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The Inclusion of NGOs in International Organizations

Introduction

Since early 1990s, states have started to act collectively to combat climate change. After the signing of the United Nations Framework Convention on Climate Change (UNFCC) in 1992, states sought to design more robust institutions to fight climate change and negotiations on what would become the Kyoto Protocol started in 1995. From its beginning, NGOs were involved in the process as "formally accredited observers" (Gulbrandsen and Andresen, 2004). In addition, several environmental NGOs were formally allied with a group of states, "the Alliance of Small Island States", to provide them with policy advices and scientific expertise (Gubrandsen and Andresen, 2004). The protocol also granted NGOs with a formal role in monitoring: they were allowed to submit relevant technical and factual information to the compliance committee. In another case, NGOs in the United States played a major role in the Early Warning System used to monitor the World Bank on its environmental policies. Starting in the late 1980s, the Working Group on Multilateral Institutions (WGMI), a government body that gave instructions to the US Executive Director of the World Bank, began informally meeting NGOs based in Washington (Al-Jurf, 2007). Feeling the need to gain additional information on the operation of the World Bank, NGO activists proposed the Early Warning System Legislation, which asked USAID to track multilateral development projects and publicly report their progress. With the support from U.S. lawmakers, the proposal became law in 1987 (Al-Jurf, 2007). Since 1990, regular meetings have been held between NGOs, USAID, and the US Executive Director of the World Bank to discuss US policies on the World Bank (Bank Information Center, 2003).

Besides these two examples, NGOs are actively involved in the operation of other major international organizations (IOs) (Koremenos, 2008; Raustalia, 1997; Corell and Betsill, 2008). Considering the great value states place on their sovereignties, it is puzzling that states and their agents increasingly allow or even invite NGOs to participate in global governance. In this paper, I argue that states and IOs allow NGO participation for two major reasons: monitoring and technical complexity. While most IOs are largely subjugated to their state principals, they still enjoy some degree of autonomy and discretion, leading to potential principal-agent problems. Although IOs are designed to fulfill their principals' goals, they also have their own organizational interests and objectives and they might pursue these objectives at the expense of states' benefits. To prevent this type of agent slippage, states have an incentive to practice oversight on their agents. However, direct oversight by states themselves can be costly and inefficient, especially when states do not know exactly which areas do agent slippage occurs. When the size of an IO increases, the number of its bureaucratic branches and the amount of issues it focuses on also expand. Under this circumstance, it becomes even more difficult for state to closely monitor every parts of IOs' operation. By only selecting a few areas to examine, states might omit areas where agent slippage do occur. To address this deficiency, states can delegate this responsibility to NGOs and establish procedures allowing NGOs to sound the "fire alarm". Focusing on a particular set of issues, NGOs tend to monitor an IO's behavior in specific areas. With different NGOs monitoring various areas of an IOs' operation, the scope and efficiency of monitoring increases.

Besides third-party monitoring, NGOs can also provide policy expertise and knowledge in areas they specialize to states and IOs. When confronting with complicated and highly technical issues, IOs might need external assistance from NGOs. With their extensive local knowledge and

networks, NGOs can help IOs to design more effective projects and smooth the process of implementation.

Extant literature offers several alternative explanations on this phenomenon. One argument focuses on the legitimacy of IOs. As outcomes of international cooperation are significantly influenced by democratic public opinions, IOs need to cultivate positive images to gain public support (Weaver 2007). In this case, NGOs act as an external "stamp of approval", increasing the legitimacy of IOs' policies and projects. In addition, some scholars focuses on how the emergence and the spread of participatory norms force IOs and states to incorporate NGOs (Lipschutz, 1992; Fox and Brown, 1998). Finally, other scholars pay special attention to multiple benefits states and IOs receiving from NGOs (Reimann, 2006; Raustiala, 1997). While these explanations are valuable, they do not adequately consider the principal-agent problems between states and IOs and the role of third-party monitoring; they also need to further specify exactly which services IOs and states need most from NGOs

This paper intends to contribute to the broad literature on the design of international institutions. It aims to further specify IOs' and states' underlying motivation of incorporating NGOs. While NGOs are becoming more involved in global governance, we still know relatively little on the mechanisms of their participation. By specifying these mechanisms, one can further explore the effectiveness of cooperation between states, IOs, and NGOs. The remainder of the paper is organized as follows. The next section introduces the theory and the hypotheses developed in this paper and briefly discusses major alternative arguments . The third section introduces the data used to empirically test the hypotheses. The fourth and fifth sections presents the statistical analysis and discusses its implications. The final section concludes.

Agent Slippage, Technical Complexity, and NGO Inclusion

For realists and neoliberalists, IOs are largely instruments created by states to serve their interests. Rational design theory contends that states design IOs to pursue both individual and collective goals. The seminal article by Koremenos et al. (2001) treats IOs as "rational, negotiated responses to the problems international actors face". As international cooperation occur in an anarchic world, states face issues on distribution, enforcement, and uncertainty (Koremenos, et al, 2001). The establishment of IOs provides a solution to these issues. The classic neoliberal theory argues that the emergence of IOs can reduce transaction costs, decrease information asymmetries, and provide durable legal frameworks in some cases (Keohane, 1984; Axelrod and Keohane, 1985). Specializing on information gathering, IOs act as an repository of information about past and current behavior of states. The common perception of IOs as impartial third parties also make them ideal candidates for dispute adjudication.

However, despite neoliberal scholars recognize the multiple benefits from IOs, they share one of fundamental assumptions with realists: IOs are merely instruments which states act through; they are not independent actors (Barnett and Finnemore, 1999). In this sense, IOs are not purposive political actors with their own organizational interests and goals; they are largely policy machines manipulated by states. Kenneth Waltz (1979) treats the international system as a market with utility-maximizing actors (states). Within this market system, the creation of IOs partially solves issues on information asymmetry and transaction costs, increasing welfare enjoyed by all participants (Vaubel, 1991). Created to serve states' interests, IOs continuously and faithfully deliver benefits to states (Krasner, 1991). From the perspective of neoliberalism, IOs are always effective servants of states; otherwise, it makes little sense for states to establish these organizations and fund them if they do not share same goals with their masters.

Departing from assumptions made by neoliberal scholars, more recent research on IOs treat them as actors with various degrees of autonomy, while still acknowledging the fact that IOs are subordinate to states. From a constructivist perspective, Barnett and Finnemore (1999) treat IOs as autonomous actors with their own interests and goals that do not always align with those of their principals. First, IOs represent a form of rational-legal authority that makes them legitimate and consequently powerful. When acting against states' interests, IOs can defend themselves by claiming that they are merely enforcing the "Rules". In addition, specialized knowledge and experience is another source of power for IOs. With specialized knowledge, IOs are capable of defining what are common interests of the international community, what policies should be adopted to fulfill these interests, and which actors are targets of these policies (Barnett and Finnemore, 1999). Studies have indicate that major IOs such the World Bank and UNHCR cultivate some forms of independent culture and agendas over the years (Finnemore, 1993, 1996a).

Recognizing the autonomy of IOs, Barnett and Finnemore (1999) identified several "pathologies" of IOs that make them ineffective. IOs can be insensitive to the specific context of issues on hand and implement same procedures across different cases; They can also be irresponsive to external feedbacks and become obsessed with their internal views. For example, IMF's management on Asian financial crises in late 1990s received wide criticism as the organization applied a standardized procedure of budget cut and high interest rates that it used among Latin American countries to fight currency depreciation (Radelet and Sachs, 1999). Without considering local contexts and the real cause of depreciation in Asia, it made the situation worse.

From a rationalist viewpoint, IOs face a moral hazard problem. Treating IOs as agents instead of mere structure, the relationship between states and IOs can be captured by a principal-agent

model (Nielson and Tierney, 2003). By delegating important functions to IOs, states grant these agents sufficient autonomy to pursue their own organizational goals at the expense of states' interest. Agents can hide valuable information from principals, act behind principals' back, and use the power originated from delegation to plot against principals (McCubbins et al, 1991). Therefore, it is necessary for states to practice oversight to ensure that IOs do not deviate from goals set by states.

There are multiple ways for principals to practice oversight on their potentially unfaithful agents. Scholars on American politics have done extensive research on how U.S. congress practice oversight on various federal bureaucratic agencies. Two commonly used techniques by U.S. congress are "police patrol" and "fire-alarm" oversights (McCubbins and Schwartz, 1984). In the "police patrol", congressional members directly examine a range of executive activities to detect and correct any violation of legislative goals. Alternatively, the Congress can establish a system of rules and procedures to allow citizens and interest groups to monitor executive-branch administrative decision and expose violations on legislative goals, creating a "fire-alarm" system.

As international bureaucracies, IOs might subject to similar oversight from their state principals. There are multiple ways for states to directly involved in constraining IOs' behavior. First, states can carefully screen potential agents when hiring. Since states have discretion on selecting leaders of IOs, they can choose to employ someone whose interests are closely aligned with them. Second, states can construct systems of checks and balances to facilitate coordination and competition between agents, preventing agent slippage. For example, in 2001, International Monetary Fund (IMF) created an independent evaluation office to address multiple agency problems observed in the daily operation of the Fund (Weaver, 2010). In addition, at the initial stage of designing IOs, states can draw up a specific list of criteria evaluating performance of IOs

and subsequently make credible commitments to reward and punish certain behaviors (McCubbins et al, 1991). Finally, states can practice "police patrol" oversight to directly detect any agent slippage committed by IOs.

Besides direct involvement, states can also rely on NGOs to trigger the "fire alarm. States can incorporate NGOs and set up rules and practices that allow these actors to report violations from IOs. Most NGOs operate in issue areas such as environment protection, public health, and economic development, where major IOs have significant influence; they have a strong interest in improving IOs' effectiveness. As a result, NGOs have an incentive to mobilize their resources to prevent IOs from pursing parochial organizational interests at the expense of common goods. Resourceful NGOs can lobby policy-makers at the state level to impose further regulations on IOs; they can also initiate public campaigns to draw attention on the negative consequences of IOs' ineffectiveness(Lall, 2017). For example, NGOs actively participated in the drafting of the 2006 U.S. Foreign Operations Appropriation Bill, which demands more transparency and accountability from multilateral development banks; the law ask the U.S. executive director to propose specific reform on loan oversight, audit functions and internal whistle blowing mechanisms (Weaver, 2007).

States can then either practice direct "police patrol" or rely on NGOs to sound the "fire alarm" to monitor IOs' behavior. Also, the two options are not mutually exclusive. However, as the size of an IO increases, states' reliance on third party oversight might also increase. Large IOs tend to have more bureaucratic branches and focus on more issue areas (Best, 2012; Krotochwil and Ruggie, 1986). As the number of policies and projects implemented by an IO increases, it is harder for states to exercise direct oversight in an effective way. With limited time and resources, it is difficult for states to directly monitor every aspects of IOs' operation. By only examining a small

portion of IOs' activities, the probability of detecting agent slippage is relatively low. In addition, large IOs tend to have longer chain of delegation. With more offices and suborganizations, the probability of agent slippage also increases as well as the difficulty of monitoring.

By incorporating transnational actors and use them as watchdogs, states can reduce their cost on monitoring. In this case, the cost of monitoring is largely bone by NGOs. Furthermore, NGOs tend to focus on specific IOs' activities that are closely related to their works. As different NGOs monitor on various aspects of IOs' activities, Both the scope and the efficiency of monitoring increase. Therefore, the first hypothesis of this paper is:

H1: as the size of an IO increase, NGOs are more likely to be incorporated into this IO.

As agents of states, IOs are delegated with responsibility to design and implement welfare-enhancing policies and projects. IOs such as World Bank and UNDP design and implement projects around the world. However, IOs often confront issues with relatively high level of technical complexity that requires specialized training and local knowledge (Mattli and Seddon, 2015). When designing policies and projects, IOs might only have partial information on the consequences of different policy options and the distributive implications of these policies (Oren, 1989). As a result, IOs might leave some potential options unidentified; the one they choose might not be the optimal arrangement. Nevertheless, considering the cost of delaying, IOs might implement the best option they have at the moment. This lack of sufficient knowledge on certain issue can lead to policy inefficiency.

Incorporating NGOs can be a way to compensate for this knowledge deficiency. With their local knowledge and expertise, NGOs are in a great position to provide information. By incorporating NGOs into the policy making process, IOs are able to have a better understanding

on the consequence and distributional implications of their policies. In addition, when there are significant changes on external environments, NGOs can act as the third-party providing valuable information on these changes, thereby facilitating timely responses. The information from NGOs allow IOs to reduce their spending on policy research. In addition to policy expertise, most projects designed by IOs require on-ground implementation. Successful implementation requires local knowledge and networks. Without extensive local experience, IOs might not have the appropriate capabilities to execute their policies alone. By outsourcing policy implementation to local NGOs, IOs are able to improve the probability of targeting the right local population and increase efficiency (Reimann, 2006).

During the negotiation of Kyoto Protocol, environmental NGOs were invited to directly participated in roundtables and workshops to debate specific issues and proposals (Betsill and Corell, 2008). Environmental NGOs from different regions were able to deliver their formal statements to highlight the latest scientific information on the impact of climate change and the potentially negative economic impacts on both developing and developed countries. Specialized knowledge were used by NGOs as a primary source of leverage during the negotiation process. As the negotiation continued, delegates started to show higher demand for this specialized knowledge when need to choose between different policy options (Betsill and Corell, 2008). Based on IOs' need for expertise, the second hypothesis is:

H2:As the level of technical complexity increases, IOs are more likely to incorporate NGOs.

H1 and H2 are based on different motivations why IOs incorporate NGOs and can be considered as complementing arguments. For H1, transnational actors are incorporated merely for monitoring purposes; they are not directly involved in the policy design process. In the second case, NGOs participate in the design and the implementation of policies and projects, giving them

more influence on the operation of IOs. In each cases, transnational actors provide different services to IOs. While it can be the case that transnational actors are incorporated for both reasons, their tasks might be centered around monitoring for some IOs and policy making in others.

An alternative but related argument on the incorporation of NGOs focuses on the legitimacy of international cooperation. States not only concern about whether IOs they established are faithful agents, but also how domestic public perceives international cooperation, at least for democratic states. Extant literature have shown that domestic public opinion has great influence on international cooperation (Mansfield et al., 2002; Hiscox, 2002; Thompson, 2006). Lacking inside information, domestic audience tend to be suspicious on international cooperation carried out by their governments. In extreme cases, strong domestic opposition leads the U.S. to withdraw form major international cooperation initiatives such as Trans-Pacific Partnership and Paris Climate Accord. Accusing UN as inefficient and overspending, the U.S. also recently proposed to cut its contribution to UN budget by 285 million, partially because of domestic political agenda (The Guardian, 2017).

In order to gain support from domestic audience, it is essential for states and IOs to demonstrate the benefits of international cooperation and maintain the legitimacy of these efforts. One way to achieve this goal is to become more inclusive. NGOs can act as a source to publicize successful or failed policies and projects implemented by IOs. In the absence of NGOs, the public is less informed on the operation of IOs and cooperation between states, making them more suspicious. Essentially, IOs receive an external verification, "a stamp of approval", from NGOs to increase their legitimacy. Whether NGOs is substantively involved in the operation of IOs or not, the participatory agreements between IOs and NGOs act as a symbol that might increase the perceived legitimacy of an IO and its actions. Weaver (2007) notices that the World Bank, recognizing the

need to be perceived as responsive and inclusive, has increasingly emphasized the percentage of projects in which NGOs have played a role. Grigorescu (2007) claims that IOs are more likely to improve its transparency after major scandals. For example, the World Meteorological Organization conducted major reform to reestablish its legitimacy after one of its official stole $3 million from the organization's budget. In addition, from the perspective of constructivism, there is a transition in the past decades on what is regarded as the legitimate form of global governance; NGOs are increasingly perceived as representatives of a thriving global civil society whose integration into international institutions is necessary for the legitimacy of these organizations (Drori, Yang, and Meyer, 2006; Green, 2017).

Data

The data is from Lall (2017) on IO performance. The dataset contains comprehensive information on fifty-three IOs. These IOs operate in a wide range of issue areas, including economic development, education, environment protection, humanitarian aid, and public health. Regarding geographical variation, six IOs in the dataset have purely regional membership (five of which are development banks). In addition to traditional intergovernmental organizations, the data set includes a number of organizations created by public-private partnerships (five). For these organizations, states were largely responsible for their creation and act as a major source of funding; states are also represented in all these organizations' governing bodies (Lall, 2017).

The paper adopts two measurements on NGO incorporation within an IO. First, a binary variable is used to indicate whether there are any formal participatory agreements between an IO and NGOs. However, this measurement does not capture whether NGOs are substantively involved in IOs' operation or the affiliation is symbolic for legitimacy reason; therefore, the second measurement is used, which is the proportion of NGOs with substantive collaborations with an IO.

Regarding H1, the number of staff an IO hires is used to measure the size of an IO. It is assumed that IOs with large number of staffs are IOs with larger budget, focusing on multiple issue areas, and implementing more policies and projects. These IOs tend to play prominent roles within the international system. As powerful agents, they enjoy high level of policy discretion. In this case, states might be more concerned with agent slippage and more likely to use NGOs to sound the fire alarm when these large IOs deviate from their responsibilities.

Technical complexity is defined as the length of specific training needed to develop and implement policies (Lall, 2017). For highly technical issues, it usually required several years of training for professionals to acquire appropriate qualifications and experience. In contradiction, little specialized training is required in non-technical areas. In this case, professionals from various educational and institutional backgrounds can participate in the formulation and implementation of policies. In the data collected by Lall (2017), technical complexity is measured as the proportion of an IO's senior management that have graduate-level education in a specialized issue area. High proportion indicates high level of technical complexity and greater need for NGO incorporation. The information is obtained from IOs' official websites and networking websites such as LinkedIn.

Table 1 Summary Statistics for Variables

Variable	N	Mean	sd	Min	Max
Substantive Collaboration	53	0.575	0.366	0.00	0.953
Participatory Agreements	53	0.736	0.445	0.00	1.00
NUMBER OF STAFF	53	5.92	2.47	0.00	9.44
TECHNICAL COMPLEXITY	53	0.70	0.46	0.00	1.00
MEMBER STATES	53	91.98	72.72	1.00	195.00
VOTING PATTERN IN UNGA	53	0.87	0.05	0.78	0.99
GEOGRAPHICAL DIVERSITY	53	0.88	0.10	0.51	0.95
POWER ASYMMETRY	53	0.41	0.31	0.04	2.03
AGE OF IO	53	3.26	0.97	1.10	5.00

The analysis also includes a small number of control variables. Age is the logged number of years since an IO is created. IOs with long history have more opportunities to expand and establish relations with NGOs. Asymmetry measures the degree of asymmetry in terms of material capabilities possessed by member states. IOs with powerful members might receive more funding and hire more people; at the same time, powerful members might be more reluctant to include NGOs since their influence can be undermined.

In addition, IOs with more member states, those that are global in nature, might hire more people. At the same time, member states of large IOs might have more difficulty to coordinate their actions and practice oversight on their powerful IO agents. In this case, using NGOs to monitor IOs' operation and sound the alarm can be an cost-effective way to discipline their agents. Therefore, this paper also adds the number of member states of an IO as an additional control.

The homogeneity of interest among member states can also influence the incorporation of NGOs in IOs. On the one hand, as Nielson and Tierney (2003) argues, member states have higher level of control regarding the behavior of their agents when the interest among member states converge. With high level of interest convergence, member states are able to enforce institutional reform and change the behavior of agents when it is necessary. If there is significant disagreement among member states (principals), it is more difficult for them to act collectively and practice direct oversight. As a result, states might rely more on third-party monitoring . On the other hand, interest homogeneity among members can influence their incentive to fund the IO, the scope and the depth of cooperation, which might influence the level of technical complexity. The interest homogeneity is operationalized in two ways. Voting pattern, from the Affinity of Nations index by Gartzke (2006), reflects the convergence of state preferences based on voting positions of pairs of countries in the United Nations General Assembly. Index scores are averaged across all pairs of

member states. Geographical diversity is another measure of the level of heterogeneity among member states.

Analysis

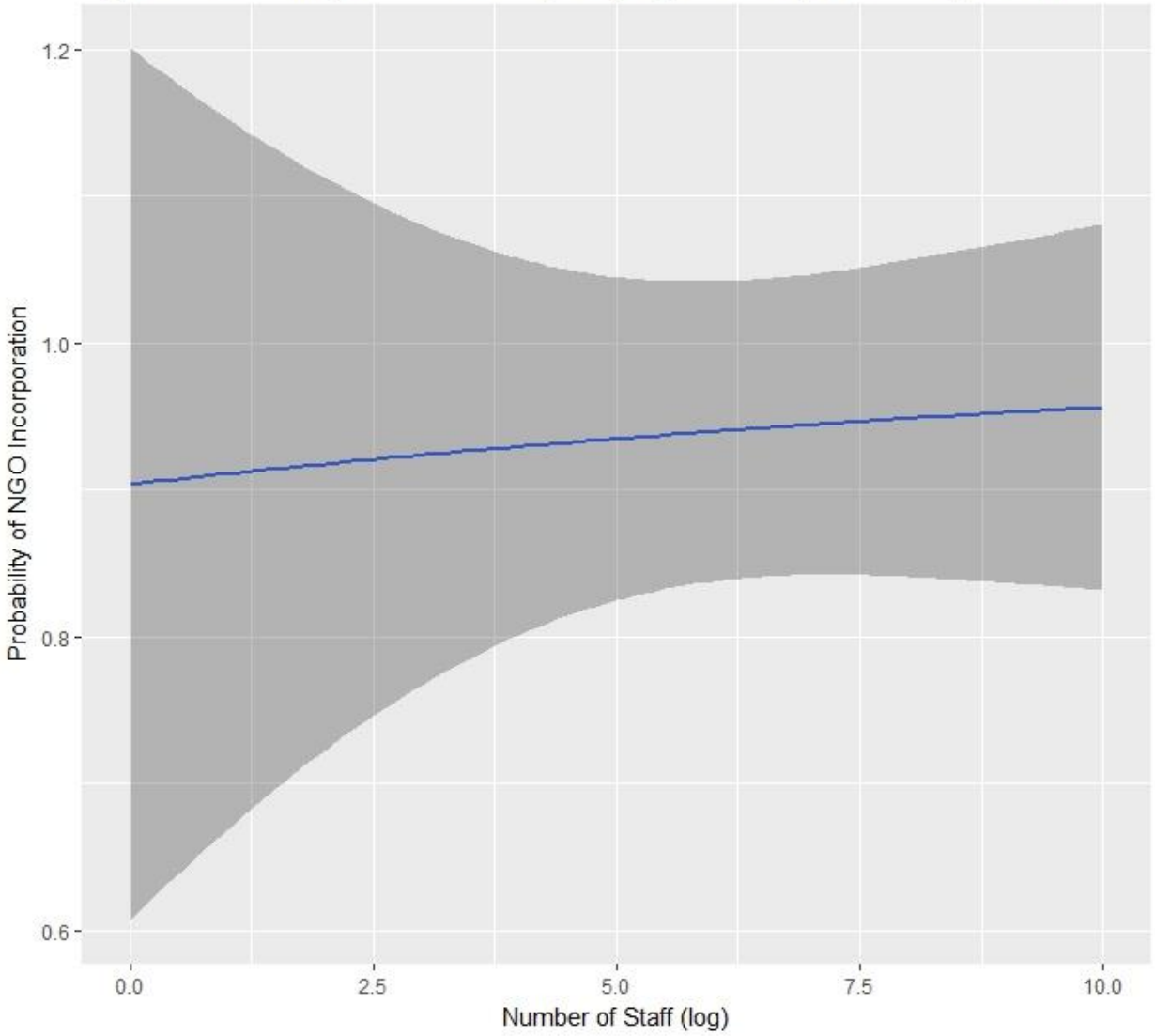
A series of logistic regression is estimated to examine what factors are associated with the

Table 2: Determinants of Participatory Agreements between IOs and NGOs

	Dependent variable:		
	NGO Participatory Agreements		
	(1)	(2)	(3)
Number of Staff (log)	0.204		0.084
	(0.227)		(0.270)
Technical Complexity		10.248***	10.250***
		(3.528)	(3.579)
Member	0.009	0.008	0.008
	(0.006)	(0.007)	(0.007)
Voting Pattern	4.460	38.117**	38.879**
	(9.014)	(18.220)	(18.726)
Geographical Diversity	−3.155	12.387	12.195
	(6.171)	(9.743)	(10.128)
Age of IO	−0.208	−0.648	−0.773
	(0.510)	(0.545)	(0.684)
Power Asymmetry	−1.029	−0.217	−0.147
	(1.260)	(1.344)	(1.367)
Constant	−0.840	−44.229*	−44.789*
	(11.664)	(23.114)	(23.758)
Observations	53	53	53
Log Likelihood	−27.435	−17.120	−17.071
Akaike Inf. Crit.	68.869	48.239	50.141
Note:			*p<0.1; **p<0.05; ***p<0.01

existence of participatory agreements between NGOs and an IO. Table 2 presents the regression result on the determinants on the existence of participatory agreements. As the table shows, there is a positive correlation between the number of staff an IO hires and the existence of participatory agreements. Since coefficients from table 2 is not directly interpretable, predicted probabilities are estimated to indicate the relationship between number of staffs and the existence of participatory agreements. As Figure 1 indicates, the probability of an IO including NGOs in its operation

Figure 2:Probability of NGO Participatory Agreements predicted by IO Staff



increases from 90% to around 95% as the logged number of staffs an IO hires increases from 0 to

10. The figure indicates the size of an IO is weakly associated with NGO incorporation and the correlation is not statistically significant.

The regression result is consistent with the hypothesis on technical complexity. There is a positive correlation between technical complexity and whether NGOs are included in an IO. The result is also statistically significant after controlling age of IO, power asymmetry and diversity among member states. Figure 2 presents the relationship between the predicted probabilities of having participatory agreements and the level of technical complexity. As the proportion of an

Figure 3:Probability of Participatory Agreement predicted by Tech Complexity

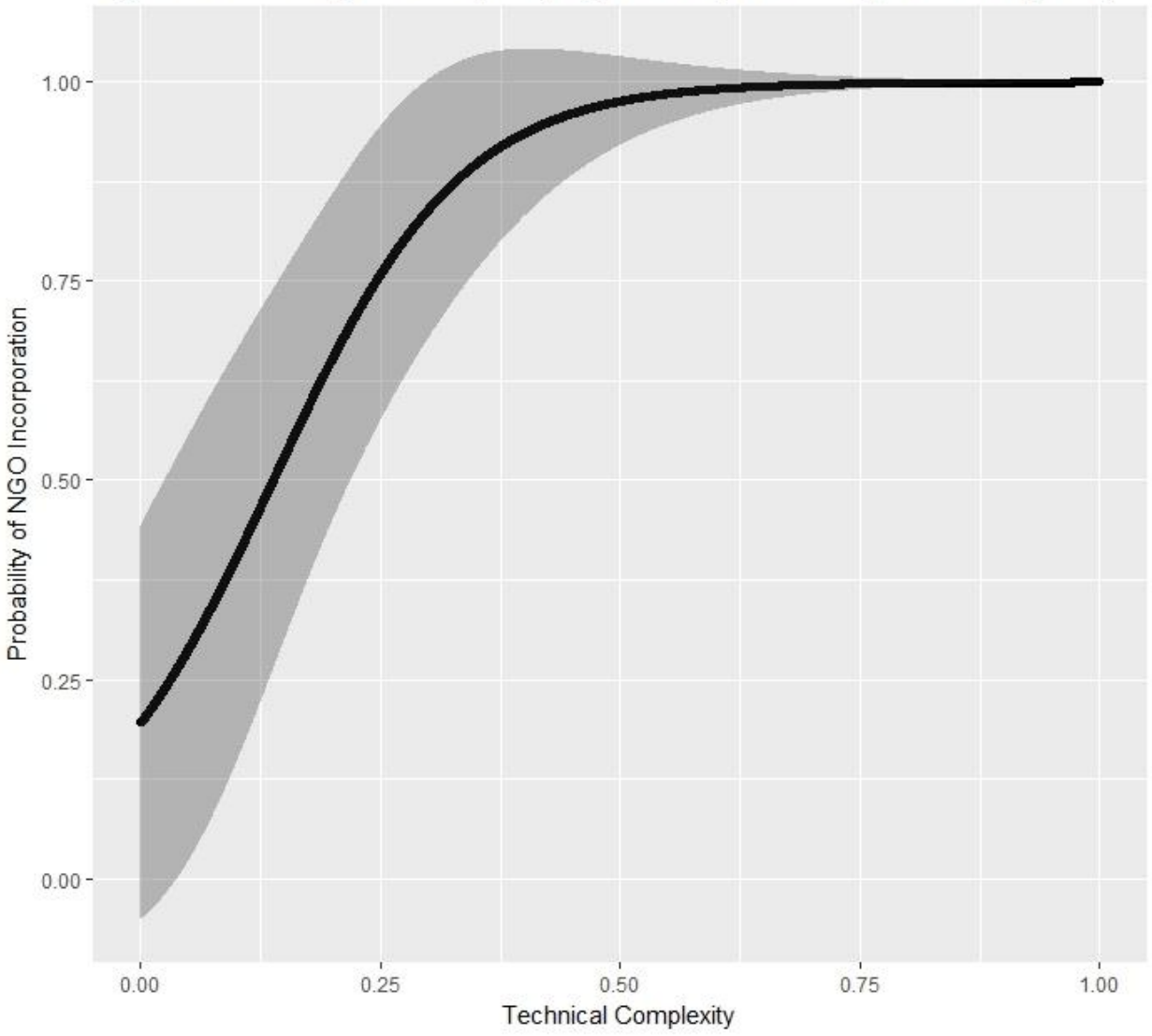


Table 3: Determinants of Participatory Agreements between IOs and NGOs: Additional Controls

	Dependent variable:		
	NGO Participatory Agreements		
	(1)	(2)	(3)
Number of Staff (log)	0.326		0.183
	(0.266)		(0.364)
Technical Complexity		14.767**	14.886**
		(6.237)	(6.414)
Member	0.009	−0.002	−0.003
	(0.007)	(0.011)	(0.011)
Voting Pattern	−12.129	44.716	46.270
	(13.802)	(30.081)	(31.388)
Geographical Diversity	−7.115	15.567	15.338
	(9.085)	(13.992)	(15.424)
Age of IO (log)	−0.332	−0.125	−0.371
	(0.610)	(0.665)	(0.828)
Power Asymmetry	−2.280	−1.161	−1.134
	(1.839)	(2.349)	(2.269)
Development	0.863	−1.631	−1.192
	(0.994)	(1.751)	(1.942)
Education	19.994	18.920	19.097
	(3,970.340)	(5,770.506)	(5,842.428)
Health	0.182	−1.643	−1.818
	(0.959)	(1.659)	(1.695)
Environment	19.845	20.892	21.076
	(3,481.389)	(4,620.389)	(4,636.513)
Humanitarian	−1.319	−2.434	−2.650
	(0.998)	(1.695)	(1.789)
Constant	16.759	−53.577	−54.998
	(18.499)	(37.847)	(39.971)
Observations	53	53	53
Log Likelihood	−21.102	−11.655	−11.522
Akaike Inf. Crit.	66.205	47.310	49.045
Note:			*p<0.1; **p<0.05; ***p<0.01

IO's senior management with advanced degrees increases from 0 to 1, the predicted probability of NGO incorporation also increases from around 19% to 90%. The result provides some initial evidence that as IOs encounter issues that are highly technical and complex, they are more likely to incorporate NGOs.

Table 4: Determinants of Participatory Agreements between IOs and NGOs without PPP Observations

	Dependent variable:		
	NGO participatory agreements		
	(1)	(2)	(3)
Number of Staff (log)	0.216		−0.027
	(0.243)		(0.303)
Technical Complexity		12.187***	12.246***
		(4.552)	(4.598)
Member	0.009	0.011	0.011
	(0.006)	(0.008)	(0.008)
Voting Pattern	9.853	54.102**	54.037**
	(10.157)	(23.490)	(23.410)
Geographical Diversity	−1.183	17.895*	17.944*
	(5.502)	(10.527)	(10.458)
Age of IO (log)	0.095	−0.801	−0.768
	(0.544)	(0.686)	(0.779)
Power Asymmetry	−0.523	0.414	0.388
	(1.280)	(1.385)	(1.418)
Constant	−8.707	−63.620**	−63.586**
	(12.388)	(28.646)	(28.509)
Observations	46	46	46
Log Likelihood	−23.564	−13.950	−13.946
Akaike Inf. Crit.	61.128	41.900	43.893
Note:			*p<0.1; **p<0.05; ***p<0.01

To further test the result presented in Table 2, an addition set of control variables is added, indicating the issue area an IO operating in. Certain issue areas might require more participation from NGOs than others. In areas like trade and economic development, states might be more reluctant to allow NGOs to participate because of concerns on sovereignty. At the same time, they tend to spend more resources on these issue areas. Furthermore, the level of technical complexity also varies across issue areas. Table 3 presents the regression result with additional control variables, which is not significantly altered. Technical complexity continues to have a positive and statistically significant correlation with whether NGOs are included in an IO. In addition, the decrease on AIC score implies that the model does fit the data well.

Another potential concern is that the data contains a number of organizations created by public-private partnerships; these organizations might be systematically different from traditional IOs. To address this potential issue, I exclude these observations and rerun the models. The result is presented in table 4. Again, the result is not significantly changed; the positive correlation between technical complexity and NGO incorporation continues to exist.

While previous analysis based on logistic regression provides some initial evidence that IOs incorporate NGOs when they confront with technically complicated issues, the binary measurement on NGO incorporation can be relatively crude; it only indicates whether certain participatory agreements exist between NGOs and an IO. It might be the case that large IOs confronting with complicated issues incorporate NGOs for concerns on legitimacy, as the alternative argument suggest. NGOs can be included in a symbolic way, without any meaningful participation in IOs' operation. To address this potential issues, a second measurement on NGO incorporation is used to test the two major hypotheses. Lall (2017) collects data on the proportion

Table 5: Determinants of Substantive Collaboration between NGOs and IOs

	Dependent variable:		
	Substantive Collaboration		
	(1)	(2)	(3)
Number of Staff (log)	0.099		0.007
	(0.118)		(0.112)
Technical Complexity		2.568***	2.560***
		(0.567)	(0.573)
Member	0.003	0.001	0.001
	(0.003)	(0.002)	(0.002)
Voting Pattern	2.789	5.985	6.069
	(4.661)	(4.288)	(4.409)
Geographical Diversity	−1.564	1.410	1.400
	(2.656)	(2.561)	(2.563)
Age of IO (log)	−0.159	−0.112	−0.123
	(0.271)	(0.184)	(0.252)
Power Asymmetry	−0.721	−0.528	−0.522
	(0.676)	(0.615)	(0.640)
Constant	−1.234	−7.124	−7.193
	(5.612)	(5.335)	(5.413)
Observations	53	53	53
R^2	0.101	0.369	0.369
Log Likelihood	12.147	20.590	20.593
Note:	*p<0.1; **p<0.05; ***p<0.01		

of NGOs that substantively involved in the formulation, monitoring, and implementation of policies and projects of an IO, in contrast with purely symbolic affiliations.

Since the dependent variable now is a proportion, beta regression is used to further test the major hypothesis. In comparison with OLS regression, beta regression, assuming beta distribution

for DV, is more suitable to accommodate the non-linearity and heteroskedasticity when the response variable is bound between 0 and 1 (Cribari-Neto and Zeileis, 2010). However, one limit of beta regression is that the value of DV cannot be exactly 0 or 1. Since there are several 0 observation within the sample, the data needs to be transformed first before the regression can be applied using the following equation suggested by Smithson and Verkulien (2006): $(y * (n-1) + 0.5) / n$, where n is the sample size. Table 5 presents the result, which is consistent with previous analysis. The level of technical complexity is positively associated with the proportion of NGOs with substantive collaborations with an IO and the correlation is statistically significant.

Table 6: **Determinants of Substantive Collaboration between NGOs and IOs: Zero-one Inflated Beta Regression**

Parameters	Estimate	Standard Error	t value	Pr(>|t|)
Beta Model (Proportion Model)				
Intercept	32.21	15.37	2.10	0.104
Number of Staff (log)	-0.388	0.229	-1.696	0.1651
Technical Complexity	1.901	0.90	2.113	0.1021
Member	-0.008	0.003	-2.580	0.061*
Voting Pattern	-11.94	11.37	-1.050	0.353
Geographical Diversity	-13.52	19.20	-0.704	0.520
Age of IO (log)	0.237	0.375	0.633	0.561
Power Asymmetry	-21.32	5.55	-3.84	0.019**
Sigma Link Function				
Intercept	3.380	0.388	8.707	0.001***
Logit Model				
Intercept	-2.565	1.038	-2.472	0.0688*
Note:		*p<0.1; **p<0.05; ***p<0.01		

Nevertheless, transforming data can lead to potential biases. It can be the case that there are systemic differences between observation with 0 value on DV and those do not. To address this issue, zero-one inflated beta regression is further applied to test the hypotheses, which is a mixture model that shares similar logic with a zero-inflated negative binomial model. The model first

distinguish observations with 0 values on DV and those do not using logistic regression and then use beta regression to fit observations between 0 and 1. Table 6 presents the regression result using zero-one inflated beta regression. Estimations change when the potential systemic differences between zero and non-zero observations has been considered. The relationship between number of staff and NGO incorporation becomes negative. In addition, the positive correlation between technical complexity and NGO incorporation is no longer statistically significant.

Discussion

The statistical analysis provides some initial evidence on the major hypotheses in this paper. Especially, as IOs increasingly confront with technically complicated issues, they are more likely to arrange formal participatory arrangements with NGOs for their knowledge and expertise. The technicality and complexity of issues impede IOs from effectively designing policies and projects. On the one hand, without specific technical knowledge, it can be difficult for IOs to fully aware the consequence of policies and the distributive implication of these policies, leading to suboptimal outcomes. Young (1989) argues that when designing new policies and projects, IOs may not have a complete understanding on all available options. Considering the cost of delaying, it is infeasible for IOs to engage in protracted policy formulating process to explore all possible arrangements. They might agree on certain acceptable policies, even though they do not maximize the benefits. By providing technical knowledge, NGOs allow states to have more comprehensive understanding on the issue and develop more effective policies.

For the first hypothesis, the regression result indicates that there is a positive relationship between the size of an IO and the existence of participatory agreement with NGOs. However, the relationship is not statistically significant. More data needs to be collected to further test the hypothesis. In addition, whether participatory agreements with NGOs exist is a relatively crude

measurement on the level of NGO incorporation. It might be the case that as the size of an IO increases, it establishes participatory arrangements with NGOs to increase its perceived legitimacy. This arrangements can symbolic and NGOs are not meaningfully participate in IOs' operation. Therefore, the second measurement on NGO incorporation, the proportion of NGOs with substantive collaborations with an IO, is used.

While the result from standard beta regression is largely consistent with previous results, a potential issue is that the sample contains IOs with no substantive collaborations with NGOs; and these IOs can be systemically different from other IOs in the sample. When fitting the data with standard beta regression, these outliers have great influence on model estimation. Once zero-one inflated beta regression has been used, the result is significantly changed, indicating that there are some potential systemic differences between IOs that substantively include NGOs and those do not. By further examining these observations, it seems that there are several characteristics that make these outliers different from the rest of the observations in a systemic way. First, 12 of these organizations are affiliated organizations that are created by their parent organizations such as United Nations and European Union. For example, one of the outliers, Joint UN program on HIV/AIDs is established by the UN Economic and Social Council (UNAIDS, 2018). Another outlier, UN Peacebuilding Fund, is created by UN secretary-general and provides fund to other UN organizations, such UNDP and UNICEF (UNPBF, 2018). A final example, European development fund, is created by EU; in addition, its major obligation is not to provide development aid to EU members, but to African, Caribbean, and Pacific countries (European Commission, 2018). Therefore, most outliers are embedded in larger IOs. In this case, these organizations are created provide assistance to other agencies within UN or EU. It can be the case that their parent organizations are IOs that states are concerned with agent slippage and these subsidiary

organizations are part of a larger monitoring network involving NGOs. Future analysis should further examine how these affiliated organizations interact with their parent organizations and how their actions are being monitored.

Another major outlier in the dataset is WTO. In this case, trade might be the area next to security that states do not want any external interference from transnational actor. In addition, instead of implementing specific projects, the major responsibility of WTO is to enforce trade rules among member states. When one of WTO members violates its treaty obligations, other countries can directly feel the negative impact of this violation and they have strong incentive to expose this violation and bring the case to WTO (Dai, 2002). While NGOs can still be incorporated to help states monitoring each other, it might not be necessary in the case of WTO.

The zero-one inflated beta regression is used to address the systemic differences between groups of observation. The result has changed. The positive relationship between technical complexity and the proportion of NGOs with substantive collaborations is no longer statistically significant, which raises the doubt whether IOs incorporate NGOs only for legitimacy reason. The formal participatory agreements between IOs and NGOs act as a symbol which might increase the perceived legitimacy of NGOs. At the same time, NGOs are not involved in substantive operation of IOs. Future study might need to develop measurement to further test whether NGOs are included merely for legitimacy reason or they serve real purposes within an IO.

Conclusion

The paper explores conditions under which states and IOs include NGOs in global governance. Two major arguments are proposed for NGOs' inclusion: monitoring and technical complexity. On the one hand, states use NGOs as third-party agents to detect and expose agency slippage

committed by IOs. While created by states, IOs do enjoy some degree of autonomy and have their own organizational interests, which are not necessarily consistent with those of states. Left unchecked, IOs might pursue their parochial interests at the expense of states' interests. However, despite states can directly practice oversight, it can be costly and inefficient. As the size of an IO increases, the volume of its activities also expands; this development makes states harder to monitor every parts of an IO's operation. By only examining a limited number of an IO's activities, states might neglect areas where agency slippage do occur.

Including NGOs provides a solution to mitigate this problem. Specializing on a set of issue areas, NGOs are more likely to concentrate their monitoring efforts on specific IOs' activities. With different NGOs focusing on various parts of an IO's operation, the scope and the efficiency of monitoring increase. The establishment of formal participatory agreements with NGOs allow states spend less resources on monitoring their agents' behavior. Besides monitoring, NGOs may be incorporated into IOs to provide technical expertise and knowledge. With their extensive local knowledge and networks, NGOs can assist IOs to design and implement projects more effectively.

The statistical analysis provides preliminary evidence on the hypothesis regarding technical complexity. As an IO confront with technically complicated issues, reflected by the proportion of its senior management with advanced degrees, it is more likely to establish any formal participatory agreements with NGOs. In terms of the hypothesis on monitoring, there is a positive correlation between the size of an IO and the existence of participatory agreements, which is consistent with the theoretical prediction. However, due to the limits of a small dataset, the correlation is not statistically significant. Since NGOs might be included merely for legitimacy concern and do not participate in substantive ways, this paper uses a second measurement on NGO inclusion: the proportion of NGOs having substantive collaborations with an IO. After applying

zero-one inflated beta regression model, the result is no longer statistically significant, raising doubts on previous regression; it can be the case that NGOs are included only in a symbolic way. In general, this paper provides some initial evidence that NGOs are included for technical reason. However, new data and analysis are needed to further explore the interactions between IOs and NGOs.

Appendix

List of IOs in the Dataset

International Organization	Acronym
Adaptation Fund	AF
African Development Bank	AFDB
Asian Development Bank	ASDB
Caribbean Development Bank	CDB
Central Emergency Response Fund	CERF
CGIAR Consortium	CGIAR
Climate Investment Funds	CIFS
Commonwealth Secretariat	COMSEC
European Bank for Reconstruction and Development	EBRD
European Development Fund	EDF
Expanded Delivering as One Funding Window for the Achievement of the Millennium Development Goals	EFW
Food and Agriculture Organization	FAO
Education for All – Fast Track Initiative	FTI
GAVI Alliance	GAVI
Global Crop Diversity Trust	GCDT
Global Environment Facility	GEF
Global Fund to Fight AIDS, Tuberculosis, and Malaria	GFATM
Global Facility for Disaster Reduction and Recovery	GFDRR
Inter-American Development Bank	IADB
International Committee of the Red Cross	ICRC
International Fund for Agricultural Development	IFAD
International Finance Corporation	IFC
International Federation of the Red Cross	IFRC
International Labour Organization	ILO
International Monetary Fund	IMF
International Organization for Migration	IOM
International Trade Centre	ITC
Least Developed Countries Fund	LDCF
Multilateral Fund for the Implementation of the Montreal Protocol	MLF
UN Office for the Coordination of Humanitarian Affairs	OCHA
UN Office of the High Commissioner for Human Rights	OHCHR
UN Peacebuilding Fund	PBF
Private Infrastructure Development Group	PIDG
UN Human Settlements Programme	UN-HABITAT
Joint UN Programme on HIV/AIDS	UNAIDS
UN Capital Development Fund	UNCDF
UN Conference on Trade and Development	UNCTAD
UN Development Programme	UNDP
UN Environment Programme	UNEP
UN Educational, Scientific, and Cultural Organization	UNESCO
UN Population Fund	UNFPA
Office of the UN High Commissioner for Refugees	UNHCR
UN Children's Fund	UNICEF
UN Industrial Development Organization	UNIDO
UN Office for Disaster Risk Reduction	UNISDR
UNITAID	
UN Office on Drugs and Crime	UNODC
UN Relief and Works Agency for Palestine Refugees in the Near East	UNRWA
UN Women	UNW
World Bank	WB
World Food Programme	WFP
World Health Organization	WHO
World Trade Organization	WTO

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