Our correlation matrices subsequently show that climate projects are not highly correlated with recipients' logarithmized GDP, suggesting that climate projects are not endogenous to our bargaining power measure. Again, we acknowledge that climate projects differ from other projects along multiple dimensions, not limited to private capital. To guard against possible bias from here, we control for other project characteristics, such as size, and the time of project implementation—climate projects have become increasingly prominent over time.

Control Variables

Following best practice in observational studies, we present a wide variety of models with different sets of control variables. Some models include none, while others include a large group of theoretically informed controls. In the supplementary appendix, we present an extensive robustness analysis, paying particular attention to selection issues and alternate political–economic hypotheses.

First, as Figure 1 shows, there has been substantial variation in GEF funding over time. This is the case both for projects implemented by the WB and for those implemented by other agencies. Accordingly, we include year fixed effects into our empirical model specifications.

Total project cost is another important control. Large projects generally acquire less GEF funding due to resource constraints. To see this, note that the average GEF funding share for projects with total costs from the 75 percentile is only about 21.3 percent, while the mean funding share for all GEF projects below this threshold is significantly larger and amounts to 68.0 percent. Therefore, we control for total project costs in all specifications.

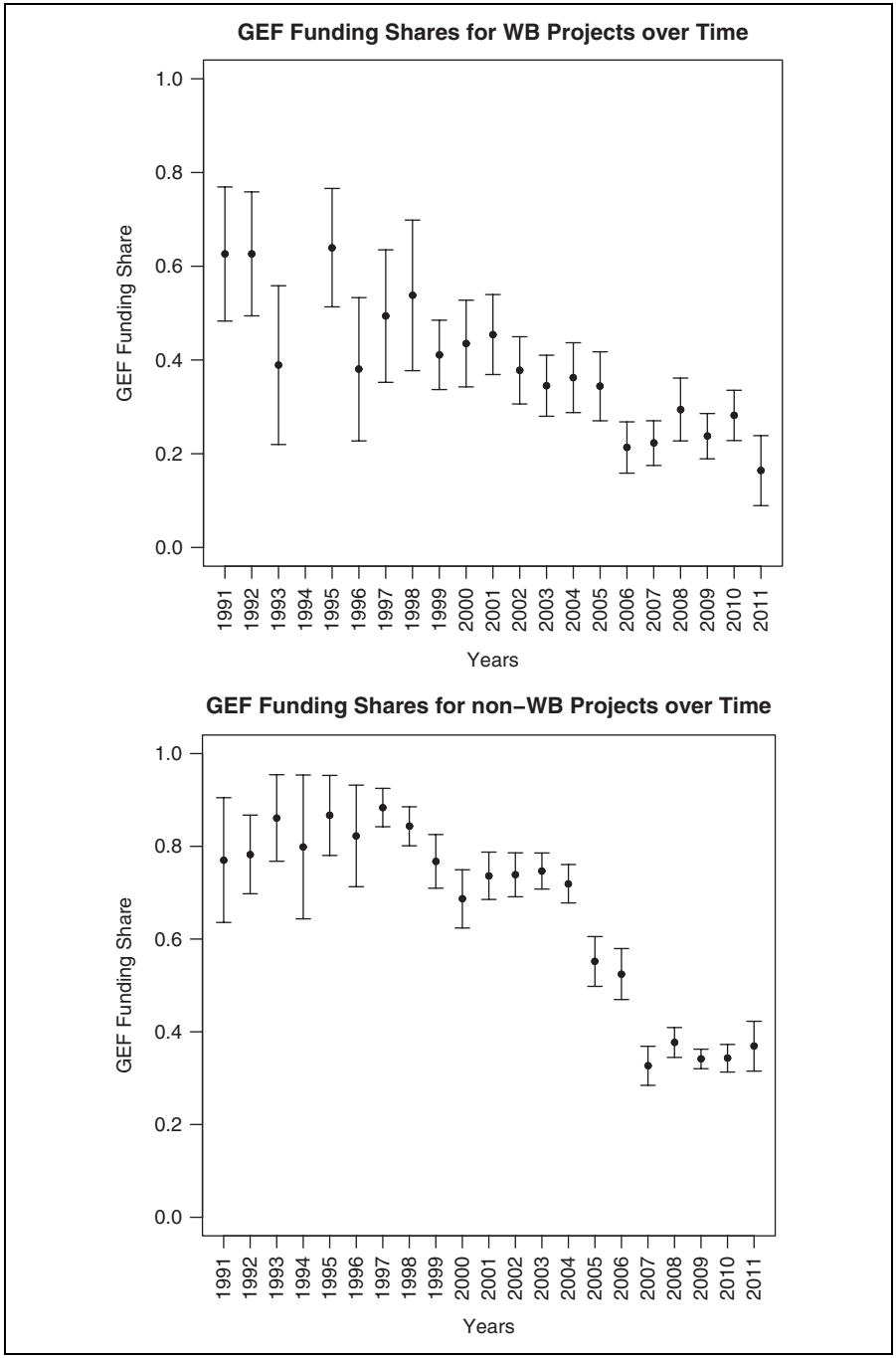

Figure 1. Distribution of Global Environment Facility (GEF) funding share over time.

Development assistance may be most effective in countries with good governance. If this is the case, the quality of recipient country governance should influence aid allocation, which could influence project-funding shares. We address this by controlling for corruption, using the *International Country Risk Guide*'s measure of political corruption.

We also control for recipients' political institutions. According to previous research, democratic countries have stronger incentives to provide environmental goods for their citizens (Neumayer 2002; Li and Reuveny 2006). Similarly, democratic governments are subject to electoral competition that might be leveraged to secure additional concessions from the IO (Putnam 1988). Thus, we add the Cheibub, Gandhi, and Vreeland (2010) democracy measure to some models.

Finally, we include a number of region dummies.[11] Since the GEF organizes its operations by region, there is a possibility that differences in regional governance cause an omitted variable bias in the regressions.[12] The regional dummies are based on WB regional classifications, with two modifications. We divide the WB's "Europe and Central Asia" category into "Western Northern Europe" and "Eastern Europe and Central Asia"; we also create a "North American" region.

In the supplementary Appendix, we provide summary statistics and correlation matrices for the key independent variables and controls, by implementing agency. Notably, the distributions of the control variables are similar across the two samples. This implies that the covariate imbalance across the subsamples is not problematic. Most importantly, the distributions of climate projects and GDP are similar across implementing agency type, suggesting absence of selection bias.[13] As to the correlations, there is a much stronger negative correlation between country GDP and the GEF's funding share in non-WB than in WB projects. This is consistent with the model, as egalitarian organizations should be more favorable to a poor recipient than to their nonegalitarian counterparts.

Matching Analysis

The supplementary appendix also presents matching analyses. As a statistical technique, matching ensures that the "treatment" and "control" groups are sufficiently similar to capture the effect of a variable of interest. We are interested in the effects of GDP and the climate focal area, but these variables are not randomly assigned. For example, GDP is correlated with population and quality of governance. Similarly, climate projects might be implemented mainly in countries that differ significantly from nonrecipients. Unfortunately, as Morgan and Winship (2010) show, controlling for these variables does not suffice if the effects of GDP and climate are nonlinear or heterogeneous across subjects. Matching removes observations that do not have a match in the other group (treatment or control), enhancing the reliability of our analysis.

We use coarsened exact matching from the "monotonic imbalance bounding" class of matching methods (Iacus, King, and Porro 2011), which ensures imbalance

Table 2. Matching Diagnostics for Climate and GDP Treatments, Separately for WB and Non-WB Samples.

Matching	Project total	Democracy	Corruption	Multivariate
(A) Climate treatment—L1 distances for WB sample[a]				
Pre	0.244	0.018	0.112	0.473
Post	0.131	0.000	0.039	0.378
(B) Climate treatment—L1 distances for non-WB sample[b]				
Pre	0.227	0.040	0.103	0.421
Post	0.170	0.000	0.028	0.301
(C) Binary GDP treatment—L1 distances for WB sample[c]				
Pre	0.162	0.076	0.195	0.443
Post	0.077	0.000	0.037	0.341
(D) Binary GDP treatment—L1 distances for non-WB sample[d]				
Pre	0.329	0.046	0.188	0.483
Post	0.212	0.000	0.015	0.343

Note: GDP = gross domestic product; WB = World Bank.
[a]Matched 462; unmatched 83.
[b]Matched 1978; unmatched 160.
[c]Matched 428; unmatched 117.
[d]Matched 1897; unmatched 241.

reduction, unlike "equal percent bias reducing" matching techniques such as propensity score or Mahalanobis matching (Iacus, King, and Porro 2012). By applying Sturge's rule, an algorithm often used to determine the width of discrete bins in histograms, we "slice" our main three control variables into discrete bins. After this coarsening, we match first on the climate treatment and then on a binary GDP treatment indicating whether the recipient's GDP is below or above the median. For each climate project, for instance, the matching algorithm searches for a nonclimate project that falls into the same bins with respect to the control variables. If no such counterpart is found, this observation is pruned from the data set, leaving us with a new, matched data set. Table 2 shows matching diagnostics for the climate and GDP treatments, indicating strong reductions in covariate imbalance.

We replicate our models using these two matched data sets, to ensure that we are not conflating the effects of climate focal area and GDP with other forms of heterogeneity among the countries in our sample. For example, climate projects could be larger than nonclimate projects and countries with a high GDP could have lower corruption than other countries. These matching analyses testify to the robustness of our findings.

Since recipients hold the initiative in the GEF project cycle, there is justified concern that projects self-select to specific implementing agencies. In an interview we conducted, Ramankutty (2012)[14] pointed out that recipient countries propose projects to an implementing agency, and the GEF only rarely transfers these proposals to different agencies, for reasons of institutional capacity or agency expertise. We

hypothesized that economically weak countries acquire more GEF funding per project when bargaining with egalitarian UN agencies than with the WB. Hence, countries face incentives to target specific implementing agencies for specific projects. To alleviate this potential problem of self-selection in our empirical analysis, we also applied matching to IO type. By doing so, we keep in our data set only projects that are comparable across IO type. The matching technique ensures that the WB "treatment" and the non-WB "control" group are similar. We then reran all our models, with results intact.

Findings

Table 3 shows the results of our analyses. The upper subtable shows estimates for WB projects. The lower subtable shows these estimates for non-Bank projects. Models 1 to 3 report ordinary least squares as our main models. For robustness, models 4 to 6 report the β regression models to account for nonlinearities. All models include year fixed effects, and models 4 and 6 include region fixed effects. Standard errors are clustered by country to account for multiple observations within a country.

The results support the bargaining model. Consistent with Hypothesis 1, the effect of recipients' GDP on GEF funding share is positive and statistically significant for all WB models. It is not significant for any of the non-WB models. This is particularly interesting, given that one might expect economic wealth to *decrease* the GEF's incentive to fund projects, because poor recipient countries face acute resource constraints. We find that the opposite is true, suggesting that bargaining considerations overwhelm the alternative capacity hypothesis. The substantive effect is neither negligible nor overwhelming: doubling a country's GDP increases the WB's funding share by approximately 1 percentage point. Given large GDP differences across countries, the difference induced by GDP between the largest and smallest recipient in the data is almost 10 percentage points. This effect is clearly dominated by the direct effect of project size, but it is not so small as to be irrelevant for developing countries with limited resources.[15]

Consistent with Hypothesis 2, the coefficient for climate focal area is negative in the WB models. However, it is not statistically significant in two of the three WB linear regressions. The estimated substantive effect is approximately 3 percentage points. This is not a particularly large effect, but it may be important on the margin. Overall, though, the GDP effect seems more important than the climate project effect.

At the same time, the sign of the coefficient flips in the non-WB linear regressions, though the estimated effect is tiny and not statistically significant. The effect is negative and significant in the nonlinear specifications, but the coefficient is small. Overall, these results go against our expectations. Why is there a difference with regard to climate funding shares between WB and non-WB projects? One plausible explanation is the WB's organizational advantage in implementing large economic projects. Perhaps private capital is particularly drawn to climate projects

Table 3. Results for WB and Non-WB Samples.

	OLS models			β Regression models		
	(1) Model	(2) Model	(3) Model	(4) Model	(5) Model	(6) Model
(A) WB results						
GDP 2000 (log)	1.24*** (0.29)	1.18*** (0.34)	1.25*** (0.47)	0.05*** (0.02)	0.04** (0.02)	0.05** (0.02)
Climate project	−2.97* (1.63)	−2.65 (1.69)	−3.08 (1.88)	−0.26*** (0.09)	−0.23*** (0.09)	−0.25*** (0.09)
Project cost (log)	−11.58*** (0.45)	−11.27*** (0.52)	−11.12*** (0.54)	−0.52*** (0.02)	−0.51*** (0.03)	−0.51*** (0.03)
Controls	No	Yes	Yes	No	Yes	Yes
Region dummies	No	No	Yes	No	No	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	512	416	416	487	401	401
R^2	.763	.738	.746			
(B) Non-WB results						
GDP 2000 (log)	−0.29 (0.24)	−0.16 (0.34)	−0.18 (0.42)	−0.00 (0.01)	0.00 (0.02)	0.00 (0.02)
Climate project	1.11 (0.69)	0.73 (0.89)	0.69 (0.91)	−0.09** (0.05)	−0.09 (0.06)	−0.10* (0.06)
Project cost (log)	−12.05*** (0.25)	−12.33*** (0.28)	−12.33*** (0.28)	−0.60*** (0.02)	−0.58*** (0.02)	−0.58*** (0.02)
Controls	No	Yes	Yes	No	Yes	Yes
Region dummies	No	No	Yes	No	No	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,582	1,079	1,079	1,181	816	816
R^2	.839	.831	.832			

Note: GDP = gross domestic product; WB = World Bank; OLS = ordinary least squares. Standard errors are in parentheses. Dependent variable: Funding share (0 to 100 for OLS, 0 to 1 for β regression). All models are estimated with country-clustered standard errors (*SE*s). Number of observations between OLS and β regression models differ as β regression models drop cases with funding shares of exactly 0 or 1.
*$p < .10$, **$p < .05$, ***$p < .01$.

funded by the WB, because the WB has the technical competencies and resources to cooperate with businesses. Of course, it is also possible that the admittedly crude climate proxy for private capital cannot fully capture the dynamics of private sector participation in WB and non-WB projects.

Regarding controls, total project cost has a large and consistent negative effect on funding share across specifications. This is understandable, since the GEF has limited resources. If developing countries are to implement major projects, they must be ready to offer their own funds. As shown in the supplementary Appendix, most other control variables have weak and inconsistent effects, if any, on GEF funding share. This is particularly interesting in view of the rather plausible competing hypothesis that bargaining outcomes reflect domestic political institutions or quality of governance. Perhaps the only exception is that corruption increases IO contributions in non-WB projects. This may reflect the notion that egalitarian organizations have an institutionally induced preference for supporting recipient countries with limited capacity for governance. While this notion is outside our model, it is broadly consistent with the distinction between egalitarian and nonegalitarian organizations. Indeed, corruption seems irrelevant for WB projects.

We also estimated the same models using one data set, with interaction effects for WB and GDP as well as for WB and climate, accounting for IO variation. As reported in the supplementary Appendix, these results mirror our findings from the split samples. The coefficients are mostly consistent with our hypotheses, and statistical tests show that the interaction between WB and GDP is significant while the interaction between WB and climate is not, as expected.

Additional Tests

The supplementary Appendix examines the influence of additional controls related to recipients' political–economic situation, security considerations, and recipients' financial position. To complement our matching approach to agency selection, the supplementary Appendix also controls for overall allocation patterns and "brown" (local issues) versus "green" (global issues) environmental projects based on original data (Hicks et al. 2008). Overall allocation patterns are a good and simple proxy for recipient relations with different implementing agencies, and controlling for the green–brown difference also helps because it is a strong predictor of the choice of implementing agency. Similar to the matching results, we find no evidence for selection bias. As a further test, we estimated Heckman (1979) models under the assumption that canceled projects were censored. The results were fully robust, and the correlation of error terms across the outcome and selection equation is statistically indistinguishable from zero in five of the six models, suggesting little concern for severe selection effects.

Finally, we treat the RDBs as nonegalitarian instead of egalitarian. Our results continue to hold, suggesting that the difference between WB and UN is driving the findings. Since the number of RDBs is small, this is not a surprise. Whether these

banks are more nonegalitarian or egalitarian is difficult to tell ex ante, given that they focus on specific regional issues and may, therefore, not reflect the global balance of bargaining power.

Since our focus is not on the exact channels of power, GDP is an ideal proxy for our empirical test. However, the exact determinants of bargaining power are also an intrinsically interesting question (Stone 2008). In the supplementary Appendix, we estimated "power models" that contain multiple determinants: GDP, membership on the WB's Executive Board (WBEB), UN voting affinity with the United States, and membership in the UN Security Council. Overall, we found that recipients' bargaining power depends on multiple factors. In addition to GDP, WBEB membership is particularly influential.

We also examined changes over time. If we restrict our attention to the years 2005 to 2011, we found that the differences between WB and non-WB samples diminish somewhat. Now GDP also has a negative coefficient for non-WB projects. However, the coefficient for the WB sample remains twice as large. Therefore, the difference between egalitarian and nonegalitarian organizations remains intact.

As noted previously, we also estimated linear regressions that focus on the IO's total contribution instead of the share. This is important because the interpretation of ratio variables like funding share is unclear, given that they have two fundamental components (Firebaugh and Gibbs 1985). The supplementary Appendix also reports ordinary least squares with the boundary values of the dependent variable (0 and 100) excluded, models with only the middle 80 percent of the funding share density, tobit estimations, and ordered probit models. The results are robust to all these changes in specification.

Conclusion

International relations are conflictual, and IO–state relations are no exception. Scholars have often approached these negotiations from a bargaining perspective (Hicks et al. 2008; Kilby 2009; Nielson and Tierney 2003; Stone 2002). We have tested hypotheses from a stylized model of IO–state bargaining, capturing key ideas from previous research and offering an original contribution concerning the effect of different IO characteristics. We tested the model, using a new data set on the GEF's funding share of projects in 157 recipient countries from 1991 to 2011. Our findings provide robust support for the bargaining approach. Economically important countries perform better in bargaining with nonegalitarian, but not egalitarian, IOs. The substantive effect is not overwhelming, but it is important enough to play a role in negotiations attended by poor recipient countries.

The availability of private capital reduces the GEF's funding share, but the effect seems to only hold for the nonegalitarian IO, the WB. This is a surprising finding to us, and we have proposed that it may reflect the WB's ability to mobilize resources and expertise to implement certain types of projects. In any case, the substantive effect of the climate type indicator is smaller than that of the GDP variable. In this

regard, bargaining considerations seem to dominate over the indirect effect of additional private capital. This, of course, may also reflect our reliance on an indirect proxy.

Our findings uncovered new puzzles worthy of exploration in future theoretical and empirical research. First, why does the availability of private capital have different effects across the two types of IOs? This offers interesting opportunities for future analysis, as the difference may reflect institutional factors that play a role in international politics. Second, why do many intuitively important factors, such as corruption and democratic governance, have little effect on bargaining outcomes? Finally, why have the funding shares of both the WB and non-WB agencies decreased over time, as Figure 1 showed, with the decrease being particularly dramatic for non-WB agencies? This is something that is not easy to explain with reference to bargaining over specific projects, and a broader theory may well be needed to explain the pattern. These theoretical and empirical puzzles warrant additional research on GEF project funding, and our analytical framework and data set lay an excellent foundation for this line of inquiry.

More broadly, our findings contribute to two important areas of research. First, we shed light on how the rules and practices that govern IOs' behavior influence their interactions with states. Our simple dichotomy between egalitarian and nonegalitarian IOs may help scholars and practitioners explain the striking variance across different IOs' relations to states and other actors, such as NGOs. Second, we draw attention to the importance of private capital in international politics. Many conventional accounts of IO–state bargaining ignore the role of private actors (Nielson and Tierney 2003; Kilby 2009; Stone 2011). In the case of the GEF, ignoring the importance of the ancillary benefits from private capital may cause researchers to misconstrue bargaining dynamics in IO–state bargaining. For policy makers, an improved understanding of the importance of private capital in project implementation would produce a large dividend. For example, if future research supports our contention that private capital confers large benefits to recipients, then the trend toward increased private sector participation could reduce distributional conflict in project implementation.

Acknowledgment

Patrick Bayer gratefully acknowledges generous funding by an ERP fellowship from the Studienstiftung des deutschen Volkes and is thankful for the hospitality of Columbia University. We thank Scott Barrett, Simone Dietrich, Olle Folke, Christopher Kilby, Justin Leinaweaver, Kyle Meng, Randall Stone, Matthew Winters, and the audience at the Sustainable Development Seminar at Columbia University for comments on a previous draft. We also thank Paul Huth and the anonymous reviewers for excellent comments.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Notes

1. Empirically, this restriction is appropriate because the implementing agencies we analyze were designed decades ago without focusing on environmental concerns. For distributional conflict in the design of the Global Environment Facility (GEF), see Streck (2001).
2. In Nash bargaining, the possibility that $t_{IO} + t_R > C$ is ignored because any additional investment is unnecessary. In practice, it could be that C is the optimal investment level for the project under consideration. Any extra investment would be inefficient. Although the project would be implemented on a larger scale, the two countries would have a mutual interest in scaling down the investment, so that the remaining funds could be used elsewhere.
3. If private capital were a substitute for international organization (IO) participation, then exactly the opposite would be true: availability of private capital would enhance the recipient's bargaining power.
4. We also exclude "small grants" because the Global Environment Facility (GEF) administers them separately and the stakes are too low to test our two hypotheses.
5. However, the results hold even if these projects are included. For recent projects, the disbursements may have yet to occur. Therefore, we also replicate our analysis excluding all projects that began after 2006. Overall, the Global Environment Facility (GEF) achieves exceptionally high rates of project completion: fewer than 5 percent of projects fail.
6. In contrast, *all* Global Environment Facility (GEF) grants are concessional.
7. The supplementary Appendix provides a more detailed account of the Global Environment Facility (GEF) project cycle.
8. The supplementary Appendix provides robustness checks of our analyses when we distinguish between UN agencies and regional development banks (RDBs). Our results hold.
9. We logarithmize these values before entering them into our models, due to variance in gross domestic product (GDP) among recipient countries.
10. The supplementary Appendix presents analyses using other measures of power, to shed further light on determinants of bargaining leverage.
11. Given that gross domestic product (GDP) is one of the key explanatory variables and the time span relatively short, including recipient fixed effects would be inappropriate.
12. See http://www.thegef.org/gef/gef_staff, accessed August 14, 2013.
13. In the supplementary Appendix, we also present summary statistics for sixty-one canceled projects. We find that the distributions of our key variables are similar across completed and canceled projects, suggesting that project cancellation occurs independently of the bargaining process that we describe.
14. Notes on file with the authors.
15. To save space, we do not estimate substantive effects for the nonlinear models. The purpose of these models is to scrutinize the robustness of the finding. It is easier to read and interpret the estimated effects from the linear regressions.

Supplementary Materials

The online appendices are available at http://jcr.sagepub.com/supplemental.

References

Abbott, Kenneth W., and Duncan Snidal. 1998. "Why States Act through Formal International Organizations." *Journal of Conflict Resolution* 42 (1): 3-32.

Addison, Tony, Mark McGillivray, and Matthew Odedokun. 2004. "Donor Funding of Multilateral Aid Agencies: Determining Factors and Revealed Burden Sharing." *World Economy* 27 (2): 173-91.

Andler, Lydia. 2007. "The Secretariat of the Global Environment Facility: From Network to Bureaucracy." Global Governance Working Paper 24, November 2007. Accessed January 29, 2014. http://www.glogov.org/images/doc/wp24.pdf

Barkin, J. Samuel, and George E. Shambaugh. 1999. "Hypotheses on the International Politics of Common Pool Resources." In *Anarchy and the Environment*, edited by J. Samuel Barkin and George E. Shambaugh. Albany: SUNY Press.

Barnett, Michael, and Martha Finnemore. 2004. *Rules for the World: International Organizations in Global Politics*. Ithaca, NY: Cornell University Press.

Binmore, Ken, Ariel Rubinstein, and Asher Wolinsky. 1986. "The Nash Bargaining Solution in Economic Modelling." *Rand Journal of Economics* 17 (2): 176-88.

Blalock, Garrick, and Paul J. Gertler. 2008. "Welfare Gains from Foreign Direct Investment through Technology Transfer to Local Suppliers." *Journal of International Economics* 74 (2): 402-21.

Cheibub, José Antonio, Jennifer Gandhi, and James Raymond Vreeland. 2010. "Democracy and Dictatorship Revisited." *Public Choice* 143 (1-2): 67-101.

Clémençon, Raymond. 2006. "What Future for the Global Environment Facility?" *Journal of Environment and Development* 15 (1): 50-74.

Dai, Xinyuan. 2005. "Why Comply? The Domestic Constituency Mechanism." *International Organization* 59 (2): 363-98.

Dixon, Robert K., Richard M. Scheer, and Gareth T. Williams. 2011. "Sustainable Energy Investments: Contributions of the Global Environment Facility." *Mitigation and Adaptation Strategies for Global Change* 16 (1): 83-102.

Downie, David Leonard. 1999. "The Power to Destroy: Understanding Stratospheric Ozone Politics as a Common-pool Resource Problem." In *Anarchy and the Environment: The International Relations of Common Pool Resources*, edited by J. Samuel Barkin and George E. Shambaugh. Albany: SUNY Press.

Downs, George W., David M. Rocke, and Peter N. Barsoom. 1996. "Is the Good News about Compliance Good News about Cooperation?" *International Organization* 50 (3): 379-406.

Drazen, Allan. 2002. "Conditionality and Ownership in IMF Lending: A Political Economy Approach." *IMF Staff Papers* 49:36-67.

Ferrari, Silvia, and Francisco Cribari-Neto. 2004. "Beta Regression for Modelling Rates and Proportions." *Journal of Applied Statistics* 31 (7): 799-815.

Firebaugh, Glenn, and Jack P. Gibbs. 1985. "User's Guide to Ratio Variables." *American Sociological Review* 50 (5): 713-22.

Fleck, Robert K., and Christopher Kilby. 2006. "World Bank Independence: A Model and Statistical Analysis of US Influence." *Review of Development Economics* 10 (2): 224-40.

GEF (Global Environment Facility). 1996. "GEF Project Details: Hungary—Energy Efficiency Co-financing Program." Accessed January 4, 2012. http://gefonline.org/projectDetailsSQL.cfm?projID=111

Glass, Amy Jocelyn, and Kamal Saggi. 2002. "Multinational Firms and Technology Transfer." *Scandinavian Journal of Economics* 104 (4): 495-513.

Gruber, Lloyd. 2000. *Ruling the World: Power Politics and the Rise of Supranational Institutions*. Princeton, NJ: Princeton University Press.

Heckman, James J. 1979. "Sample Selection Bias as a Specification Error." *Econometrica* 47 (1): 153-61.

Hicks, Robert L., Bradley C. Parks, J. Timmons Roberts, and Michael J. Tierney. 2008. *Greening Aid? Understanding the Environmental Impact of Development Assistance*. New York: Oxford University Press.

Iacus, Stefano M., Gary King, and Giuseppe Porro. 2011. "Multivariate Matching Methods that are Monotonic Imbalance Bounding." *Journal of the American Statistical Association* 106 (493): 345-61.

Iacus, Stefano M., Gary King, and Giuseppe Porro. 2012. "Causal Inference without Balance Checking: Coarsened Exact Matching." *Political Analysis* 20 (1): 1-24.

Javorcik, Beata Smarzynska. 2004. "Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages." *American Economic Review* 94 (3): 605-27.

Kilby, Christopher. 2009. "The Political Economy of Conditionality: An Empirical Analysis of World Bank Loan Disbursements." *Journal of Development Economics* 89 (1): 51-61.

Koremenos, Barbara, Charles Lipson, and Duncan Snidal. 2001. "The Rational Design of International Institutions." *International Organization* 55 (4): 761-99.

Krasner, Stephen D. 1982. "Structural Causes and Regime Consequences: Regimes as Intervening Variables." *International Organization* 36 (2): 185-205.

Li, Quan, and Rafael Reuveny. 2006. "Democracy and Environmental Degradation." *International Studies Quarterly* 50 (4): 935-56.

Lyne, Mona M., Daniel L. Nielson, and Michael J. Tierney. 2009. "Controlling Coalitions: Social Lending at the Multilateral Development Banks." *Review of International Organizations* 4 (4): 407-33.

Morgan, Stephen L., and Christopher Winship. 2010. *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. New York: Cambridge University Press.

Nash, John F. 1950. "The Bargaining Problem." *Econometrica* 18 (2): 155-62.

Neumayer, Eric. 2002. "Do Democracies Exhibit Stronger International Environmental Commitment? A Cross-country Analysis." *Journal of Peace Research* 39 (2): 139-64.

Nielson, Daniel L., and Michael J. Tierney. 2003. "Delegation to International Organizations: Agency Theory and World Bank Environmental Reform." *International Organization* 57 (2): 241-76.

Paolino, Philip. 2001. "Maximum Likelihood Estimation of Models with Beta-distributed Dependent Variables." *Political Analysis* 9 (4): 325-46.

Putnam, Robert D. 1988. "Diplomacy and Domestic Politics: The Logic of Two-level Games." *International Organization* 42 (3): 427-60.

Ramankutty, Ramesh. 2012. "Personal Interview with Head of Operations and Business Strategy at the Global Environment Facility." February, Global Environment Facility.

Rubinstein, Ariel. 1982. "Perfect Equilibrium in a Bargaining Model." *Econometrica* 50 (1): 97-110.

Smithson, Michael, and Jay Verkuilen. 2006. "A Better Lemon Squeezer? Maximum-likelihood Regression with Beta-distributed Dependent Variables." *Psychological Methods* 11 (1): 54-71.

Sprinz, Detlef, and Tapani Vaahtoranta. 1994. "The Interest-based Explanation of International Environmental Policy." *International Organization* 48 (1): 77-105.

Steinberg, Richard H. 2002. "In the Shadow of Law or Power? Consensus-based Bargaining and Outcomes in the GATT/WTO." *International Organization* 56 (2): 339-74.

Stone, Randall W. 2002. *Lending Credibility: The International Monetary Fund and the Post-communist Transition*. Princeton, NJ: Princeton University Press.

Stone, Randall W. 2004. "The Political Economy of IMF Lending in Africa." *American Political Science Review* 98 (4): 577-91.

Stone, Randall W. 2008. "The Scope of IMF Conditionality." *International Organization* 62 (4): 589-620.

Stone, Randall W. 2011. *Controlling Institutions: International Organizations and the Global Economy*. New York: Cambridge University Press.

Streck, Charlotte. 2001. "The Global Environment Facility: A Role Model for International Governance?" *Global Environmental Politics* 1 (2): 71-94.

Tendler, Judith. 1975. *Inside Foreign Aid*. Baltimore, MD: Johns Hopkins University Press.

Vreeland, James R. 2003. *The IMF and Economic Development*. New York: Cambridge University Press.

Woods, Ngaire. 2006. *The Globalizers: The IMF, the World Bank, and Their Borrowers*. Ithaca, NY: Cornell University Press.

Young, Zoe, and Sonja Boehmer-Christiansen. 1997. "The Global Environment Facility: An Institutional Innovation in Need of Guidance?" *Environmental Politics* 6 (1): 193-202.