

**The Determinants and Importance of States' Attendance at Conferences of the
United Nations Framework Convention on Climate Change (UNFCCC)**

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Abstract: Based on a unique panel dataset, this paper analyzes the variation in member states' attendance at the UNFCCC's Conferences of the Parties (COPs) in 1995-2014 as well as the effects of such attendance on states' ability to access funds from the Global Environmental Facility (GEF). COPs, as the "supreme body" of the UNFCCC, are the sites of the institution's most critical decisions. Members determine their own delegation sizes to COPs, and delegation size can affect a member's ability to acquire and disseminate information, prepare for formal meetings, and engage in informal negotiations and events. Although the literature points to the importance of delegation size for COP processes, it has not yet systematically analyzed it. In filling this gap, this paper finds that beyond the member's financial resources, a number of other variables significantly affect national delegation sizes, including the member's population, its contribution to CO₂ emissions, and its geographic location. Findings also suggest that different considerations underlie advanced versus developing economies' attendance at COPs. Further, by showing that a member's delegation size at COPs affects its subsequent access to GEF funds, the paper demonstrates the importance of COP attendance beyond a single Conference and makes a novel contribution to analysis on GEF.

I. Introduction

With temperatures in 2012 at 0.85° C above pre-industrial levels, due to its direct and indirect effects, including rises in sea levels, glacier meltdowns, extreme weather events, and lowered food and water security, global climate change has become a pressing issue in scientific, political, and economic debates (World Bank 2014; IPCC 2014). The United Nations Framework Convention on Climate Change (UNFCCC), which was signed in 1992 and came into force in 1994, sits at the center of a network of institutions that are attempting to multilaterally govern global climate change and its anthropogenic causes (e.g., Keohane and Victor 2010).¹ As the central inter-governmental agreement that governs climate change, the UNFCCC's most critical decisions are made through the Conferences of the Parties (COPs), which encompass negotiations among members that have ratified the UNFCCC. The constitutive agreement of the UNFCCC singles out the COPs as “the supreme body” of the Convention (UNFCCC 1992, Article 7). The COPs, which regularly convenes once a year for about two weeks, is charged with making decisions toward meeting the UNFCCC's goals and overseeing the implementation of its decisions (Yamin and Depledge 2004). It is during COPs that states formulate, negotiate, and publicize their collective decisions regarding climate change.² COPs are, thus,

¹ The UNFCCC ultimately aims for the “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (UNFCCC 1992, Article 2).

² See Yamin and Depledge (2004) book for an exposition of this point. As they point out, COP also makes recommendations to the Kyoto Protocol, which itself was born out of COP 3, but has a more limited membership.

crucial by virtue of being sites where “global agendas are set, thinking is joined-up and leadership emerges” (Schroeder and Lovell 2012, 26).

The analysis of member states’ attendance at different COPs is a burgeoning research question, as each Party (state) to the UNFCCC determines the size of its own delegation.³ Recent works have focused on growth in the aggregate numbers of Parties’ attendance as well as the shifts in select states’ delegation sizes (e.g., Hjerke and Linnér 2010; Schroeder et al 2012; Neff 2013). Total attendance by different countries at COPs has increased impressively – more than tenfold between 1995 and 2009 (Schroeder et al 2012). The average and median national delegation size have both increased 300 percent from 1995 to 2014, with the average always far larger than the median, suggesting some countries are under-represented in total attendance. Importantly, there is significant cross-country variation in the number of state delegates that attend the COPs, and the number of delegates a particular state sends to each COP varies across time. While average attendance has increased, so too has the variability in the size of delegations from countries. In 1995, the standard deviation of national delegation size was only 9.62, whereas by 2014, the standard deviation also increased over 300 percent to 35.67. Yet, there has been little scholarly analysis on explaining the differences across and within states’ attendance at COPs.⁴

³ UNFCCC Rules of Procedure state: “Each Party participating in a session shall be represented by a delegation consisting of a head of delegation and such other accredited representatives, alternate representatives and advisers as it may require” (FCCC/CP/1996/2, Rule 17).

⁴ There are two important exceptions here: Böhmelt (2013a), which analyzes non-state actors within state delegations, and Kruse (2014), which focuses on women’s attendance at COPs.

To advance research in this under-analyzed area, this paper relies on an original dataset of the number of delegates each state sent to every COP in 1995-2014 to explain patterns of attendance at COPs as well as to examine the influence of such attendance on members' access to funds from the Global Environmental Facility (GEF).⁵ Using political (such as the level of democracy), economic (such as the average national income), and environmental variables (such as CO₂ emissions), the paper shows that beyond the member's financial capacity, its domestic political system, its contribution to CO₂ emissions, its population, and the distance between it and the COP location significantly affect the size of its national delegation. While some of these results, such as the influence of financial capacity, are expected, this paper is first to evidence the relative influence of different factors. For instance, while we find that a one percent increase in GDP per capita results in an approximately 30 percent increase in attendance, several other variables have large impacts as well. A one percent increase in the population size of a member state increases attendance by approximately 20 percent. And there are differences across advanced and developing countries. The level of democracy only affects the developing countries' COP attendance. Within the advanced economies, average national income differences are insignificant for COP attendance, but disparities in income across developing economies matter significantly. Moreover, the findings offer policy implications. As an example, the greater the distance between the COP location and the attending country, the smaller the country's delegation size at COPs.

⁵ UNFCCC releases only aggregate attendance numbers for each COP. State-by-state attendance numbers need to be collated from "lists of participants", which includes the names of delegates from states, released during COPs. While Böhmelt (2013a)'s supplementary files appear to include numbers for states' COP attendance until 2004, that article does not use these attendance numbers either as a dependent or an explanatory variable. We note that our attendance numbers are very similar to Böhmelt's.

Considering that 40 percent of the COPs have been held on the European continent, diversification of COP locations should be a priority for those wanting to reform the COPs. Additionally, the paper finds that, controlling for a number of political and economic factors, members' COP attendance positively and significantly affects the size of the loans they receive from the Global Environmental Facility (GEF), the main financing mechanism of the UNFCCC. This finding provides quantitative evidence for the importance of the networking opportunities COPs present, for which there has been only anecdotal evidence. It also underscores the importance of participating at COPs with adequate delegation size.

Why This Matters

More broadly, the paper advances knowledge on the inner-workings of the central institution in the governance of global climate change—the UNFCCC. Following UN General Assembly procedures, the UNFCCC formally bestows a single vote on each country (Party) and, in practice, relies on consensus decision-making.⁶ But, formal political power dynamics tell only a part of the story about voice and influence during COPs. In addition to plenary sessions of formal multilateral negotiations among parties, COPs also involve informal bilateral and multilateral negotiations between the Parties as well as informal exchanges between them and the non-state actors. COPs witness countless “side events”, which include workshops, roundtables, and lectures. As one state delegate explained the COP process: “...we are having formal meetings, but we are

⁶ For the legal roots of the consensus decision-making, see Yamin and Depledge (2004)—the lack of agreement on which “rules of procedure” should exist for voting has led the Parties to default to reliance on consensus. If voting takes place, each party is entitled to a single vote.

having a lot of informal consultations. Countries are meeting bilaterally. Very contentious issues are being discussed.”⁷

Given the extensive and intensive informal interactions at COPs, the number of participants a state sends to a COP affects its informal voice and influence. Members that are able to attend with a sizeable delegation can network during the conference, lobby informally for their perspective on climate change, and prepare relatively well for the various events, including the formal negotiations (e.g., Ashton and Wang 2003; Söderberg and Andersen 2008; Yamin and Depledge 2004, Chapter 14). At the same time, existing research suggests that the informal processes at the UNFCCC facilitate diffusion of climate change policies and capacity building (Hjerke and Linnér 2010; Rietig 2014), which also suggests the potential importance of delegation sizes for policy outcomes. Crucially, “large delegations that have the ability to be many places at once [at COPs] wield tremendous agenda-setting power” (Roberts and Parks 2006, 17).

The question of delegation sizes at COPs also provokes some normative questions with practical implications. Since much of climate change governance has centered around the two key concepts of “mitigation” and “adaptation”, attendance at COPs provides an insight into whether those that have the burden to adapt—usually the poor and already vulnerable nations—are as well represented as those that have the responsibility to mitigate—particularly the industrialized and fast-growing nations with high fossil fuel emissions. Observing asymmetries in delegation sizes, some commentators have

⁷ India’s top negotiator quoted in “A Conversation with India’s Chief Climate Change Negotiator”, *New York Times*, December 3, 2012.

lamented that “[s]ome of the countries in the world that are most vulnerable to global climate change are also among the countries with the poorest representation in the current climate change negotiations” (Söderberg and Andersen 2008). The voice of the relatively more vulnerable being heard relatively less during COPs, many would consider, is normatively undesirable (e.g., Schroeder 2012). It can also easily distort the outcomes of negotiations in favor of the rich (Roberts and Parks 2006).

Yet, the literature has not yet provided a comprehensive and systematic analysis of the determinants of delegation sizes. The extent to which the average income of a country versus other factors, such as its population size or its interest in the issue (which could be operationalized in different ways), determines attendance levels at COPs is unknown. More importantly, we have to account for the vast variability within the large group of developing countries, as the aforementioned findings suggest. Additionally, while the literature strongly points to the importance of COPs as sites for networking, it has not yet shown the quantitative effects of this networking, which this paper’s connection between COP attendance and access to the GEF does. Given that these conferences bring together state and non-state actors most involved in the governance of climate change, it is plausible that networking at COPs offers members additional benefits.

Overall, through further elucidating about the COP process with systematic data analysis, this paper contributes to ongoing efforts for advancing analysis on international environmental institutions, which is lagging in International Relations (e.g., Genovese 2014). Additionally, the paper’s discussion of informal processes at COPs meets existing

calls to complement studies of formal governance with informal governance for more thorough explanations on multilateral institutions (e.g., Stone 2011; 2013).

The remainder of the paper first provides an overview of the COP process, elaborating upon the importance of delegation size for that process (Section 2). Section 3 discusses the state of the existing quantitative analyses on national delegations. Section 4 explains the determinants of delegation sizes based on our dataset, while Section 5 investigates the effects of delegation size on GEF loan sizes. The final part of the paper draws the paper's broad implications for scholarship and policy.

II. Overview of COPs

COPs, as the “supreme body” of the UNFCCC, are the sites of the institution’s most critical decisions.⁸ COPs comprise discussions of “dozens of documents, a plethora of negotiating forums, late nights, and an array of activities on the side by NGOs, IGOs, and governments” (Yamin and Depledge 2004, 431). As noted earlier, these negotiations span two weeks, and lobbying (of and by delegates), informal discussions, lectures, workshops, and interaction with the media routinely take place outside of formal negotiations (e.g., Dimitrov 2010; Rietig 2014; Schroeder 2010). Given these dense interactions and negotiations, as one author captures,

the significance of international climate summits goes well beyond the formal agreement; they form a site for intervention for a range of state and non-state actors, a gathering point for transnational environmental networks, a media swarm, a forum for the debate of policies and ideas, and

⁸ Currently, the UNFCCC has 195 members.

important opening...in which different understandings of the problem of climate change and its solutions are articulated and contested (Gaventa 2010, 29-30).

The informal processes that take place outside of the formal multilateral plenary sessions at COPs carry great importance. For starters, because the multilateral plenary negotiations are public, they do not (cannot) effectively act as sites for real negotiation (Yamin and Depledge 2004). Instead, the background work of the plenary takes place at working groups. These working groups are not fixed in size, number, or the nature of topics discussed. Because these working groups are also public and official (as they serve the plenary sessions), they have delegated their tasks to a number of informal working groups, which are non-public. And it is these informal negotiations, as well as informal consultations and “contact groups,” that constitute the heart of the negotiations at COPs (ibid).⁹

Other practices at COPs accentuate the significance of informal processes. A crucial one of these is the manner in which Parties’ “proposals”, which include suggestions or amendments to existing rules and commitments under the UNFCCC, are made and discussed. While COP rules foresee only proposals that have been circulated to the parties at the latest the previous day being discussed, this rule has been relaxed to accommodate the fast-moving, intensive negotiations (Yamin and Depledge 2004, 439). Given the time crunch, being able to process the information contained in these proposals quickly becomes paramount for the national delegations. Further, concerns for political

⁹ Those familiar with the World Trade Organization (WTO) will note the similarity of this process with the WTO’s Green Rooms negotiations.

expediency have led Parties to rely on informal mechanisms to test these proposals in advance of presenting them formally (ibid). Such practices draw attention not just to the importance of informal practices, but also to the significance of the size and capacity of national delegations. Here, even if a delegation is highly capable, size will matter simply because of the negotiations' intensity.

Such intensity pervades different aspects of COPs so much so that COPs have been dubbed as “negotiation by exhaustion” (Schroeder et al 2012, 835). For instance, multiple technical negotiations occur simultaneously, which again emphasizes the importance of national delegations' being at different places at the same time (Ashton and Wang 2003). In another example, there is a phenomenon known as the “last night” in reference to the last minute negotiations that happen at the dusk of COPs often until early hours of the morning. Such last minute negotiations are said to disadvantage the smaller national delegations, since the larger ones can afford to substitute their tired delegates with well-rested ones (Yamin and Depledge 2004).

Finally, “side events” at COPs also point to the importance of both informal processes and delegation sizes. These events provide an opportunity for national delegates to interact with one another as well as with representatives of non-state and intergovernmental organizations (Schroeder and Lovell 2012). The number of side events integrated into the UNFCCC program in the 2007 and 2008 COPs was about 200, while in the mid- to late-1990s, there were only about fifty events per COP (Hjerke and Linnér 2010). Studies argue that these events facilitate capacity-building because “[t]hey

provide an opportunity to access up-to-date information regarding research, NGO initiatives, business developments and Party positions” (Hjerke and Linnér 2010, 170). Similarly, others have suggested policy diffusion, such as on low carbon development, has occurred during these side events (Rietig 2014). Information exchange, depiction of national strategies, and debate between policy-makers and non-state actors lies at the heart of such diffusion. Surveys of participants of side events have found that developing country representatives, particularly the smaller ones, believe they benefit significantly from these events by making contacts in addition to information provision (Hjerke and Linnér 2010). And, the fact that this information is difficult to acquire in an alternative manner, due to its limited dissemination outside of the particular event taking place (such as in the form of Power Point presentations), makes attendance at these platforms essential (Hjerke and Linnér 2010).

Summary

The size of a state’s delegation could affect its ability to participate in the range of events that take place outside of the formal negotiations, including bilateral and multilateral informal exchanges and negotiations as well as side events. Given that plethora of information about Parties’ positions as well as technical information gets disseminated during these different events at COPs, those Parties with sizeable delegations are better able to manage the information flow to and from their delegations (e.g., Ashton and Wang 2003; Söderberg and Andersen 2008; Yamin and Depledge 2004, Chapter 14). As two authors have put it, having a “limited number of delegates curtails the possibility of attending all relevant parallel meetings and of taking part in all the side events” (Michealowa and Michealowa 2012, 586). Importantly, since information flow and

informal networking at COP ultimately affect formal negotiations – be it terms of output into the negotiating drafts, ability to clearly delineate and communicate one’s negotiating position, or access to others’ data and positions—delegation size affects agenda-setting power and formal negotiation capacity at COPs (Ashton and Wang 2003; Roberts and Parks 2006).¹⁰

III. Existing Research

There is a burgeoning literature that quantitatively examines national delegations, but this literature has: a) not comprehensively connected the importance of analyzing national delegation sizes to the significance of informal processes at COPs in the manner in which the previous section does; b) mostly remained descriptive or has focused on explanations of sub-groups within national delegations and has not yet analyzed the drivers of the Parties’ overall attendance levels. On point a), the suggestion here is not that the literature has totally neglected to underscore the importance of delegation sizes for informal processes. Rather, it has not undertaken the kind of comprehensive and integrative analysis the previous section provides as it has focused on individual aspects of the COP process (such as side events, the discrepancy between the poor and the rich, or policy diffusion).¹¹ In this respect, the previous section’s bridging of different COP

¹⁰ We do not argue that delegation size is all that affects agenda-setting ability, given the potential significance of other variables. For example, a country’s importance to the global economy, its current greenhouse gas (GHG) emission levels and its historical contribution to the accumulation of GHGs matter. Rather, we emphasize the importance of delegation size, which as we show is significantly related some of these other variables.

¹¹ Since our citations in the previous section reveal different works’ general foci, we do not repeat that discussion here.

processes to the size of national delegations expands upon existing discussions. In this section, we turn to point b, since it remains unaddressed.

One strand of the existing quantitative literature on national delegation sizes at COPs analyzes overall attendance levels, as opposed to state-by-state numbers. For example, Neff (2013) finds that there has been an exponential growth in the Parties' overall attendance and that rather than touristic concerns (such as the attractiveness of the COP destination), networking rationale appear to underlie enhanced attendance levels. Schroeder et al (2012), similarly, observe increased attendance at COPs through a focus on overall attendance numbers as well as a focus on select countries. They note that some small developing countries have downsized their delegations and outline a number of plausible reasons for differences in the size of country delegations—financial capacity, differing levels of interest, varying levels of expertise—but they do not provide explanatory statistics for these suggestions or for overall attendance levels. Based on our dataset, Figure 1 provides the aggregate attendance numbers – the total number of delegates sent by different countries and the number of countries attending the COP – over time, displaying the markedly increasing rise in both numbers.

[Figure 1 here]

While the general patterns of attendance at COPs cannot be left out of the analysis, as they show increasing state interest in attending the most central climate change

conferences, they cannot tell us the drivers behind that interest, nor do they highlight cross-country variation.

Another strand of the literature focuses on accounting for the attendance patterns of specific groups within national delegations at COPs. For example, while Böhmelt (2013a; 2013b) explain civil society attendance in national delegations, Kruse (2014) analyzes women's attendance in these delegations. These works find domestic variables—such as the level of democracy, women's attendance in domestic politics, the extent of civil society—as significant explanatory factors.

This valuable research, nonetheless, does not provide explanations on delegation sizes or on cross-country variation in delegation sizes. As the previous section suggests, the total size of national delegations can significantly influence the kind of informational and networking opportunities participating countries experience at COPs. Since various actors within a national delegation, regardless of their positions within the country, likely transmit information (even if imperfectly) to one another, the size of the overall delegation is important to analyze. At the same time, while the level of democracy may matter for understanding the participation of women and civil society (subpopulations) within national delegations, these variables may not affect overall attendance at COPs. Further, the role of environmental variables that drive the pressures for mitigation, such as the level of CO₂ emissions, or the demand for adaptation, such as national reliance on agriculture, remain under-analyzed in existing works. The ease of adaptation or mitigation has been shown, in other contexts, to affect national positions on global

climate governance (Sprinz and Vaahtoranta 1994). Particularly, previous work finds that greater levels of vulnerability as well as better ability to adapt (measured by the availability of existing substitutes, for instance) boosted states' interest in the Montreal Protocol and translated into more ambitious positions on the curbing of ozone-depleting substances. Such previous research raises a question as to whether higher levels of capacity and vulnerability, controlling for other factors, have translated into more robust attendance at COPs, i.e. greater delegation sizes.

IV. Data Analysis: COP Attendance

Given these gaps in the literature, in the ensuing analysis, our goal is to assess the political economy of states' attendance at COPs. Here, the dependent variable of interest is the log of COP attendance by country.¹² COPs occur once a year, and our dataset includes all COPs that have taken place between 1995 and 2014 (Table 1). Table 1 reports how total, average, and median COP delegations by country has grown non-linearly and non-constantly overtime. Note, in particular the spikes in attendance for COPs in 1997, 2000, 2005, and 2009. 1997 was when the Kyoto Protocol was signed, and 2009 is the Copenhagen Conference, which was supposed to devise the successor to the Kyoto Protocol, since the Protocol had 2012 as its expiration date (see Victor 2011 for details). In this regard, the importance of the agenda of the conferences can explain the attendance levels in 1997 and 2009. The 2000 and 2005 conferences, in contrast, do not stand as critical turning points in the UNFCCC regime, though the 2005 conference

¹² We add 1 individual to attendance for each in every year to include those countries who send 0 delegates in some years but send positive numbers of delegates in other years, which makes our dependent variable $\log(\text{delegates}+1)$.

witnessed the launch of the EU emissions trading scheme. The 2005 conference was held in Montreal, Canada, and a record numbers of delegates from the North American countries attended. Table 1 also shows the large increase in the variability (as reported by the standard deviation) in the number of delegates states send to COPs.

[Table 1 here]

We hypothesize the following covariates of states' COP attendance: a country's financial resources (its average national income, i.e., *GDP per capita*); the country's *population*, which generally affects the state's administrative size; the country's stake in climate change negotiations as defined by its average citizen's contribution to CO₂ emissions (*CO₂ emissions per capita*); the state's administrative capacity (*regulatory capacity*); the maturity of a country's civil society (*the level of its democracy*); and the distance between the country and the location of the COP (*distance*).¹³ We expect all but one of these variables to positively affect national delegation sizes— *distance*. The hypothesis is that, regardless of their level of national income, states could more easily send delegates to nearby locations due to logistical convenience. Given that COP locations are determined not by considerations of attendance, but by the conventions of the UN, how *distance* affects attendance is an important question.¹⁴ We include GDP per capita, population, and CO₂ emissions in logarithmic form.

¹³ The distance variables comes from a source widely used in trade gravity equations – Mayer and Zignago (2011).

¹⁴ While in principle COP venues rotate between the five official regions of the UN and hence the presidency of the COP, in practice, countries volunteer to host these conferences.

In addition to the aforementioned factors, to account for different levels/types of ecological vulnerability, differences in culture, and history unique to groupings, the analysis will include dummies for membership in certain groupings as well as regions. Particularly, the UN recognizes the Alliance of Small Island States (AOSIS) to face serious risk due to climate change because of their high vulnerability and relatively low ability for adaptation. The question is whether such vulnerability matters for COP attendance, once other factors are controlled for. Another grouping of interest is the Organization of the Petroleum Exporting Countries (OPEC). Given these economies' strong economic stake in continued reliance on fossil fuels, they also have intense preferences. Anecdotally, OPEC nations have been very vocal in the negotiations and have blocked outcomes contrary to their interests (e.g., Roberts and Parks 2006; Yamin and Depledge 2004). The question remains whether OPEC membership systematically translates into greater COP attendance. The European Union (EU) is another group of interest, as the EU countries are seen as leaders in switching from fossil-fuel dependent production and consumption to more climate-friendly policies, and the European public opinion is strongly in favor of climate change mitigation.

Finally, we include a host of regions based on Wheeler (2011), which includes the most comprehensive and recent quantification of climate change vulnerability. Regions differ not only in history and culture, but also in their ecological vulnerability. For instance, while the population in low-elevation coastal zones has increased by over 70 percent in Asia between 1990 and 2000, the same number for North America is 2 percent (Wheeler,

17).¹⁵ Similarly, forecasts suggest that agricultural productivity loss will be over 18 percent in Africa in 2008-2050, where as it is expected to be below 2 percent in North America (ibid, 24). While different indicators can point to varying levels of vulnerability across regions, and despite the presence of intra-regional variation, the available data indicators point to systematic differences, such as the aforementioned ones, across regions.

The Model

Our estimation model is a mixed effect model that includes a random intercept that varies by country and fixed effects for time. Written hierarchically, it is

$$\begin{aligned} y_{it} &= \alpha_i + \beta_1 x_{1it} + \dots + \beta_p x_{pit} + \delta_2 T_2 + \dots + \delta_{20} T_{20} + \varepsilon_{it} \\ \alpha_i &= \gamma_0 + \gamma_1 z_{1i} + \dots + \gamma_q z_{qi} + \eta_i \end{aligned} \quad (1)$$

where

- y = the response variable (in this case $\log(\text{attendance}+1)$)
- α = the random intercept for country i
- β = the regression coefficients of the covariates which vary by year
- x = the covariates which vary by year
- δ = the fixed time effects
- T = the indicator variables for each time period t
- γ = the regression coefficients of the covariates which vary by country
- z = the covariates which vary by year

We choose to include fixed effects for time because attendance varies non-linearly and non-constantly over time. We include random effects for country because we have variables that vary by year (e.g., distance, population, etc.) and variables that vary by

¹⁵ As Wheeler notes, finding time-series data on ecological vulnerability for a large number of the countries is not possible, which leads to the use of proxies such as regional differentiation.

country (e.g., region). Using a fixed effects model by country would not have permitted us to appropriately ascertain the effects of time-constant variables, such as geography, on the dependent variable. In addition, a mixed-effects model seems more appropriate given there is between-country variation and within-country variation in the delegations sent to COP meetings.

As in other studies involving country-level variables over time, we have many cases of missing data. To address the missing data problem, we imputed values using the Amelia II (Honaker, King, and Blackwell, 2012) program for R (R Core Team, 2013). Alternative approaches to missing data, such as pairwise and listwise deletion or mean substitution, have many potential biases (Graham and Hoffer, 2000). Amelia II performs multiple imputation (Rubin, 1987) using a bootstrap-based EMB algorithm. We imputed five values for each missing data point, and then used the procedures outlined by Rubin to estimate the model parameters and their standard errors. We impute twice (each time imputing five values per missing data point), once for the case where we predict attendance at COP and once for the case where we predict GEF funding based on attendance at COP (see next section). This leaves us with five datasets per analysis. In both of our imputation models, we include only those variables, which are also employed as covariates in the regression models, following Schofield et al (2015).¹⁶

¹⁶ Schofield et al. (2015) shows that the inclusion of the response variable (in this case either COP attendance or GEF funding), or any variable associated with the response variable, in the imputation model will bias the results.

The Results

Table 2 column (a) below displays the baseline results and shows that, as predicted, the member's financial capacity (*GDP per capita*) and its size (*population*) significantly and positively affect the size of its COP delegation. Also as expected, as *distance* between the country and the COP location increases, the size of the member's COP delegation shrinks. This baseline model also includes the number of tourists the COP location attracts yearly (in logarithmic form), finding, in agreement with earlier work (Neff 2013), that tourism does not motivate member states' COP attendance. Put differently, non-trivial factors undergird COP attendance. While we include tourist arrivals in all remaining regressions for consistency, for brevity, we note its non-significance only here.

[Table 2 here]

Table 2 column (b) expands upon column (a) with the inclusion of the countries' per capita CO₂ emissions and dummy variables for EU, OPEC, and AOSIS membership. First, the fundamental findings from column (a) carry over. Second, as the country's average citizen's contribution to CO₂ emissions goes up, so does that country's presence in COPs.¹⁷ CO₂ per capita emissions provide a prominent indicator of mitigation pressures that face a country. Hence the finding that the more intensively polluting countries participate in COPs in greater numbers should be taken into account in evaluating the results of these conferences, which are generally seen as having produced

¹⁷ We also examined the effects of Total CO₂ emissions in place of CO₂ per capita (not reported) and found that while Total CO₂ emissions remained positively related to COP attendance, population was not significant in these regressions. We do not report them because we believe that Total CO₂ emissions is a confounding variable that includes both a measure of the amount of CO₂ a country emits and a measure of the size of the population of a country.

too little in facilitating adaptation and encouraging mitigation (e.g., Victor 2011). Third, Table 2 column (b) shows that while OPEC membership boosts the number of delegates a member sends to the COPs, AOSIS membership, even controlling for other factors, negatively influences COP national delegation sizes. Since OPEC members have a vested economic interest in continued reliance on fossil fuels, while the AOSIS countries have a strong interest in serious mitigation of greenhouse gases, this discrepancy in attendance is important to take into consideration for not just outcomes of COPs, which may depend on a number of factors, but also for the dissemination of information and informal discussions. Finally, Table 2 column (b) shows that, once other factors are controlled for, being a member of the EU does not significantly affect national delegation sizes. In other words, the EU leadership in climate mitigation policies does not seem to display itself in terms of higher COP attendance. Table 2 column (c) adds regional dummies to the estimation, with Europe as the reference group.¹⁸ The results show that being from Asia, Oceania, North America, Central and Latin America significantly and positively affect COP attendance, though the results are relatively more significant for Oceania and North America. We find that holding GDP per capita, population, distance, tourist arrivals, CO₂ per capita, and membership in EU, OPEC, and AOSIS constant, member states from North America (Canada and the USA) will send 1.5 more individuals in their delegations than European member states. All the other results from column (b) carry over.

¹⁸ These regional groupings are based on Wheeler (2011). Our choice of Europe as the reference is motivated both by the qualities of Europe we already discussed and the fact that more than a third of the COPs have taken place on the European continent.

Table 3 column (d) adds a number of political capacity and interest variables, including the country's level of democracy (*polity2*), its *regulatory quality* based on Kaufman et al (2010), and the country's agricultural land (in logarithmic form), which could indicate the country's environmental vulnerability given the effect of climate change on agricultural yield.¹⁹ While the level of democracy is a good indicator for the maturity of civil society in the country as well as stable institutions, regulatory quality indicates about administrative capacity. Regulatory quality is also highly correlated with the rule of law, low levels of corruption, and government effectiveness in the country (Wheeler 2011). Controlling for the other factors, being a democracy and having more stable, capable institutions boost COP attendance. The size of the country's agricultural land (in logarithmic form) appears insignificant on national delegation size. Again, the results from the previous table withstand the inclusion of these new variables. Table 3 Column (e) adds the regions, demonstrating that the results from the previous column and Table 2 withstand the inclusion of regional dummies.

[Table 3 here]

Table 3 columns (f) and (g) present results, respectively, for advanced and developing economies based on the last estimation. GDP per capita appears to be a significant determinant of COP attendance only for the developing countries (by the World Bank standards); whereas, population only significantly impacts upon the COP attendance of

¹⁹ Agricultural land comprises “the share of land area that is arable, under permanent crops, and under permanent pastures” (WDI).

advanced economies.²⁰ The significance of developing countries' average national income for their COP attendance also pinpoints the importance of analyzing the discrepancies within the broad category of developing economies, as the relatively richer economies within that group can literally afford to behave differently than their poorer counterparts. CO₂ emissions drive up the attendance of only developing countries, and, similarly, being a democracy matters only for developing countries. In contrast, the member's *distance* from the COP location matters for both advanced and developing countries, confirming our previous discussions on the importance of logistical convenience. Likewise, regulatory quality positively impacts COP attendance for both types of economies, suggesting the likely engagement of different ministries within well-organized governments in the UNFCCC process. As in earlier estimations, neither tourist arrivals (in logarithmic form), nor the size of the country's agricultural land (in logarithmic form) are significant. And OPEC and AOSIS relate to COP attendance in the same manner as before (respectively, positive and negative). Differently from previous estimations, columns (f) and (g) demonstrate that countries from the EU with advanced economies send more individuals than those not from the EU, whereas the opposite is true for developing economies within the EU. In this respect, EU membership does significantly affect the COP attendance of sub-groups of countries.

Moreover, Table 3 columns (f) and (g)'s results on other regional groupings elaborate upon some of the previous results. Column (f) shows that, in comparison to European advanced economies, countries from Oceania, North America, and Asia attend COPs at

²⁰ According to the 2016 World Bank calculations, developing countries are those with a Gross National per capita Income of less than 12,736 USD.

higher rates, but the opposite holds for countries from Sub-Saharan Africa. On the contrary, compared to developing countries from Europe, developing economies from Oceania, Central and Latin American and Sub-Saharan Africa participate in COPs at higher rates (Column (g)). This result, plausibly, suggests environmental vulnerability in regions enhances COP attendance.²¹

Having discussed the different types of determinants of COP attendance, we now turn to analyzing whether COP attendance can offer states tangible benefits. Specifically, does a larger national delegation size at COPs lead to greater funds from the Global Environmental Facility, controlling for other factors?

V. COP Attendance and the Global Environmental Facility (GEF)

Since 1991, GEF has been providing financial assistance to countries, which are eligible for World Bank or United Nations Development Programme funds, for efforts to combat environmental problems, including climate change, biodiversity, international waters, and ozone depletion (Lewis 2003). It serves as a financial mechanism for a number of conventions, including the UNFCCC and UN Convention on Biological Diversity. Our main interest is in analyzing a tangible connection between states' COP Attendance (measured by the size of national delegations) and the funds they receive from the GEF. Specifically, we are interested in knowing whether the networking the UNFCCC's COPs

²¹ For evidence on environmental vulnerability being relatively higher for these regions, see Wheeler (2011).

are said to offer translates into countries getting more funds from the UNFCCC's financial mechanism, the GEF.²²

Through better information exchange at COPs, states could better position themselves for GEF funds. While the ambition here is not to ascertain how such positioning exactly occurs, a number of viable scenarios come to mind. Most basically, the same states that interact at COPs also work together in the context of the GEF, which suggests that more robust contact in the former could affect interrelations in the latter. Eligible countries could increase their contact with GEF officials, thereby applying for funding for projects that have a higher chance of meeting GEF criteria. For instance, the GEF pursues a “results-based” approach and seeks to see clear outputs for projects, with a number of guidelines that states need to meet to get access to GEF funds (Graham and Thompson 2015). The provision of better information to and from national delegates at COPs could, thus, improve their access to the GEF. Broadly, since the literature finds attendance at the COP process to be linked to capacity building, then that capacity should help countries identify viable projects for GEF funding. Also, reasonably, networking between different national delegations as well as between these delegations and the GEF and those agencies that implement GEF projects, such as the World Bank, could also positively affect access to GEF funds.²³ Put differently, COPs could be a platform for forging political connections that matter for GEF funding. In short, regardless of the

²² Since others have provided extensive discussions of the history and the functioning of GEF (Marcoux et al 2012; Graham and Thompson 2015), we do not repeat their discussions here.

²³ Marcoux (2012 et al) provide a discussion of the GEF's relations with these implementing agencies, which alongside the World Bank include UNEP and UNDP. GEF does oversee the implementation of its funded projects (Graham and Thompson 2015).

exact mechanism, there are a number of plausible reasons for why COP attendance could matter for access to GEF funds.

Data Analysis: GEF Funds and Delegation Size

In order to test this hypothesized relationship between COP attendance and access to GEF funds, we take the level of GEF funds approved for each country (in logarithmic form) and explore the countries' COP attendance (lagged by one year) as the main explanatory variable.²⁴ Figure 2 shows the large variability in the total amount of funding received by country over the 20 years for which we have data. The boxplot suggests GEF funds are skewed right with three countries (China, Brazil and India) as outliers.

[Figure 2 here]

Table 4 displays the variability in the total GEF funding, average GEF fund, and the number of countries who received GEF funds in a given year. It shows that funding over time is non-linear and non-constant implying that we ought to model the GEF funding with fixed time effects similar to our attendance model.

[Table 4 here]

²⁴ Since of interest here is a level of country's access to GEF funds and not implementation, we use the year GEF approved a loan to the member.

In assessing the influence of COP attendance the year prior to the disbursement of GEF funds, we include a host of control and independent variables that relevant previous studies have included (Lewis 2003; Marcoux et al 2012)— population (in logarithmic form), CO₂ emissions (in logarithmic form), the level of democracy, regulatory quality, political proximity to the USA (logarithm of military aid from the USA and voting affinity with the USA at the United Nations General Assembly), and the member’s membership on the UNSC, another political variable with influence on countries’ access to multilateral funds.²⁵

In addition to these variables, we add the following variables about the recipient: the size of its agricultural land (in logarithmic form), which could indicate not just the country’s ecological vulnerability, but also its potential for environmental projects; its GDP per capita (in logarithmic form); and whether or not the country led one of the constituencies on the GEF Council, which is charged with the oversight of the institution’s operations, the evaluation of its policies, the direction of its work program, and, importantly, the channeling of its funds.

This last variable deserves some discussion. Currently, the Directors on the GEF Council come from 32 “constituencies”, half of which belong to developing country members.

This constituency system is not dissimilar to that of the IMF’s in the sense that there are some countries that only represent themselves (i.e. they are their own constituency),

²⁵ Works that use the UNGA variable in assessing countries’ access to IMF and World Bank funds include Barro and Lee (2005); Kilby (2011); Thacker (1999). We used the UNGA dataset compiled by Dreher and Sturm (2012). For studies that draw a linkage between UNSC membership and bilateral/multilateral aid, see Kuziemo and Werker (2006) and Dreher et al (2009a). The UNSC membership dataset comes from Dreher et al (2009b).

whereas others are organized in groupings.²⁶ Existing works (e.g., Graham and Thompson 2015; Marcoux et al 2012) hypothesize that developing countries have a relatively (compared to some other international institutions) strong voice on the GEF Council since the 1994 institutional reforms because: a) they represent about half of the constituencies, and b) there is double majority voting on the Council—decisions requiring a vote demand an “affirmative vote representing both a 60 percent majority of the total number of participants and a 60 percent of the majority of the total contributions” (GEF 2007, Article XII). Yet, when the developing countries’ preferences are taken as a whole, existing works have not found much difference between pre- and post-1994 eras in terms of GEF dispersions of funds (Marcoux et al 2012). For instance, there is not a significant increase in “brown aid” for local environmental projects that the developing countries are presumed to prefer. We are interested in seeing whether being a leader of a constituency on the GEF Council affects that leader country’s access to GEF funds. A positive and significant effect of this variable would suggest that at least those developing countries that lead constituencies generate some self-returns from greater influence on the GEF Council. To be able to test the influence of leading a GEF constituency, we formed a database of GEF Council membership; the dummy variable *council leader* takes on the value of 1 if the country was the leader of a constituency during that year.

²⁶ The following countries have their own constituencies: Canada, China, France, Germany, Italy, Iran, the Netherlands, United Kingdom, and United States. As Marcoux et al (2012) note, while most of these countries have gained their own constituencies by virtue of being the largest donors to GEF, this rule does not apply to China or Iran. GEF documentation notes the lack of transparency in the compositions of constituencies.

Table 5 includes a number of regressions, where we follow equation (1) and use a mixed effects model with a random intercept for country and time fixed effects. In this model, however, our dependent variable is the GEF funds in logarithmic form dispersed to the member and the size of the member's COP national delegation the year before is the explanatory variable of interest. As noted above, the analysis controls for a number of variables that the few previous studies have included. Column (a) demonstrates that the member's population (in logarithmic form), its regulatory quality, and the size of its COP delegation significantly and positively affect the size of the funds it accesses from the GEF. We find that an increase in one individual in the COP delegation in the year prior to the GEF funds results in an increase of about 2 percent of the GEF fund given to a member state. Column (a) also displays that the member's GDP per capita (in logarithmic form), the size of its agricultural land (in logarithmic form), the level of its democracy, and its CO₂ emissions per capita (in logarithmic form) are insignificant on the size of the loans the member gets from the GEF. These findings suggest that the member's ability to put together a proposal for GEF funding, which both its regulatory quality and its COP attendance can improve, are strong influences on its size of the GEF funds it accesses. Since, as noted previously, high regulatory quality is associated with low levels of corruptions and high levels of effectiveness, this finding could also be taken to suggest that the GEF Council has a strong preference for countries with relatively better governance (Marcoux et al 2012). While the significance of the population variable could mean larger countries get more access to GEF funds, it could also, in this case, signal about vulnerability given more populous nations have more people exposed to environmental disasters.

[Table 5 here]

Table 5 columns (b)-(c) add a number of political variables to the estimations. Column (b) includes the member's voting affinity with the USA at the United Nations General Assembly, its temporary membership on the UNSC, whether or not it was leading a GEF Council constituency as just discussed, and the military aid it receives from the USA. None of these variables are significant at the 5 percent level, suggesting the lack of US political influence and the absent effects of holding a UNSC seat, which confirms the findings of earlier studies (Lewis 2003; Marcoux et al 2012).²⁷ However, the GEF Council leadership variable is significant at the 10 percent level when region is not included, but loses its significance when region is included (columns (b), (c)). More importantly for our purposes, the addition of these variables does not alter the impact of the size of the COP delegation on GEF funds. Column (c) includes the regions the previous estimations considered. Controlling for regional differences does not change the primary findings, and these differences do not significantly impact upon the size of the GEF funds members receive.²⁸

In Table 6, columns (d) and (e) we include the member's COP attendance (delegation size) two years prior to accessing GEF funds, and three years prior to accessing GEF

²⁷ Out of Dreher and Sturm (2012), we used Thacker's variable of UNGA voting similarity with the USA, but the usage of other variables from that dataset did not change the findings presented here.

²⁸ While not shown, we also estimated column (c) with China removed because it is the country that has received the largest total amount of GEF funding over time. The main findings withstand the exclusion of China, and in fact the effect of COP attendance on the size of funds the member accesses increases slightly in this estimation.

funds respectively. (We repeat column (c) from Table 5 for comparison purposes and ease of reading.) Column (d) shows COP attendance two years before accessing funds seems to be as significant as COP attendance the year before accessing GEF funds, which means the robust influence of the size of the national delegation extends to other years, not just the one immediately before the approval of GEF funds. This finding makes sense given that the approval of funds by the GEF may take some time. However as we show in column (e), the size of the country's national delegation at the COP three years prior does not significantly affect access to GEF. Once again, the GEF Council leadership variable becomes significant at the 10 percent level when we lag the COP attendance variable by more than one year. This may signify that lead constituencies generate some small self-returns from greater influence on the GEF Council, but our results suggest further research on this subject is needed.

[Table 6 here]

In sum, Tables 5 and 6 demonstrate the robust effects of the size of COP national delegations on the size of the loans countries access from the GEF, suggesting both the networking and, via networking, the capacity-building effects of COP attendance. While it is not possible to pinpoint precisely how the size of delegation at COP affects the size of GEF funds, plausibly those that are able to network effectively at COPs have more and better information about how to place bids for GEF funds (see previous discussions). Beyond such capacity-enhancing effects, a pure networking effect – where knowing more people helps with GEF access – cannot be ruled out. Regardless, this section provides

quantitative evidence of the benefits of large delegation sizes at COPs. Given that quantitative analysis on GEF funds is lagging in the literature, this section also advances our understanding of the determinants of GEF loans.

VI. Conclusions

This paper provides the first comprehensive analysis of the determinants of the size of state delegations at COPs as well as the first analysis of how national delegation size affects a state's ability to access funds for environmental projects from the Global Environmental Facility. The importance of financial discrepancies in determining COP attendance cannot be overlooked, but, for the full sample, the paper finds a number of variables to significantly affect national delegation sizes. We find, for instance, that the country's domestic political system (the level of its democracy as well as its regulatory capacity) also significantly affect its COP attendance – more democratic and more administratively capable nations participate in COPs at higher numbers. Further, a nation's population influences its delegation size almost as much as its financial capacity. At the same time, the location of the COPs deserves more discussion, as greater distances between the COP location and the participating member appear to discourage all members' attendance at COPs. Yet, there are some differences across advanced and developing countries – while population matters for the former group, its level of income is insignificant on COP attendance. In contrast, average income matters significantly within the developing country grouping. Regional differences as well as membership

groupings also significantly affect national delegation sizes at COPs. These regional differences, as discussed, likely point to how those that are more immediately vulnerable to the effects of climate change participate more intensely at COPs. In terms of country groupings, the paper provides quantitative support for the anecdotal evidence that oil-producing nations are a visible and influential presence in COPs: OPEC membership boosts national delegation sizes at COPs. Beyond displaying the determinants of COP delegation sizes, we show that there are tangible returns to countries with relatively larger delegation sizes. Particularly, higher levels of COP attendance (greater national delegation sizes) translate into larger funds from the GEF. Additionally, we do not find evidence of US influence over these funds.

More broadly, the paper contributes to ongoing efforts within International Relations to delineate informal governance. Since delegation size affects an actor's ability to acquire, process, and disseminate information at COPs as well as network and negotiate with other state actors and non-state participants (which is quantitatively evidenced by the connection between delegation size and GEF funds), the paper expands upon our understanding of informal processes at COPs. Delegation size is a significant aspect of the informal side of UNFCCC negotiations and interactions. As a next step, linking delegation size to outcomes at COPs would be good especially if a standard method for measuring such outcomes beyond the obvious achievements or failures of these conferences can be ascertained.

The paper's analyses could be extended in future studies. A comprehensive analysis of this sort could be undertaken for the composition of state delegations, differentiating the different official, such as ministerial representatives, and non-official, such as non-governmental actors, that a state delegation includes. Nonetheless, cross-country comparison for that kind of an analysis could be prone to pitfalls in interpretation, as it cannot be assumed that one kind of a ministry performs the same functions or is connected with comparable types of domestic actors in different countries. For instance, ahead of the COP in Peru, the Peruvian Environmental Ministry's authority to set air quality standards or designate nature reserves was removed, which suggests that representation from the Peruvian Environmental ministry could not be taken as equivalent to representation from a much more powerful environmental ministry in COPs.²⁹ It would also be interesting to probe more about political influences over the disbursement of GEF funds. The absence of a significant relationship between a country's political proximity to the USA and GEF funds suggests that the USA does not exercise the kind of influence it does over IMF and World Bank funds, although this does not mean the US does not affect the structure of the Fund, as others have noted. Still, why the US behavior differs at the two international financial institutions versus the GEF is worthy of more analysis.

The paper offers some policy implications. For starters, more funds could be made more readily available to boost the disadvantaged countries' attendance. Although currently the UNFCCC has a trust fund for attendance for "the representatives of developing-country

²⁹ "Lima Climate Talks: South American Diplomats Hopeful of Progress on Deal", *The Guardian* online, December 9, 2014.

Parties, in particular those that are least developed countries or small island developing countries, and of other Parties with economies in transition”, this trust fund is funded by voluntary contributions that have declined over time and can offer the funds for at most one or two additional delegations for the said countries (FCCC/SBI/2004/2).³⁰ In 2014, for example, these voluntary contributions totaled merely 400,000 USD (FCCC/SBI/2014/10). The UNFCCC itself emphasizes the fund has over time been able to financially support “fewer participants” (ibid, 3). Further, eligible countries have been denied access to this fund if they have unpaid contributions to the UNFCCC budget. This paper’s findings suggest that for more even attendance, there needs to be a more robust fund that contemplates different parties and their attendance in more nuanced terms. For instance, China has been eligible to borrow from the fund, but our results indicate that there is a discrepancy within the developing world and some of the most environmentally vulnerable, such as AOSIS, would benefit from relatively more assistance.

Our finding that COP attendance offers networking benefits, which translate into tangible outcomes, suggests another important reason for countries to attend these conferences and keep attending them. Specifically, the finding that the country’s COP delegation size influences the size of loans from the GEF within a short time of the COP – COP attendance three years prior to a GEF fund dispersion does not significantly affect the level of access to GEF funds – suggests the importance of states’ maintaining their COP attendance and networking. At the same time, certain policy fixes to COPs could ameliorate some attendance woes. For instance, because distance significantly and negatively affects delegation sizes, choosing locations within easy reach of smaller and

³⁰ We were unable to confirm which countries have actually accessed the fund.

poorer nations would help these countries', which are already impaired by low levels of financial and administrative capacity, attendance at COPs. Finally, the determinants of delegation sizes and the variance in countries' attendance at COPs are important to consider in discussions of reforming the UNFCCC process. Such reforms will ultimately hinge upon principles (Whose attendance should be boosted? How much should population be a consideration if national delegations were to be capped?), but regardless of what those principles are, considering the patterns in national delegation sizes and their determinants will be useful.

Figure 1: National Delegations at the UNFCCC (1995-2014)

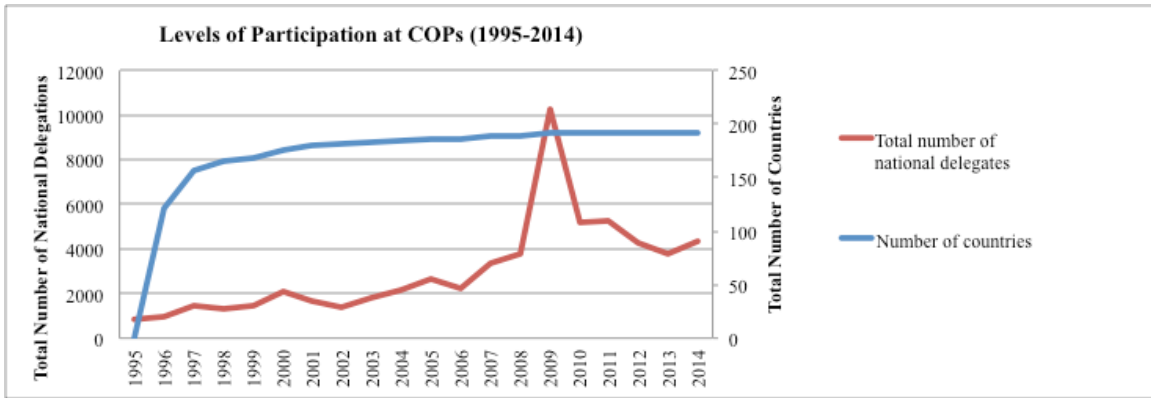


Figure 2: GEF Fund by Country (1995-2014)

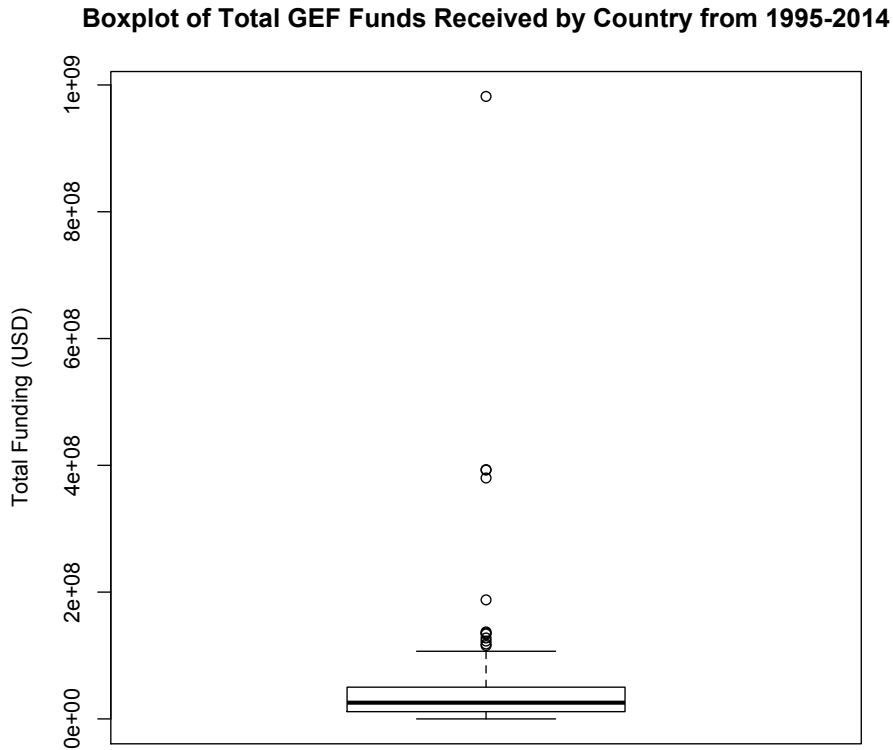


Table 1: UNFCCC, Conferences of the Parties (1995-2014)

COP	Year	Location	UN Regional Group	Total Attendance	Average Attendance	Median Attendance	St. Dev. Attendance
COP1	1995	Berlin	WEOG	845	7.41	4	9.62
COP2	1996	Geneva	WEOG	933	6.66	4	6.22
COP3	1997	Kyoto	APG	1463	9.38	5	17.06
COP4	1998	Buenos Aires	GRULAC	1339	8.87	4	14.25
COP5	1999	Bonn	WEOG	1457	8.99	5	13.79
COP6	2000	The Hague	WEOG	2080	12.02	6	16.00
COP7	2001	Marrakesh	African Group	1653	9.90	4	16.13
COP8	2002	New Delhi	APG	1421	8.66	4	11.85
COP9	2003	Milan	WEOG	1835	11.33	5	19.89
COP10	2004	Buenos Aires	GRULAC	2130	12.99	5	22.97
COP11	2005	Montreal	WEOG	2685	15.00	7	29.83
COP12	2006	Nairobi	African Group	2257	12.68	5	25.13
COP13	2007	Bali	APG	3341	18.06	8	25.11
COP14	2008	Poznan	EEG	3765	20.13	7	39.31
COP15	2009	Copenhagen	WEOG	10257	53.70	29	76.53
COP16	2010	Cancun	GRULAC	5184	27.43	15	46.52
COP17	2011	Durban	African Group	5255	27.80	16	37.42
COP18	2012	Doha	APG	4250	22.73	14	26.48
COP19	2013	Warsaw	EEG	3800	20.43	13	22.08
COP20	2014	Lima	GRULAC	4320	23.61	12	35.67

Notes: WEOG = Western European and Others Group, GRULAC = Latin American and Caribbean Group, APG = Asia-Pacific Group, EEG = Eastern European Group

Table 2: Attendance (log) Regressions (Random Country Effects with Fixed Year Effects)

	(a)	(b)	(c)
	Baseline	Vulnerability, Adaptation, and Mitigation Pressures	Vulnerability, Adaptation, and Mitigation Pressures with Regions
GDP per capita (log)	0.386 *** (0.064)	0.340*** (0.066)	0.370*** (0.069)
Population (log)	0.258 *** (0.055)	0.195*** (0.057)	0.201*** (0.058)
Distance to COP in thousand miles	-0.032 *** (0.003)	-0.032*** (0.003)	-0.033*** (0.003)
Tourist arrivals (log)	0.031 (0.050)	0.021 (0.051)	0.032 (0.051)
CO ₂ per capita (log)		0.136*** (0.026)	0.143*** (0.026)
EU		0.017 (0.074)	0.057 (0.075)
OPEC		0.415** (0.134)	0.519*** (0.136)
AOSIS Member		-0.320* (0.148)	-0.638*** (0.190)
Asia			0.283* (0.170)
Latin/Central America			0.302* (0.180)
North Africa Middle East			-0.436** (0.195)
North America			1.514*** (0.483)
Oceania			0.690*** (0.238)
Sub-Saharan Africa			0.285* (0.166)
Country Level Variance	0.452	0.486	0.415
Individual Level Variance	0.346	0.341	0.341
AIC	7558	7549	7539
N	3820	3820	3820

Note: ***p<0.01, **<0.05, *p<0.1; standard errors in parentheses.

Table 3: Attendance (log) Regressions (Random Country Effects with Fixed Year Effects)

	(d)	(e)	(f)	(g)
	Full Model (Adaptability, Vulnerability, Mitigation, Capacity)	Full Model with Regions	Full Model with Regions - Advanced Economies	Full Model with Regions - Developing Economies
GDP per capita (log)	0.263*** (0.067)	0.301*** (0.070)	0.147 (0.149)	0.196* (0.107)
Population (log)	0.183** (0.079)	0.205** (0.082)	0.319** (0.123)	0.171 (0.105)
Distance to COP in thousand miles	-0.032*** (0.003)	-0.033*** (0.003)	-0.028*** (0.005)	-0.034*** (0.003)
Tourist arrivals (log)	-0.008 (0.049)	0.003 (0.049)	-0.054 (0.097)	-0.016 (0.049)
CO ₂ per capita (log)	0.135*** (0.026)	0.144*** (0.026)	-0.013 (0.041)	0.167*** (0.035)
EU	0.008 (0.073)	0.061 (0.075)	0.240*** (0.084)	-0.313** (0.157)
OPEC	0.503*** (0.134)	0.586*** (0.135)	1.151** (0.535)	0.527*** (0.141)
AOSIS Member	-0.292** (0.142)	-0.584*** (0.183)	-0.492 (0.440)	-0.679*** (0.211)
Polity2	0.011*** (0.004)	0.011*** (0.004)	0.008 (0.010)	0.009** (0.004)
Regulatory Quality	0.096*** (0.030)	0.098*** (0.030)	0.118* (0.061)	0.104*** (0.038)
Agricultural land (log)	0.038 (0.044)	0.020 (0.045)	0.022 (0.057)	-0.001 (0.071)
Asia		0.398** (0.165)	0.669* (0.401)	0.780*** (0.200)
Latin/Central America		0.317* (0.174)	-0.083 (0.415)	0.883*** (0.211)
North Africa/Middle East		-0.274 (0.192)	-0.621 (0.435)	0.213 (0.237)
North America		1.448*** (0.464)	1.380*** (0.528)	
Oceania		0.712*** (0.232)	0.554 (0.394)	1.166*** (0.289)
Sub-Saharan Africa		0.379** (0.163)	-1.299* (0.732)	0.816*** (0.194)
Country Level Variance	0.446	0.382	0.459	0.311
Individual Level Variance	0.340	0.341	0.272	0.354
AIC	7548	7539	2082	5449
N	3820	3820	1120	2700

Note: ***p<0.01, **<0.05, *p<0.1; standard errors in parentheses.

Table 4: GEF Funding (1995-2014)

Year	Total GEF Fund (USD)	Number of countries with GEF Funds	Average GEF Fund (USD)
1995	146,020,660	22	4,237,530
1996	155,495,194	20	5,714,060
1997	221,896,887	81	2,515,155
1998	222,204,415	70	3,048,593
1999	288,945,112	59	4,217,476
2000	356,213,921	56	6,077,937
2001	295,606,065	73	3,562,438
2002	242,295,639	78	2,701,519
2003	390,712,714	93	3,471,738
2004	351,093,391	80	3,974,083
2005	317,000,433	71	4,203,822
2006	326,810,982	59	5,250,539
2007	558,728,103	54	9,887,909
2008	481,512,931	68	6,474,436
2009	643,363,927	92	6,468,817
2010	365,814,634	81	4,184,211
2011	236,954,004	35	5,925,659
2012	908,946,202	84	10,204,111
2013	549,297,595	102	4,825,885
2014	405,646,702	86	4,192,358

Table 5: GEF Total Regressions (Random Country Effects with Fixed Year Effects)

	(a)	(b)	(c)
	Baseline	Political	Political with Region
COP Attendance	0.019*** (0.006)	0.017*** (0.006)	0.015*** (0.006)
Agricultural land (log)	0.185 (0.304)	0.193 (0.299)	0.238 (0.343)
GDP per capita (log)	0.057 (0.680)	-0.050 (0.670)	0.099 (0.735)
Polity2	-0.030 (0.031)	-0.024 (0.032)	-0.040 (0.035)
Regulatory Quality	1.473*** (0.313)	1.466*** (0.327)	1.505*** (0.342)
CO ₂ per capita (log)	0.226 (0.449)	0.247 (0.450)	0.326 (0.511)
Population (log)	1.513*** (0.369)	1.372*** (0.377)	1.420*** (0.414)
Voting inline with the US at UNGA		-0.001 (0.002)	-0.001 (0.002)
UNSC Membership		0.668 (0.544)	0.633 (0.546)
GEF Council Leader		0.848* (0.495)	0.765 (0.496)
US Military Aid (log)		-0.004 (0.071)	0.009 (0.072)
Asia			0.878 (0.739)
Latin/Central America			0.653 (0.715)
North Africa/Middle East			-0.851 (0.860)
Oceania			0.774 (0.893)
Sub-Saharan Africa			0.518 (0.779)
Country Level Variance	1.564	1.409	1.346
Individual Level Variance	40.661	40.713	40.711
AIC	17788	17794	17792
N	2700	2700	2700

Note: ***p<0.01, **<0.05, *p<0.1; standard errors in parentheses.

Table 6: GEF Total Regressions (Random Country Effects with Fixed Year Effects)

	(c)	(d)	(e)
	1-year lag COP Attend	2-year lag COP Attend	3-year lag COP Attend
COP Attendance Years lag	1	2	3
COP Attendance	0.015*** (0.006)	0.014** (0.006)	0.009 (0.006)
Agricultural land (log)	0.238 (0.343)	0.235 (0.342)	0.237 (0.346)
GDP per capita (log)	0.099 (0.735)	0.132 (0.735)	0.196 (0.735)
Polity2	-0.040 (0.035)	-0.039 (0.035)	-0.036 (0.035)
Regulatory Quality	1.505*** (0.342)	1.506*** (0.344)	1.509*** (0.344)
CO ₂ per capita (log)	0.326 (0.511)	0.315 (0.513)	0.305 (0.513)
Population (log)	1.420*** (0.414)	1.450*** (0.414)	1.497*** (0.417)
Voting inline with the US at UNGA	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
UNSC Membership	0.633 (0.546)	0.730 (0.545)	0.783 (0.549)
GEF Council Leader	0.765 (0.496)	0.825* (0.495)	0.865* (0.495)
US Military Aid (log)	0.009 (0.072)	0.006 (0.073)	0.005 (0.073)
Asia	0.878 (0.739)	0.899 (0.739)	0.949 (0.743)
Latin/Central America	0.653 (0.715)	0.669 (0.717)	0.705 (0.721)
North Africa/Middle East	-0.851 (0.860)	-0.840 (0.860)	-0.820 (0.865)
Oceania	0.774 (0.893)	0.808 (0.897)	0.882 (0.900)
Sub-Sahara Africa	0.518 (0.779)	0.549 (0.781)	0.617 (0.784)
Country Level Variance	1.346	1.353	1.385
Individual Level Variance	40.711	40.730	40.758
AIC	17792	17794	17797
N	2700	2700	2700

Note: ***p<0.01, **<0.05, *p<0.1; standard errors in parentheses.

References

- Ashton, John and Xueman Wang (2003). "Beyond Kyoto: Advancing the International Effort Against Climate Change." Pew Center on Global Climate Change, July.
- Barro, R. J., & Lee, J. (2005). IMF Programs: Who is chosen and what are the effects? *Journal of Monetary Economics* 52: 1245-1269.
- Böhmelt, Tobias. (2013a). "A Closer Look at the Information Provision Rationale: Civil Society Participation in States' Delegations at the UNFCCC." *Review of International Organizations* 8 (1): 55–80.
- (2013b). "Civil Society Lobbying and Countries' Climate Change Policies – A Matching Approach." *Climate Policy* 13 (6): 698–717.
- Dimitrov, Radoslav S. (2010) "Inside UN Climate Change Negotiations: The Copenhagen Conference." *Review of Policy Research* 26(6): 795-821.
- Dreher, Axel and Jan-Egbert Sturm (2012) Do IMF and World Bank Influence Voting in the UN General Assembly? *Public Choice* 151, 1: 363-397.
- Dreher, A., J-E. Sturm, J. Vreeland (2009a) Development Aid and International Politics: Does membership on the UN Security Council influence World Bank decisions? *Journal of Development Economics* 88: 1-18.
- . (2009b). Global Horse Trading: IMF Loans for Votes in the United Nations Security Council. *European Economic Review* 53: 742-757.
- FCCC/SBI/2004/2. Financial Support for Participation in the UNFCCC process, May 10, 2004.
- FCCC/SBI/2014/10. Budget performance for the biennium 2014–2015 as at 30 June 2014.
- Hjerpe, Mattias and Björn-Ola Linnér (2010). "Functions of COP side-events in climate-change governance." *Climate Policy* 10(2): 167-180.
- Honaker, James, King, Gary, and Blackwell, Matthew. (2011). Amelia II: A Program for Missing Data. *Journal of Statistical Software*, 45(7), 1-47.
- Gaventa, Jonathan (2009). "Environmental mega-conferences and climate governance beyond the nation-state: a Bali case study", *St Antony's International Review* 5(2): 29–45.
- Genovese, Federica (2014) States' interests at international climate negotiations: new measures of bargaining positions, *Environmental Politics* 23(4): 610-631.
- Graham, Erin and Alexander Thompson (2015). "Efficient Orchestration? The Global Environment Facility in the Governance of Climate Adaptation" in Kenneth Abbott, Philipp Genschel, Duncan Snidal and Bernhard Zangl, eds. *International Organizations as Orchestrators*. New York: Cambridge University Press.
- Kaufmann, Daniel, Aart Kraay and Massimo Mastruzzi (2010). "The Worldwide Governance Indicators : A Summary of Methodology, Data and Analytical Issues". World Bank Policy Research Working Paper No. 5430, 2014 Update.
- Keohane, Robert and David Victor (2010) The Regime Complex for Climate Change. The Harvard Project on International Climate Agreements, Discussion Paper 10-33.
- Kilby, C. (2011). Informal Influence in the Asian Development Bank, *The Review of International Organizations* 6(3-4): 223-257.
- Krause, Johannes (2014). "Women's representation in the UN climate change

- negotiations: a quantitative analysis of state delegations, 1995–2011”
International Environmental Agreements 14: 349-370.
- Kuziemko, I., & Werker, E. (2006). How Much Is A Seat on the Security Council Worth? Foreign Aid and Bribery at the United Nations. *Journal Of Political Economy* 114: 905-930.
- Lewis, Tammy L. (2003). Environmental Aid: Driven by Recipient Need or Donor Interests? *Social Science Quarterly* 84(1): 144-161.
- Marcoux, Christopher, Claire Peeters, and Michael Tierney (2012). “Principles, Principals, and Power: Institutional Reform and Aid Allocation at the Global Environment Facility (GEF)” Working Paper, 22 April 2012, accessed on author’s website.
- Mayer, Thierry and Soledad Zignago (2011) “Notes on CEPII’s distances measures: The GeoDist database.” CEPII Working Paper 2011-25, December.
- Michaelowa, Katharina and Axel Michaelowa (2012). “Negotiating Climate Change.” *Climate Policy* 12(9): 527-533.
- Neff, Till (2013). “How Many Will Attend Paris? UNFCCC COP participation patterns 1995-2015”, *Environmental Science and Policy* 31: 157-159.
- R Core Team (2013). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL: <http://www.R-project.org/>.
- Roberts, Timmons J. and Bradley Parks (2006) *A Climate of Injustice: Global Inequality, North-South Politics, Climate Policy*. Cambridge, MA: MIT Press.
- Rietig, Katharina (2014) “Reinforcement of multilevel governance dynamics: creating momentum for increasing ambitions in international climate negotiations”, *International Environmental Agreements* 14(4): 371-389.
- Rubin, D.B. (1987) *Multiple Imputation for Nonresponse in Surveys*. J. Wiley & Sons, New York.
- Schofield, Lynne Steuerle, Junker, Brian, Taylor, Lowell, and Black, Dan (2015) “Predictive Inference Using Latent Variables with Covariates,” *Psychometrika*, 80(3), 727-747.
- Schroeder, Heike and Heather Lovell (2012). “The role of non-nation-state actors and side events in the international climate negotiations.” *Climate Policy* 12(1): 23-37.
- Schroeder, Heike, Maxwell T. Boyloff and Laura Spiers (2012). “Equity and state representations in climate negotiations.” *Climate Change* 2: 834-836.
- Söderberg, Mattias and Sigrid Bjerre Andersen (2008). “Unbalanced Participation”, Dan Church Aid Research Paper 8, August.
- Sprinz, Detlef and Tapani Vaahoranta (1994) “The interest-based explanation of international environmental policy”, *International Organization* 48(1): 77-105.
- Stone, R.W. (2011). *Controlling institutions: international organizations and the global economy*. New York: Cambridge University Press.
- (2013). “Informal governance in international organizations: Introduction to the special issue”, *Review of International Organizations* 8(2): 121-136.
- Thacker, S. (1999). The high politics of IMF lending. *World Politics*, 52(1), 38-75.
- Victor, David (2011). *Global Warming Gridlock: Creating More Effective Strategies for Protecting the Planet*. New York, Cambridge: Cambridge University Press.

Wheeler, David (2011). “Quantifying Vulnerability to Climate Change: Implications for Adaptation Assistance”, Center for Global Development Working Paper 240.

Yamin, Farhana and Joanna Depledge (2004). *The International Climate Change Regime: A Guide to Rules, Institutions and Procedures*. Cambridge, UK: Cambridge University Press.