Mind the Gaps: Unseen Organizations in Global Governance*

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Abstract

Global governance is increasingly complex, with international non-governmental organizations (INGOs) emerging as key actors influencing both states and international organizations. However, evaluating the influence of INGOs requires an accurate measurement of their numbers and global distribution. This study documents the extent and nature of missingness in the leading data source on INGOs: the *Yearbook of International Organizations*. It finds that, at minimum, 60% of INGOs working on humanitarianism (the largest issue area) and 90% of INGOs headquartered in the United States (the largest country) are missing. The *Yearbook* is more likely to include INGOs based in wealthy, democratic, and English-speaking countries and that participate in the United Nations. These findings show how political scientists' understanding of INGOs and other global governance actors is biased by reliance on the *Yearbook*. They also speak to ongoing debates about the under-representation of voices from the Global South in global governance and transnational advocacy.

Introduction

A central interest in contemporary international relations (IR) is the increasing "complexity" of global governance (Alter and Meunier, 2009; Keohane and Victor, 2011; Clark, 2021; Henning and Pratt, 2023). This includes recognition of a growing role for newer types of non-state actors that include international non-governmental organizations (INGOs), intergovernmental organization (IGO) emanations, informal IGOs, and private transnational regulatory organizations (Avant, Finnemore and Sell, 2010; Hooghe, Marks and Schakel, 2010; Green, 2013; Vabulas and Snidal, 2013; Johnson, 2014; Roger and Rowan, 2022).

One key example is the important role INGOs have played in shaping contemporary international politics. INGOs affect states' environmental and human rights practices (e.g., Keck and Sikkink, 1998; Hafner-Burton and Tsutsui, 2005; Kim, 2013; Strezhnev, Kelley and Simmons, 2021). They also influence IGOs' design and agendas (e.g., Tallberg et al., 2018; Lall, 2025). Consequently, analysts increasingly examine outcomes at the level of such actors themselves, addressing questions such as how they gain authority, form networks, and secure resources (Cooley and Ron, 2002; Gourevitch and Lake, 2012; Green, 2013; Murdie, 2014; Stroup and Wong, 2017).

A crucial task for these research agendas is determining how many global governance actors exist, especially given the growing interest in understanding population-level dynamics (e.g., Abbott, Green and Keohane, 2016; Morin, 2020; Lake, 2021). The main source of data is the *Yearbook on International Organizations* (Union of International Associations, 1953-2023). The *Yearbook* is a (and in some cases, *the*) source for widely-used IR datasets such as the Correlates of War IGO dataset (Pevehouse, Nordstrom and Warnke, 2004), Transnational Social Movement Organization dataset (Smith and Wiest, 2012), and the KOF Globalization

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Index (Gygli et al., 2019). It is used as the basis to track IGO emanations (Johnson, 2014), informal IGOs (Vabulas and Snidal, 2013; Roger, 2020), transnational public–private initiatives (Westerwinter, 2021), and IGO vitality (Gray, 2018; Debre and Dijkstra, 2021). And it is central to the study of INGOs: it serves as "the most common source for quantitative data" (Bloodgood and Schmitz, 2013, 72), and scholars often treat it as comprehensive (Bloodgood, 2018, 116).[1]

Yet while the *Yearbook* is widely used, the extent and nature of missing data in it—and thus some of its limitations as a data source—are poorly understood. We take up these questions with respect to the *Yearbook's* inclusion of INGOs, which are a complicated but consequential type of organization to track, as we elaborate below. First, we document the extent of missingness, revealing that the *Yearbook* fails to report the vast majority of INGOs that exist today. For example, we estimate that, at minimum, 60% of humanitarian INGOs and 90% of American INGOs do not appear in the *Yearbook*.

Next, we develop and test hypotheses about the predictors of missingness in the *Yearbook*. The nature of missingness in the *Yearbook* matters since it determines whether missingness is something scholars can safely ignore for many research questions. Recent research on the politics of global measurement shows how the information environment introduces bias in leading sources of data on human rights (e.g., Fariss, 2014) and democracy (Little and Meng, 2024). Building on that insight, we theorize that more prominent INGOs—specifically, those that are better integrated into the United Nations (UN) system, and from wealthier, more democratic, and English- and French-speaking countries—are more likely to be counted.

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[1]While a full list of studies on INGOs using the *Yearbook* is beyond our scope, we note that in addition to its use in foundational research (e.g., Keck and Sikkink, 1998; Boli and Thomas, 1997; Murdie and Davis, 2012; Murdie and Hicks, 2013; Kim, 2013; Tallberg et al., 2014; Smith, Plummer and Hughes, 2017), it remains a key source for tracking cross-national variation in INGOs in newer work (e.g., Furuta and Bromley, 2025; Dietrich and Pauselli, 2025; Brathwaite et al., forthcoming).

Comparing data from the *Yearbook* to national nonprofit registries and a large global database of humanitarian INGOs confirms our hypotheses.

This inquiry makes three main contributions. First, we show how conventional understandings about INGOs within the social sciences may be biased. For example, many scholars who rely on the *Yearbook* argue or assume that INGOs are more likely to be present in democratic countries (where the environment is politically supportive), wealthier countries (where there is more funding), and countries that are more embedded in liberal IGOs (which support INGOs) (e.g., Boli and Thomas, 1997; Lee, 2010). Yet *Yearbook* missingness is also associated with these factors. INGOs may be more prevalent in less democratic, wealthy, or globally-integrated environments than appreciated because they are systematically less likely to appear in the leading cross-national data source on INGOs. In our replication materials, we provide a method to estimate the likely true range of INGOs for each country, which can provide the basis for a sensitivity analysis when the number of INGOs is used in a cross-national regression analysis.

Second, our study contributes to ongoing efforts to acknowledge and correct biases in the evidentiary base in IR. For example, IR datasets tend to draw heavily on American and European sources, which introduce biases (Lall, 2016; Colgan, 2019; Bush and Platas, 2024). An overreliance on Western cases has similarly distorted the field's understanding of cooperation and conflict (Kang, 2020). Our study adds to this body of research by showing how systems of measurement and evidence can unknowingly reinforce bias. It also helps correct a selection bias in favor of "successful" or prominent actors within global governance (Gray, 2020), since "unseen" INGOs tend to be less prominent in the UN system. While there is reason to believe these issues of bias may be more acute for INGOs than other

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global governance organizations, the findings of our analysis also suggest potential for biases in *Yearbook*-derived data concerning other non-state actors, an issue to which we return in the conclusion.

Finally, our findings speak to ongoing policy debates about power imbalances among INGOs. Transnational advocacy networks have long been dominated by organizations from the Global North, even though many of them work primarily in the Global South (Hughes et al., 2018; Cheng et al., 2021). In response, INGOs in some issue areas, such as humanitarianism, have taken steps to shift power to the Global South.[2] Our analysis speaks to these efforts because it finds that the main global information source undercounts Global South INGOs (i.e., those based in poorer countries) significantly more than Global North INGOs. Thus, Global North INGOs are more over-represented in positions of power than it would appear, making these power imbalances even more acute.

Conceptualizing INGOs

How to define non-governmental organizations is complicated. Although NGO-like actors have a long history in IR (Davies, 2014), the UN helped introduce the concept, using it to "distinguish private groups from IGOs... [which] were given a right to participate without [a] vote while NGOs received a lesser consultative status" (Mitchell, Schmitz and van Vijfeijken, 2020, 10). Indeed, the UN promulgated the most-commonly-used definition within political science: an NGO is "a not-for-profit group, principally independent from government, which is organized on a local, national, or international level to address issues in support of the

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[2]For example, see Jessica Alexander, "Five International NGOs Launch Fresh Bid to Tackle Power Imbalances in Aid," *The New Humanitarian*, October 27, 2022. Available at `https://www.thenewhumanitarian.org/news/2022/10/27/Pledge-Change-aid-reform` (last accessed July 24, 2023).

public good" (cited in Stroup and Wong, 2016, 139). The *Yearbook* also uses this definition.[3]

This definition is juridical: it emphasizes NGOs' legal standing as opposed to NGOs' "composition and functions" (Martens, 2002, 271). It is therefore a relatively "thin" concept, as it includes some organizations that collaborate extensively with governments. At the same time, as Bush has argued, it risks "missing a significant amount of global civil society activity" that is not instantiated in formal NGOs (Bush, 2007, 1650). Despite these limitations, the juridical definition represents the minimalist core that most scholarly definitions of "NGO" share (Mitchell, Schmitz and van Vijfeijken, 2020, 10).

INGOs are NGOs that are internationally oriented. How to define "international" is also complicated. For example, some analysts distinguish between regional and truly international NGOs (Egger and Schopper, 2022, 5). Following other researchers (e.g., Murdie, 2014, 1), we adopt a more minimalist approach: INGOs are NGOs that have significant activities outside the country in which they are based. In the *Yearbook*, the INGO category includes "bilateral bodies, organizations with membership or management structure limited to a single country yet name or activities indicate an international character, and national bodies with formal links (member, funder, partner) with a body of the UN system or other international organization."[4] Similarly, in the U.S. Internal Revenue System (IRS) classification, international NGOs are "private nonprofit organizations whose primary purpose is to provide services or other forms of support to increase mutual understanding across coun-

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[3]It writes: "A non-governmental organization (NGO) is a legally constituted organization created by private persons or organizations without participation or representation of any government. The term originated from the United Nations, and is usually used to refer to organizations that are not conventional for-profit business. NGOs can be organized on a local, national or international level (INGO)." See FAQ available at `https://uia.org/yearbook` (accessed July 1, 2024).

[4]This is the definition for Type G organizations. The *Yearbook* also classifies INGOs as some Type A, B, C, D, F, and H organizations (Lall, 2025), which require the organization to work in at least three countries. See FAQ available at `https://uia.org/yearbook` (accessed July 1, 2024).

tries, encourage social, economic or political development outside of the U.S., and/or impact national, multilateral, or international policies on international issues."[5]

Defined in these ways, INGOs encompass many different sorts of organizations and work on every issue in contemporary IR. While much of the literature on INGOs focuses on leading INGOs (Stroup and Wong, 2017; Mitchell, Schmitz and van Vijfeijken, 2020), there are also many smaller, grassroots INGOs (Schnable, 2021; Shibaike, 2022). Such organizations are, we suspect, particularly susceptible to missingness in INGO data. Moreover, although the literature traditionally examined INGOs engaged in advocacy and service provision, INGOs increasingly perform other functions like enforcement, monitoring, and digital organizing (Eilstrup-Sangiovanni and Sharman, 2021; Hall, 2022).

Theory about INGO Missingness

To theorize how INGOs are included in the *Yearbook*, we draw on our conversations with relevant personnel as well as the literature on the politics of global measurement (Kelley and Simmons, 2015).[6] This literature suggests that measurement often reflects the capacity and preferences of the organization doing the measuring. For example, changes in the monitoring and reporting capacity of entities like Amnesty International have led to changing standards in human rights data (Clark and Sikkink, 2013; Fariss, 2014). Also relevant is the finding that even macro-economic indicators that are based on public information often involve significant measurement error due to weak capacity in and aid-seeking behavior by self-reporting actors (Jerven, 2013; Kerner, Jerven and Beatty, 2017).

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[5]See IRS Activity Codes available at `https://urbaninstitute.github.io/nccs-legacy/ntee/ntee.html` (accessed July 1, 2024).

[6]For a description of those conversations, see Supporting Information (SI) §A.

These findings suggest that we should expect both the information environment and the actions of measured entities to shape the content of IR datasets. We build on these insights to develop hypotheses about which INGOs are most likely to appear in the *Yearbook*. Before presenting the hypotheses, we first provide some background about how the *Yearbook* gathers information. We emphasize our interest is in explaining which INGOs are most likely to be missing from the *Yearbook* given its definition of what constitutes an INGO. Thus, the question is one of measurement (Adcock and Collier, 2001; Roger and Rowan, 2022), although there are also reasonable debates to be had about what organizations should in principle count as NGOs, as discussed earlier.

Background on the *Yearbook* Data Collection

The *Yearbook* began as the *Annuaire de la Vie Internationale*, a reference work published in French in 1908 to track international associations. It was relaunched in 1948 as the *Yearbook of International Organizations* in French and English as a commercial venture by the Union of International Associations (UIA). Its goal was to help IGOs, NGOs, and governments identify potential partners in their issue areas. The UIA collected information via questionnaires sent to the NGO section of the UN Secretariat as part of its broader relationship with the UN, which sought to include NGOs as part of its operations (Saunier, 2019, 176-178). The information was originally collected via self-reports and included details such as the organization's mission, structure, location, and relationships with other groups.

INGOs are eligible for inclusion in the *Yearbook* regardless of their country of origin or issue focus, so long as they meet the UIA's criteria for an NGO that is internationally oriented. In total, the *Yearbook* includes around 10,000 INGOs as of 2024. Because of the

breadth of its approach, the *Yearbook* is considered to be the most comprehensive source of data on INGOs globally and is widely used, as discussed in the introduction.

Today, the UIA gathers information about INGOs by looking at UN and other IGO rosters, inviting information from INGOs themselves, and conducting original research using newspapers and other secondary sources (Murdie and Davis, 2012, 180). INGOs can also submit information about themselves to the *Yearbook* through its website if they wish to be included, but our discussions with UIA staff indicate that self-submissions constitute less than 1% of new additions.[7] By contrast, UIA staff report that their original research to identify new organizations involves review of IGO consultative status lists, major news publications such as *The Guardian*, rosters of major INGO platforms and coalitions, reported memoranda of understanding between INGOs, and Google news alerts for keywords.[8]

Given the *Yearbook's* approach, it is plausible that certain types of INGOs are more visible to UIA staff and thus more likely to be included and invited to participate (Bush, 2007). Below, we consider the factors that make INGOs more likely to be visible to UIA staff and (secondarily) more likely to have the interest and capacity to contact the UIA.

Hypotheses

INGOs exist to respond to demand for social action that is unmet by the market and government (Anheier and Ben-Ner, 2003; Prakash and Gugerty, 2010). They are generally focused on their organizational survival. Survival can be an end in and of itself, but it is also a crucial means of obtaining other goals, such as promoting democracy or protecting an endangered

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[7]Interview with Joel Fischer, Statistics Coordinator and *Yearbook* Editor, Union of International Associations, November 6, 2024 via Zoom.

[8]Ibid.

species. To survive, INGOs need resources, including financial, attention, and authority resources (Mitchell and Schmitz, 2014; Stroup and Wong, 2017). Their ability to access those resources depends on the environments in which they operate. Most importantly, the affluence and openness of INGOs' national political environments will affect their operational decisions, such as how much they advertise, how much and in what ways they engage with other INGOs and IGOs, and how much their staff travels. As a result, these environmental constraints create differences in visibility that shape the likelihood of *Yearbook* inclusion. The same characteristics that make INGOs more visible to UIA staff likely also make them more likely to submit information to the UIA, although as noted above, this dynamic is uncommon.

To begin, we hypothesize that INGOs located in wealthier countries are more likely to be included in the *Yearbook*. Headquarter countries shape the resources INGOs can access (Stroup, 2012). INGOs from wealthier countries can generally fundraise more from governmental and private donors in their home countries than INGOs from poorer countries. Thus, we expect them to be more likely to have the resources to conduct programs, travel to international conferences, network with peers, and build an attractive online presence. They may also be able to attract better staff and more often adopt the bureaucratic features that are viewed as legitimate within contemporary international politics (Gray, 2018; Barnett, Pevehouse and Raustiala, 2022, 23-24). These features make INGOs located in wealthier countries more likely to be visible to UIA staff as well as more likely to have the capacity to provide information to the UIA. We summarize this logic in our first hypothesis below.

> *Hypothesis 1: INGOs located in wealthier countries are more likely to be included in the* Yearbook.

Relatedly, we hypothesize that INGOs located in more democratic countries are more likely to be in the *Yearbook*. Democratic countries are more likely to support INGO activity within IGOs (Tallberg et al., 2014; Hanegraaff et al., 2015), whereas non-democratic countries are more likely to repress and restrict INGOs, which constrains their fundraising and programming (Dupuy, Ron and Prakash, 2016; Chaudhry, 2022). As a consequence, INGOs in non-democracies may have less capacity to participate in international meetings or coalitions or to develop international reputations. Moreover, repressive environments may make it less appealing for INGOs to seek external recognition from bodies like the UIA, as being visible or associated with "foreign" entities can increase repression. Hypothesis 2 summarizes this expectation.

> *Hypothesis 2: INGOs located in more democratic countries are more likely to be included in the* Yearbook.

Our final country-level hypothesis pertains to the language of INGOs' headquarter countries. The *Yearbook* was originally published in French and then English, reflecting the current and historically dominant languages in international diplomacy and at IGOs like the UN (Saunier, 2019). Since English and French are languages in which the UIA staff have had consistent capacity over the years, they will be more likely to consult sources in these languages. There are a relatively large number of such sources to begin with as well, and we expect English- and French-speaking journalists will be more likely to cover INGOs based in countries where these are the dominant languages. This logic brings us to our third hypothesis:

> *Hypothesis 3: INGOs located in English- and French-speaking countries are more likely to be included in the* Yearbook.

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In addition, we consider how INGOs' organizational traits may make them more visible to the *Yearbook*. There are a number of potentially-relevant INGO characteristics. We focus on one that we theorize is particularly significant and is also empirically tractable: INGO participation in the UN system.

As described earlier, the UN—with its goal of having INGO consultation—provided a raison d'être for the *Yearbook* to maintain an INGO roster, a framework for defining INGOs, and a basis for identifying INGOs based on organizations with consultative status (Saunier, 2019, 178). As a result, we expect that participating in UN meetings helps INGOs become "visible" to UIA staff. The groups that participate in such events are also more likely to have the capacity and desire to provide information to the UIA, as doing so may raise their profile at the UN. Other INGOs may choose not to engage with the UN system due to limited resources or anti-systemic preferences (Smith and Wiest, 2012), and we suggest that they are less likely to be in the *Yearbook*. This reasoning results in our final hypothesis.

> *Hypothesis 4: INGOs that are connected to the UN system are more likely to be included in the* Yearbook.

Research Design

To test our hypotheses, we compare the list of INGOs in the *Yearbook* to rosters of INGOs in best-available national registries and issue directories. We draw on a recent electronic version of the *Yearbook* that contains organizations founded through 2021.[9] In this section,

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[9]The *Yearbook* includes some INGOs that are no longer active since the UIA does not systematically track this information (Gray, 2018; Eilstrup-Sangiovanni, 2020). Such organizations may not be present in national registries and issue directories, which tend to be more attuned to organizational mergers, dissolutions, etc.

we describe our logic of case selection for the INGO rosters that we compare to the *Yearbook* and our approach to matching organizations.

Case Selection

To examine the country-level correlates of *Yearbook* inclusion, we draw on data on humanitarian INGOs. Our main source is the Global Database on Humanitarian Organisations (GDHO) (Humanitarian Outcomes, 2021). Although the GDHO does not publish formal inclusion criteria for "international" and "NGO," our communications indicate that its definitions match the UIA's.[10] In robustness checks, we rely on an alternative data source: the Humanitarian Organisations Dataset (HOD) (Egger and Schopper, 2022). Key criteria for NGOs in the HOD include separation from the government, voluntary participation, and non-profit status (Egger and Schopper, 2022, codebook). This definition is also similar to that of the UIA. The HOD offers a more nuanced classification scheme, however, that distinguishes regional and global NGOs as well as various types of NGO federations; we treat all these groups as INGOs for comparability with the UIA's broad definition.

Although our focus on humanitarian INGOs is partially a matter of convenience—since we are unaware of similarly comprehensive lists of INGOs in another issue area—it serves our research design in two other ways. First, humanitarianism is substantively important. It is by far the largest INGO population by issue area (Bush and Hadden, 2019, 1138) and the topic of much study (e.g., Barnett, 2005; Stroup, 2012). Second, humanitarianism primarily involves work in the Global South and has been a locus of efforts for greater inclusion of

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[10]Regarding the definition of international, the working definition is "organisations who operate...outside of the country of their headquarters." Regarding NGOs, it is organizations that are "NGO[s] in their respective countries," whatever the legal requirements there might be. Source: e-mail communication with Meriah-Jo Breckenridge, July 3, 2024.

actors in the Global South.[11] This feature of humanitarianism could mitigate against finding support for a relationship between development or democracy and *Yearbook* inclusion.

Second, we draw on government registries as a cross-sectoral data source on INGO populations. Government registries provide the most-comprehensive source of information in the (fairly uncommon) cases where they exist and are made public, as these data stem from a requirement that NGOs provide standardized information about their activities.[12]

The main government registry we use comes from the United States. American nonprofits with revenues of $50,000 or more (except churches) must submit financial information to the IRS. The National Center for Charitable Statistics (NCCS) gathers information on when the IRS recognized it as tax exempt, its revenues, and its issue area. Organizations that fall into the "Q" issue area code work on international issues.[13] American INGOs comprise by far the largest national population of INGOs according to the *Yearbook*, representing about one-third of the global INGO population (see Figure 1).

Focusing on American INGOs ensures a hard test of our organization-level hypotheses. American INGOs are more likely than other INGOs to be socially connected, prominent, and visible to UIA staff, in part because the United States is a wealthy, English-speaking democracy (as per Hypotheses 1–3). Moreover, the United States plays a leading role in global governance, and American INGOs are unusually central within transnational networks (Hughes et al., 2018, 11). For non-American INGOs, being connected to the UN system is plausibly *more* likely to predict inclusion in the *Yearbook* than it is for American INGOs,

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[11]See, for example, the "Grand Bargain," available at `https://interagencystandingcommittee.org/grand-bargain` (last accessed May 13, 2024).

[12]In some cases, government registries exist but involve voluntary registration, which INGOs may opt out of for various reasons, making them unsuitable for our analysis (Bloodgood, Stroup and Wong, 2023, 169).

[13]Not all nonprofits in the NCCS have issue-area classifications, and some groups that engage in international activities are not counted in the "Q" category. Given these dynamics, the under-counting of American INGOs in the *Yearbook* is likely even greater than our analysis suggests.
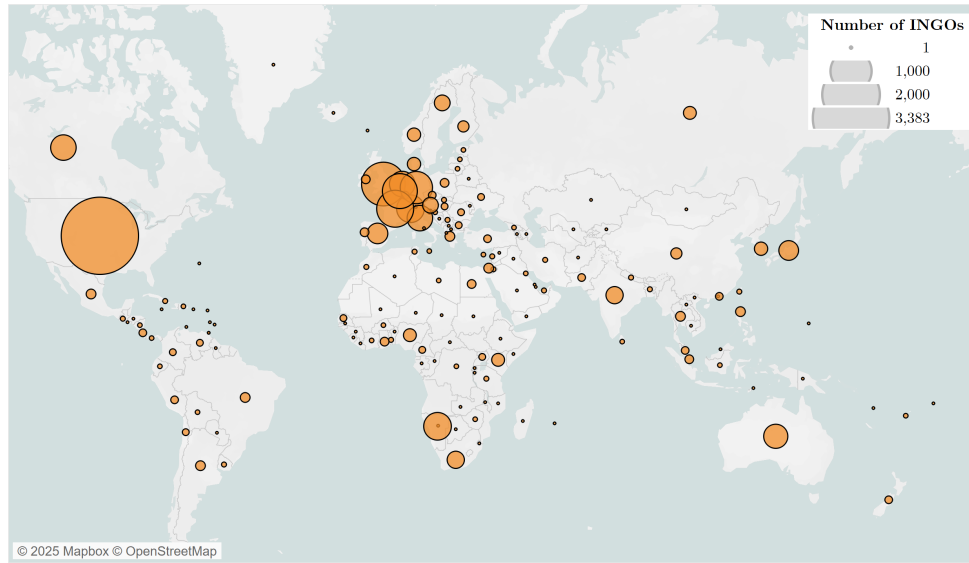
Figure 1: **Country headquarters of INGOs in the *Yearbook*, 2021 electronic edition**. The size of the circle indicates how many INGOs are headquartered in a country.

which may already be visible to UIA staff.

We also draw on data from Kenya. Kenya requires mandatory NGO registration, although the public registry contains no other information about NGO attributes.[14] To identify which Kenyan NGOs are *international*, we conducted desk research on each organization and applied the definitions used by the *Yearbook* and NCCS (provided earlier) for comparability. We coded a random sample of 1,000 NGOs (out of more than 11,000 total) to identify internationally-focused NGOs headquartered in Kenya. Although the paucity of further information about Kenyan INGOs prevents us from reliably testing Hypothesis 4 in this country, including Kenya in our study illuminates how the extent of *Yearbook* missingness

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[14]NGOs in Kenya are formally known as "public benefit organizations" (PBOs) as of 2013. The Public Benefit Organization Act (2013) defines PBOs as: "a voluntary membership or non-membership grouping of individuals or organizations, which is autonomous, non-partisan, non-profit making and which is organized and operated locally, nationally or internationally, engages in public benefit activities and is registered as such by the Authority." See the Public Benefit Organization Regulatory Organization for more information: `https://registration.ngobureau.go.ke/` (Last accessed April 1, 2025).

varies across two countries that differ in their levels of development and democracy.

Matching Process

One challenge for our work is that the same INGO's name can potentially be formatted in many ways. To minimize this issue, we first edited the full name of each organization to remove special characters and punctuation. Then, we removed a custom list of "filler" words such as "of" and "in." We created another custom dictionary of common INGO and corporate terms and their abbreviations (e.g., "international" and "intl," and "incorporated" and "inc") to standardize names as much as possible. This process produced a "simplified" organization name for every INGO.

To test Hypotheses 1–3, we compare the universe of humanitarian INGOs with the *Yearbook*. The first step in matching organizations was the strictest: we produced a list of humanitarian INGOs that had an exact match in the *Yearbook*. For example, a GDHO organization with the simplified name "save children" would be matched to a *Yearbook* entry also named "save children." This step resulted in roughly 200 matches. We next allowed for all words in a GDHO organization's name to be contained in a corresponding *Yearbook* organization's name, but in any order. That is, if the GDHO's simplified name is "children save," it would be matched to all *Yearbook* entries which also contain both the words "children" and "save," accounting for the possibility that one umbrella organization could have multiple entries in the *Yearbook* representing its subsidiaries. Finally, we manually matched the remaining humanitarian INGOs, which allowed us to account for differences in languages and potential mergers or rebrandings of existing organizations. In total, about one-third of GDHO and HOD organizations are listed in the *Yearbook*. Figure 2 visualizes the number

of GDHO INGOs in each country, distinguishing between organizations that are included in the *Yearbook* (orange) and missing (blue). Offering prima face support for Hypotheses 1–3, we see there are more matched humanitarian INGOs in Europe and North America than in other regions.
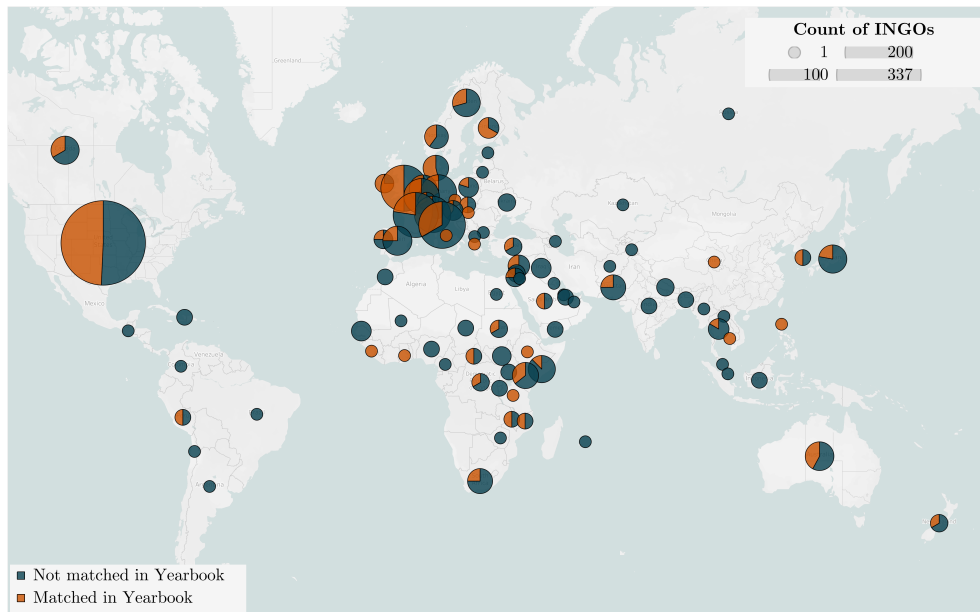

Figure 2: **Humanitarian INGOs and missingness in the *Yearbook*, 2021 electronic edition**. This map shows all GDHO INGOs by country. The size of the circle indicates how many INGOs are headquartered in a country. Each pie graph represents the proportion of those INGOs which are also found in the *Yearbook*, with orange indicating matched organizations and blue indicating unmatched organizations.

To more formally test our hypotheses, we created a dichotomous variable that takes the value of 1 if a humanitarian INGO is included in the *Yearbook* and 0 if it is missing. To measure country wealth, we use GDP data from the World Bank.[15] To measure democracy, we use the measure of electoral democracy produced by the Varieties of Democracy (V-Dem)

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[15]We also use GDP per capita data, as shown in SI §B.1.

project (Coppedge et al., 2011).[16] This variable ranges from 0 to 1, with larger numbers indicating more democratic countries. Both measures are taken from 2017 to provide a lag prior to inclusion in the 2021 *Yearbook*. We use the Central Intelligence Agency's *World Factbook* to identify countries where English or French is an official language.[17]

Hypothesis 4 predicts that INGOs with more connections to the UN system will be more likely to be included in the *Yearbook*. The GDHO does not track organizations' connections to the UN, but we can derive this information via a similar matching process to the one described above. The source of information about UN affiliations is the UN Department of Economic and Social Affairs NGO Branch (United Nations E/2022/INF/5 Economic and Social Council, 2019).

We also test Hypothesis 4 using information about American INGOs across all issue areas. To do so, we create a dichotomous variable that takes the value of 1 if an NCCS INGO is included in the *Yearbook* and 0 if it is missing. We match NCCS INGOs to both the *Yearbook* and UN affiliation list in the same fashion as described above. However, because the NCCS dataset lists branches of an organization separately if they are incorporated independently across states, we allowed for "one to many" matches from the NCCS to the *Yearbook*. We further grouped unmatched NCCS listings according to the relevant level of analysis, including via manual grouping of a variety of large organizations through simple string searches. After implementing this procedure, we estimate that more than 90% of American INGOs are not in the *Yearbook*. As shown in Figure 3, missingness varies by issue, with the *Yearbook* listing around 5% of cultural exchange INGOs vs. 15% of human rights INGOs, perhaps

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[16]We also use measures of the environment for and violence against civil society from V-Dem instead of democracy as alternative measures in robustness checks. See SI §B.1.

[17]See Central Intelligence Agency, "Field Listing – Languages." Available at at `https://www.cia.gov/the-world-factbook/field/languages/` (last accessed January 29, 2025).
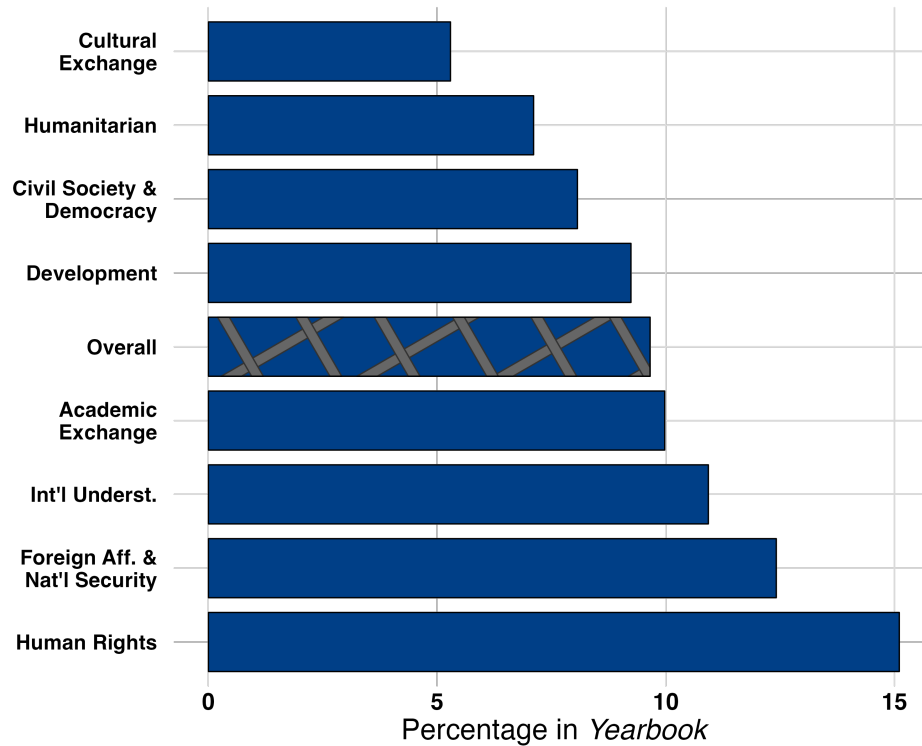
Figure 3: **Inclusion in the *Yearbook* by NCCS issue area**, selected major INGO issue areas. The NCCS dataset includes all legally-registered American INGOs.

reflecting the latter's better integration into global institutions.

Our findings in Kenya are similar. Out of the 11,000 organizations in the Kenyan national registry, less than 1% are in the *Yearbook*. While the majority of these 11,000 organizations are not international, in our random sample of 1,000 manually-researched and -classified groups we found 55 INGOs based in Kenya that fit the UIA definitional criteria. If we expect this pattern to extrapolate to the full population of Kenyan NGOs, we can expect roughly 623 of the 11,000 groups in the national registry to be international NGOs. This number is dramatically higher than the 81 INGOs listed in the *Yearbook* as based in Kenya and implies that the *Yearbook* is missing the vast majority of Kenyan INGOs. Indeed, within

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our 1,000-organization sample, just five INGOs matched with the *Yearbook*, giving us 50/55 or roughly 90% INGO missingness. While the small number of matches prevents further hypothesis testing for Kenyan INGOs, these findings suggest that missingness is extensive in Kenya, as it was in the United States.

Results

Are INGOs from certain countries more likely to be present in the *Yearbook*? First, we hypothesized that INGOs located in wealthier countries are more likely to be included. We test this hypothesis in Models 1 and 4 in Table 1 using data on humanitarian INGOs from the GDHO; the results for humanitarian INGOs from the HOD are similar (see SI §B.2). We regress *Yearbook* inclusion on the (logged) GDP of the INGO's headquarter country using linear probability models and find results in line with our expectations.[18] For example, an organization's headquarters being in the 75th percentile of GDP versus the 25th is associated with an approximately 14% increase in the probability of the organization being found in the *Yearbook* based on Model 1. The positive relationship remains strong when we include other relevant country variables in Model 4.

Next, we hypothesized that INGOs located in more democratic countries are more likely to be in the *Yearbook*. Our results are displayed in Models 2 and 4 in Table 1 and are again in line with our expectations. In Model 2, a country's increase from the 25th to the 75th percentile of V-Dem's democracy measure (a value of 0.82 to 0.89) corresponds with a 2% higher likelihood of inclusion. As can be inferred from this description, most INGOs

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[18]We find similar results using logit and zero-inflated Poisson models intended for count data with many zeroes, results for which can be found in SI §B.3.

	Model 1	Model 2	Model 3	Model 4
Constant	-0.73***	0.08	0.30***	-0.04*
	(0.21)	(0.06)	(0.02)	(0.22)
Logged GDP (USD)	0.04***			0.02**
	(0.01)			(0.01)
Democracy (V-Dem)		0.38***		0.18*
		(0.08)		(0.10)
English- or French-Speaking			0.14***	0.08**
			(0.03)	(0.04)
Observations	1,010	1,013	1,018	1,009
R^2	0.03	0.02	0.02	0.03
Adjusted R^2	0.03	0.02	0.02	0.03

Table 1: **Country-level correlates of *Yearbook* inclusion**. These results are based on linear probability models and use the GDHO data on humanitarian INGOs. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

in the *Yearbook* are headquartered in democratic countries. A move from a 0.5 to a 0.6 democracy score results in a 14% increase in the predicted probability of inclusion. Thus, whereas existing work suggests that economic development and democracy can impact INGO prevalence using data from the *Yearbook* (Boli and Thomas, 1997), in fact, these variables are also good predictors of whether an INGO makes it into global data sources at all. When we include the country's logged GDP alongside democracy and official language in Model 4, we see that the coefficient estimate for democracy is positive, though smaller and only weakly significant as one might expect given the strong correlation between development and democracy.

Finally, Models 3 and 4 show that INGOs located in English- and French-speaking countries are more likely to appear in the *Yearbook*. As predicted by Hypothesis 3, INGOs based in such countries are 14% more likely to be included based on Model 3. The positively relationship remains clear, though it is a bit smaller substantively, in our more fully saturated

Model 4.

Now, we turn to organizational-level characteristics. Hypothesis 4 posited that INGOs that are already connected to the UN system are more likely to be represented in the *Yearbook*. We test it both in a single sector (humanitarianism) across all countries and in a single country (the United States) across all sectors using linear probability models.

Across all humanitarian organizations globally, organizations that are UN-affiliated are indeed more likely to be represented in the *Yearbook*. We present our results for GDHO organizations in Table 2; the similar results for HOD organizations are included in SI §B.2. For example, UN affiliation increases the likelihood of inclusion by 25 percentage points in Model 1. This pattern is evident even when including country fixed effects (Model 2), which capture all country-specific factors (including GDP and democracy) that might also be correlated with presence in the *Yearbook*.[19] It is also robust to including an indicator for INGO age (Model 3), when this information is available for INGOs in the GDHO. We include age as an organization-level control variable since older groups may be more likely to have obtained UN affiliation, be recognized in the *Yearbook*, or both, although Model 3 shows that this is not the case. UN-affiliated INGOs are also 17 percent more likely to be included in the *Yearbook* when we look at all American INGOs, regardless of the issue area (see SI §B.5).

The Implications of Missingness

A full consideration of how social science inferences may be biased by missingness in the *Yearbook* falls outside the scope of this paper. But like others, we suspect that the data

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[19]Results hold when we substitute region fixed effects for country fixed effects in SI §B.4.

	Model 1	Model 2	Model 3
Constant	0.34***		
	(0.02)		
UN Affiliation	0.25***	0.21***	0.18***
	(0.04)	(0.04)	(0.04)
Age			0.0005
			(0.0006)
Fixed Effects?		Yes	Yes
Observations	1,018	1,018	533
R^2	0.04	0.14	0.17
Within R^2		0.03	0.02

Table 2: **Organizational characteristics and *Yearbook* inclusion, humanitarian IN-GOs**. These results are based on linear probability models and use the GDHO data. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

we use can have important implications for the conclusions we draw in IR. To illustrate the potential implications of missingness for the field, we consider the relationship between foreign assistance and the number of INGOs based in a country across the data sources in our study.

According to a growing body of research on the political economy of nonprofits, INGOs respond strategically to their resource environments (e.g., Bob, 2005; Prakash and Gugerty, 2010). INGOs may choose to work in particular countries or on particular issues because of the availability of funding, leading to growing density (Cooley and Ron, 2002). That government funding could stimulate nonprofit density is also an idea explored within the public administration literature, although this literature also considers that nonprofits may be more likely to exist in settings where there is unmet need because governments are failing to address social problems (Lecy and Van Slyke, 2013).

Building on these insights, and following the approach used by Egger and Schopper

	Model 1	Model 2	Model 3	Model 4
	Yearbook Sample		*GDHO Sample*	
Constant	0.01***		0.01**	
	(0.003)		(0.004)	
Logged Aid	0.07***	-0.01	0.08***	-0.02**
	(0.002)	(0.01)	(0.003)	(0.01)
Year Fixed Effects?		Yes		Yes
Country Fixed Effects?		Yes		Yes
Observations	8,599	8,599	8,599	8,599
R^2	0.13	0.37	0.11	0.51
Within R^2		0.001		0.002

Table 3: **The relationship between humanitarian assistance and humanitarian IN-GOs**. These results are based on linear probability models. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

(2022), we explore the relationship between foreign assistance and the number of INGOs in a donor country using the *Yearbook* and GDHO.[20] We use linear probability models that regress the number of INGOs on logged humanitarian assistance. The unit is the donor–year, and the sample of countries is those that are members of the Development Assistance Committee of the Organisation for Economic Co-operation and Development. We conduct the regressions both as bivariate models and as ones that include fixed effects for country and year. The two-way fixed effects should address many of the ways that donor countries differ, as well as temporal shifts, although we leave a full analysis that attempts to identify the causal relationship between aid and INGOs to future research.

As Table 3 shows, the relationship between the number of INGOs and amount of humanitarian aid varies depending on the data source we use. Although there is a positive bivariate

[20]See SI §B.2 for a comparison using the *Yearbook* and HOD. It is also possible that INGOs encourage aid. Although our analysis is set up to explore how aid affects INGOs (rather than vice versa) given the nature of the lags, we do not intend for this analysis to be interpreted causally. Rather we intend it to illustrate how different data sources produce different results.

relationship across both sources (Models 1 and 3), the more-demanding models with two-way fixed effects (Models 2 and 4) reveal no clear association when we use the *Yearbook* sample vs. a negative and significant association when we use the GDHO sample, which includes dramatically more INGOs than the *Yearbook*. One interpretation of this pattern comes from our earlier findings, which suggest that the humanitarian INGOs that are missing in the *Yearbook* but present in the GDHO are less integrated into the UN system. We speculate that these less-institutionalized INGOs could be more likely to substitute for government action than to "chase aid"(Lecy and Van Slyke, 2013). The number of less-institutionalized INGOs could also be negatively correlated with government funding because these groups are more likely to seek out other types of funders, such as religious donors or private philanthropies (Büthe, Major and de Mello e Souza, 2012). By contrast, more established INGOs, which tend to be better represented in the *Yearbook* as proxied by UN affiliation, may be more reactive to fluctuations in donor aid.

Conclusion

Using rosters of humanitarian INGOs and national NGO registries from the United States and Kenya, our analysis reached two main conclusions. First, the vast majority of INGOs are not represented in the *Yearbook*, a leading source of scholarly data on INGOs and many other actors in IR. Second, there is systematic bias in favor of including INGOs from wealthier, more democratic, and English- and French-speaking countries and with UN affiliations.

Our study has three important implications for scholars of IR. The first is that scholars need to be aware of the extent and nature of missingness in the *Yearbook* as identified in

our analysis. To aid in future researchers' understanding of existing INGO data sources, our replication archive includes not only our data but a set of key documents that we consulted for details of their data generating processes (see SI §A). Future work might build on our approach to identify other credibly-comprehensive rosters of INGOs to test our hypotheses in other sectors or countries, or to permit the testing of additional organization-level hypotheses that our data did not allow.

Future work could also examine our hypotheses in datasets concerning other populations of global governance actors. We suggest—although our intuition remains an open empirical question—that the extent of missingness we identify may be particularly acute for the INGO population. We see no ex ante reason why our hypotheses about wealth, democracy, and language would not also predict the direction of missingness in the *Yearbook* for actors such as IGO emanations, informal IGOs, or transnational public-private initiatives. But to the extent that these types of actors typically have state members and their activities are better-covered in international media, the extent of their missingness in the *Yearbook* could plausibly be more limited. And the smaller size of these other populations—which likely number in the hundreds rather than ten thousands—has made it easier for scholars to supplement the *Yearbook*-derived data to arrive at plausibly-comprehensive population lists that are widely used (Vabulas and Snidal, 2013; Johnson, 2014; Roger and Rowan, 2022; Westerwinter, 2021). Nevertheless, our analysis suggests the benefit of further analysis of missingness in other types of actors.

The second important implication relates to whether the extent or nature of data missingness in the *Yearbook* is a problem for scholars' particular IR research questions. For example, the *Yearbook's* emphasis on INGOs that are connected with the UN system might

make it appropriate for a study on INGO lobbying at IGOs (e.g., Tallberg et al., 2014); such INGOs are the ones for which IGO lobbying is relevant and plausible. By contrast, for researchers interested in studying trends in INGO populations, such as those working in the organizational ecology tradition, *Yearbook* missingness is a more severe problem.

In such cases, researchers may use or even create alternative data sources. Unfortunately, a comprehensive, cross-national database of all INGOs would be challenging to create given structural barriers that prevent many INGOs, particularly those from the Global South, from being counted (Bloodgood, Stroup and Wong, 2023). These barriers include an absence of national registries in many countries, limited resources for data reporting, and a lack of institutional incentives for INGOs to share their information widely. While researchers could use machine learning to scrape and process global news articles or websites at scale to identify INGOs that are not captured in traditional datasets, many INGOs may remain invisible if they are small or deliberately keep a low profile. Triangulating across many types of sources—including personal conversations with INGO funders and professionals— as with the HOD is more likely to reveal these missing groups (Egger and Schopper, 2022, 3). Although the creation of such datasets is a major undertaking, it is feasible to do within a given issue area, as the HOD and GDHO show.

Another solution for researchers engaged in cross-national studies of INGOs is to use our estimates of the true number of INGOs in a country based on our analysis of humanitarian INGOs. As provided in the replication materials, it is possible to estimate the likely true range of the number of INGOs for each country based on our analysis of *Yearbook*, missingness, country GDP, level of democracy, and language. Although our findings about humanitarian INGOs may not translate to INGOs in all issue areas, these estimates provide

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the basis for a sensitivity analysis when the number of INGOs is used in a cross-national regression setting. Our differing findings about the relationship between humanitarian aid and INGOs across data sources suggest that this type of sensitivity analysis would be fruitful.

The final implication of our study is that the widespread use of the *Yearbook* means that civil society participation in IGOs is probably more geographically biased than appreciated. Because the *Yearbook* undercounts INGOs from less wealthy and less democratic countries, we surmise that there is an even larger pool of Global South INGOs that are not being included in transnational advocacy networks and IGO processes than was previously known. For practitioners seeking to rectify the imbalance, seeking non-UN-affiliated data sources is an important method for identifying potential new partners.

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Supporting Information for "Mind the Gaps: Unseen Organizations in Global Governance"

Contents

A   Qualitative Appendix

Organization	Document Title
National Center for Charitable Statistics	Guide to Using the NCCS Data (2013)
National Center for Charitable Statistics	NCCS Core Series (last accessed 01/21/2024)
National Center for Charitable Statistics	NTEE Core Codes (last accessed 01/21/2024)
Global Database of Humanitarian Organizations	GDHO Codebook (May 2021)
Humanitarian Organizations Dataset	Humanitarian Organizations Dataset Codebook (September 2019)
Yearbook of International Organizations	FAQs (last accessed 11/21/2024)
Yearbook of International Organizations	User Guide (Edition 53, 2016-2017)

Table A.1: **List of key documents consulted and archived**

Organization	Person and Title	Date	Format	Summary of Key Points
NCCS	Pho Palmer, Center Administrator	07/06/2015	Email	Clarified how sector codes (NTEE codes) are applied. Confirmed "IRS determination specialists" – the individuals who decide whether NGOs are eligible to receive federal tax-exempt status – classify NGOs and assign NTEE codes based on descriptive data in their applications for recognition of tax-exempt status (Forms 1023 and 1024).
NCCS/Open Nonprofit Data Collective	Jesse Lecy, Senior Data Scientist & Research Associate	01/12/2017	Phone	Provided essential background information regarding data available to track U.S. nonprofits registered with the IRS, much of which is now described in his published documentation of the NCCS Core Series (see below).
UIA/*Yearbook of International Organizations*	Joel Fischer, Statistics Coordinator and Yearbook Editor	11/06/2024	Zoom	Described the process by which new Type G organizations get added to the *Yearbook*. Historically, when they were working on only paper, it was mostly INGOs that had consultative status and signed onto major reports. Today, additional sources are: a) the *Guardian* newspaper and website; b) rosters of major INGO networks and platforms; c) Google alerts set for keywords; d) INGOs that have relationships with existing members. Emphasized importance of making sure all included INGOs are credible. Described some constraints on data collection, including language, international focus, and resources (e.g., updating *vs.* expanding the *Yearbook*). Suggested very few INGOs are added as a result of proactive contact, "maybe 1 in 100."
GDHO	Meriah-Jo Breckenridge, Data Assets Manager & Research Analyst	07/03/2024	Email	Clarified how organizations are determined to be "NGOs." GDHO attempts to verify that all NGOs are officially registered as such in their respective countries, typically basing their assessment on direct organizational contact or websites. Researchers individually research each INGO before it is added to the database but does not explicitly use national directories.

Table A.2: **List of personal communications and informational interviews conducted**

B   Robustness Checks

B.1   Using Alternative Measures for GDP and Democracy

	Model 1	Model 2	Model 3	Model 4
Constant	-0.29**	0.30***	0.08	-0.13
	(0.13)	(0.02)	(0.06)	(0.14)
Logged GDP per capita (USD)	0.06***			0.03
	(0.01)			(0.02)
Democracy (V-Dem)		0.38***		0.15
		(0.08)		(0.14)
English- or French-speaking			0.17***	0.14***
			(0.03)	(0.03)
Observations	1,010	1,018	1,013	1,009
R^2	0.03	0.03	0.02	0.05
Adjusted R^2	0.03	0.03	0.02	0.04

Table B.1: **Country-level correlates of *Yearbook* inclusion with GDP per capita**. These results are based on linear probability models and use the GDHO data on humanitarian INGOs. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

	Model 1	Model 2	Model 3	Model 4
Constant	-0.18*	0.08	-0.18	-0.04
	(0.09)	(0.07)	(0.25)	(0.26)
Logged GDP (USD)			0.005	0.004
			(0.01)	(0.01)
Civil society (V-Dem)	0.62***		0.42***	
	(0.10)		(0.13)	
Physical violence (V-Dem)		0.34***		0.27***
		(0.08)		(0.10)
English- or French-speaking			0.11***	0.15***
			(0.04)	(0.04)
Fit statistics				
Observations	1,008	1,018	1,004	1,010
R^2	0.04	0.02	0.05	0.04
Adjusted R^2	0.04	0.02	0.04	0.04

Table B.2: **Country-level correlates of *Yearbook* inclusion with alternative measures of the political environment from V-Dem**. These results are based on linear probability models and use the GDHO data on humanitarian INGOs. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

B.2 HOD Results

	Model 1	Model 2	Model 3	Model 4
Constant	-1.30***	-0.04	0.20***	-1.10***
	(0.22)	(0.08)	(0.03)	(0.25)
Logged GDP (USD)	0.06***			0.05***
	(0.01)			(0.01)
Democracy (V-Dem)		0.42***		0.13
		(0.10)		(0.11)
English- or French-Speaking			0.14***	0.05
			(0.03)	(0.04)
Observations	747	738	753	733
R^2	0.06	0.03	0.02	0.06
Adjusted R^2	0.06	0.02	0.02	0.06

Table B.3: **Country-level correlates of *Yearbook* inclusion, HOD organizations**. These results are based on linear probability models and use the HOD data on humanitarian INGOs. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

	Model 1	Model 2	Model 3
Constant	0.23***		
	(0.02)		
UN Affiliation	0.34***	0.28***	0.24***
	(0.04)	(0.05)	(0.06)
Age			0.003***
			(0.0007)
Fixed Effects?		Yes	Yes
Observations	753	753	647
R^2	0.08	0.21	0.23
Within R^2		0.06	0.07

Table B.4: **Organizational characteristics and *Yearbook* inclusion, HOD organizations**. These results are based on linear probability models. Standard errors in parentheses. Significance codes: ***: 0.01, **: 0.05, *: 0.1.

	Model 1	Model 2	Model 3	Model 4
	Yearbook Sample		*HOD Sample*	
Constant	0.01***		0.01	
	(0.003)		(0.004)	
Logged Aid	0.07***	-0.01	0.13***	0.05**
	(0.002)	(0.009)	(0.003)	(0.02)
Year Fixed Effects?		Yes		Yes
Country Fixed Effects?		Yes		Yes
Observations	8,599	8,599	8,599	8,599
R^2	0.13	0.37	0.20	0.49
Within R^2		0.0008		0.008

Table B.5: **The relationship between humanitarian assistance and humanitarian INGOs**. These results are based on linear probability models. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

B.3 Alternative Estimation Methods

	Model 1	Model 2
Constant	-0.733***	-4.200***
	(0.206)	(0.778)
Logged GDP (USD)	0.039***	0.113***
	(0.007)	(0.027)
Observations	1,010	1,010

Table B.6: **Alternative specifications for count data**. Model 1 uses Logistic regression. Model 2 uses Zero-inflated Poisson regression. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

B.4 Region Fixed Effects

	Model 1	Model 2	Model 3
Constant	0.34***		
	(0.02)		
UN Affiliation	0.25***	0.24***	
	(0.04)	(0.04)	(0.06)
Age			0.0003
			(0.0007)
Region fixed effects?		Yes	Yes
Observations	1,018	1,018	533
R^2	0.04	0.08	0.09
Within R^2		0.03	0.04

Table B.7: **Organizational characteristics and *Yearbook* inclusion with region fixed effects**. These results are based on linear probability models and the GDHO data on INGOs. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.

B.5 American INGO Characteristics and *Yearbook* inclusion

	Model 1	Model 2
Constant	0.09***	0.09***
	(0.002)	(0.002)
UN Affiliation	0.16***	0.21***
	(0.01)	(0.01)
Age		4.3×10^{-5}***
		(1.5×10^{-5})
Observations	20,129	19,753
R^2	0.007	0.01
Adjusted R^2	0.007	0.01

Table B.8: **Organizational characteristics and *Yearbook* inclusion, American INGOs**. These results are based on linear probability models and the NCCS data on American INGOs across all issue areas. Standard errors in parentheses. Significance codes: ***: $p < 0.01$, **: $p < 0.05$, *: $p < 0.1$.