The Scope Expansion of International Organizations

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Abstract

New challenges emerge in global governance every day, but the set of international organizations(IOs) dealing with these challenges and their mandates are relatively fixed. This project examines scope expansion by IOs. Existing studies assume that IOs work within a *de jure* mandate, but the IO bureaucracy often proactively expands to address more issues. For example, many non-climate and non-technology-focused IOs are now working on climate change and AI. I propose a model of IOs as global public good entrepreneurs that determines the type and amount of goods provided. The IO bureaucracy expands scope of IO activities to make their organization influential and valued by principals. To evaluate my argument, I create an original dataset of IO daily activities that allows me to measure operational-level changes in IO scope. The dataset is based on collecting the text of 238 IOs' 674,700 job postings from 2007 to 2024 that list their day-to-day tasks. This overcomes the challenge in existing studies in observing the daily operations of IOs and deviations from the mandate. I fine-tune large language models to identify the job focus of IO staff. The findings show that IO bureaucracies frequently expand to work beyond their mandates: They expand when principals demand governance for new challenges, or some existing issue becomes more important. Principals having congruent policy preferences and the IO having general-purpose resources make the IO expand more as its influence-seeking strategy becomes more effective. The findings update our understanding of global public goods provision: IOs are not programmed by states but actively compete for influence and determine what public goods are provided through their daily operations.

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1 Introduction

New global challenges are emerging every day, requiring international institutions to deal with them. Even within the existing issue areas, the relative salience of issues changes drastically over time. In contrast, the international regime complex designed to deal with these issues has a relatively fixed set of institutions with sticky mandates. Establishing new IOs and reforming existing IOs takes time and may not always be successful. For example, there have been heated discussions about the need for a global environment organization for over a decade, but such an IO still hasn't been established.[1] Recent developments in Large Language Models (LLMs) has led to a surge in scholarly interest on whether and how an AI global governance regime may be established.[2] Rapidly changing demands in global governance and the sticky international regime complex makes this question particularly important: Can existing IOs govern flexibly outside their mandates? If yes, when would they do so?

Anecdotal evidence suggests that many IOs work beyond their mandate scope, which I define as scope expansion. Importantly, they take the initiative without prior institutional reforms approved by member states or explicit orders from major powers. For example, the International Monetary Fund (IMF) has been engaging in many non-financial issues. It sets up the Resilience and Sustainability Trust that supports longer-term financing to address non-financial challenges, including pandemic preparedness and climate change. According to the Independent Evaluation Office of the IMF report in 2024, the IMF has also been working on governance, social spending, and gender issues that are beyond its traditional areas.[3] The World Health Organization (WHO), and the World Bank (WB), among many others, are in similar positions. The director-general of

[1] See, for example, "Why we need a world environment organisation," The Guardian, 28 October 2009, retrieved from https://www.theguardian.com/environment/cif-green/2009/oct/28/world-environment-organisation

[2] See 2024 APSA panel on "The Global Governance of Artificial Intelligence": https://convention2.allacademic.com/one/apsa/apsa24/index.php?program_focus=view_session&selected_session_id=2146356&cmd=online_program_direct_link&sub_action=online_program

[3] The Chair's Summing Up Independent Evaluation Office – The Evolving Application of the IMF's Mandate: Executive Board Meeting June 10, 2024, 18 June 2024, IMF, retrieved from https://www.imf.org/en/Publications/Policy-Papers/Issues/2024/06/17/The-Chairs-Summing-Up-Independent-Evaluation-Office-The-Evolving-Application-of-the-IMFs-550573.

the WHO has recently made a speech on "We must fight one of the world's biggest health threats: climate change," and actively advocates for climate financing.[4]

Why IOs expand their scope is not straightforward. First, as classic IO theories suggest, IOs are designed to solve specific cooperation problems (Keohane, 1984; Koremenos et al., 2001). The bureaucracy lacks incentives to work on issues they are not delegated to. Second, there are less costly ways to deal with issues outside their mandates than scope expansion. An IO can either defer to other IOs that are more specialized (Pratt, 2018) or simply link the issue to the enforcement of its core mandate (Davis, 2004). Why does the bureaucracy expand the scope of IO activities?

I propose a political economy model of IO scope. The IO bureaucracy cares not only about the performance of the IO according to the mandate but also the organization's influence. As agents of principal states, IO bureaucracy enjoys some space of autonomy. When new issues arise, or some existing issues become more salient to the principals, the principals may demand IO governance that cannot be met according to the mandates of existing IOs. However, IO bureaucracies have strong incentives to respond because they not only care about fulfilling tasks on the mandate, but also want the organization to be influential and valued by the principals. For high-level bureaucrats, their personal success and pursuits are tied to the IO's influence and survival. The IO bureaucracy then fights for influence and funding through scope expansion. When working on an issue helps an IO become more valuable to principals, the IO bureaucracy expands its scope to work on the issue through daily operations.

The degree of scope expansion depends on how effectively it helps the bureaucracy gain influence. First, when principal states have a stronger demand for IO governance of an issue and congruent policy preferences, scope expansion can better translate into the IO's influence as viewed by the principals. Hence, the IO will expand more. Second, when the IO has more general-purpose resources that it can flexibly utilize to govern other issue areas, scope expansion becomes more efficient so that the IO will expand more.

[4] We must fight one of the world's biggest health threats: climate change. World Health Organization, November 3, 2023. Retrieved from `https://www.who.int/news-room/commentaries/detail/we-must-fight-one-of-the-world-s-biggest-health-threats-climate-change`.

The findings support my theory. First, IOs commonly work on issues outside their mandate. Second, the bureaucracy responds to increased governance demands of the principals. For example, development banks expanded to work on health after the COVID-19 outbreak increased the salience of health. Third, after COVID-19, large development banks with more general-purpose resources expanded more than smaller banks. Finally, IO bureaucracy expands more when the major principals have congruent policy preferences. United Nations Educational, Scientific and Cultural Organization (UNESCO) expanded its scope after the US withdrawal and China took control over the organization.

This paper makes several contributions. First, I propose a theoretical framework for understanding the scope expansion of IOs, which cannot be explained by existing theories. The root of this question is a broader one of how global public goods are provided (Frieden, 2016). Existing studies propose that states build IOs to solve specific cooperation problems (Keohane, 1984). The function of the IO and the cooperation problems it is designed to solve determine its design (Koremenos et al., 2001). The performance of IOs is also evaluated based on their mandates (Chayes and Chayes, 1998; Downs et al., 1996). As a result, the IO bureaucracy has no incentive to work on issues outside the mandate, even if principals have a strong demand for it. If this were true, the relationship between states and IOs would create a serious problem for global governance: When new challenges arise, or an existing issue becomes more important, states must either conduct major reforms in existing IOs or create new IOs. Building on the literature on the autonomy of IO bureaucracy (Barnett and Finnemore, 1999; Lall, 2023; Johnson, 2014), I show that the bureaucracy also aims to increase the organization's influence, making it expand to work on new and important issues for the principals. Hence, IOs are observed to work beyond their mandate frequently.

Another stream of studies argues that IOs are heavily influenced by major powers in the organization (Stone, 2008). However, powerful states are also often dissatisfied with the extent to which IOs have expanded. They often criticize IOs for "mission creep." [5] An implication of the

[5] For example, criticisms suggest that IOs should not engage in other issues because it is outside their expertise. One commentary said: "...climate change, health systems, and other policy areas where the IMF has no experience." Commentary in The Heritage Foundation, 8 September 2023, retrieved from https://www.heritage.org/progressivism/commentary/congress-should-not-fund-imf-mission-creep.

model is that when the IO scope expansion is driven by influence-seeking, the degree of expansion is not always optimal for the principals. The intuition is that organizational influence is a private concern of the IO bureaucracy, making their decision not necessarily utility-maximizing for principals. This explains why we often see principals criticizing IOs for focusing too much or too little on an issue area.

More broadly speaking, the IO bureaucracy directing the focus of its work to increase the organization's influence is "bureaucratic entrenchment." Shleifer and Vishny (1989) describes the "management entrenchment" phenomenon where firm managers can make suboptimal investments that increase their importance to the shareholders. In line with studies that emphasize the importance of IO bureaucracy (Gray, 2018; Clark and Dolan, 2021; Clark, 2021; Lall, 2023; Johnson, 2014), I show how the bureaucracy's pursuit of influence impacts IO scope. The vitality of IOs changes over time (Gray, 2018), but IO bureaucrats can change the scope of the organization to improve their prospects. They do so by pursuing tasks outside their mandates.

Second, I show empirically that IOs may work flexibly in areas outside their mandate despite a relatively fixed mandate. In this process, the IO bureaucracy determines the type and amount of public goods provided. Scholars have identified the scope expansion of IOs as one of the most important dynamics observed in the international regime complex (Raustiala and Victor, 2004; Haftel and Lenz, 2022). Meanwhile, most existing studies still study issue areas in isolation and classify institutions by their *de jure* scope such as development, health, trade, etc. (Lipscy, 2017; Haftel and Lenz, 2022) even if the *de facto* governance often goes far beyond the original mandate.

There are two major challenges in analyzing IO activities: First, it is difficult to observe their daily operations. Second, any available documentation is also incomparable between IOs and types of activity. Existing research studies isolate issue areas and classify institutions by their *de jury* scope based on charters or IO names (Lipscy, 2017; Pratt, 2018; Bulman et al., 2017; Gray, 2018). Some studies observe individual IO staff working on issues outside of their mandates. However, this widespread phenomenon does not seem to be fully explained by the ad hoc decisions of individual staff, and we need to consider factors at the institutional level. By focusing on a single organization and an area of interest, such as climate, the variations between IOs and issues remain unknown (Clark and Zucker, 2022). Are all IOs expanding their scope, and are they expanding to the same issue area? Although there have been many discussions on the expansion of the aforementioned IOs, others, such as the International Labour Organization, have raised little concern. The most comprehensive empirical study of IO scope is the Measure of International Authority (MIA) project (Hooghe, 2017; Hooghe et al., 2019). However, it relies on coding based on de jure mandates and indicates almost no change in the scope of IOs over time.

I use IO job postings as a new source of data and an original measurement for studying international organizations. To study the daily operations of IOs, we would like to observe the daily activities of the bureaucrats closely. However, this is practically impossible. Instead, job postings list the detailed day-to-day tasks of IO staff. I collect an original data set on the text of 238 IOs' 674,700 job postings from 2007 to 2024. Future research may utilize this data and measurement to better conduct cross-IO studies. I use large language models to identify issue areas covered in the postings. For four selected popular issue areas, I also provide a fine-tuned sentence transformer model that future researchers can use to classify topics in other texts on international cooperation they are interested in.

I first document the scope of IOs and provide descriptive evidence of IO scope expansion. Then, I analyze how principals' demand for governance, their policy preference congruence, and IO general-purpose resources determine the scope choice of IOs. I employ a difference-in-differences design to estimate the causal effects. The results show that global governance in a changing world is possible even when the set of IOs and their mandates are relatively fixed. The findings also predict which IOs will likely fill the governance vacuums and provide practical guidance on making IOs more adaptive.

2 A Model of International Organizations' Scope

2.1 The IO Bureaucracy, Member States, and IO Scope

States join IOs to solve specific cooperation problems (Keohane, 1984) and design IOs accordingly (Koremenos et al., 2001; Koremenos, 2016). The performance of IOs is also evaluated based on how well they perform the tasks listed on the mandate (Chayes and Chayes, 1998; Downs et al., 1996). For example, the performance of the World Trade Organization is evaluated based on whether it promotes trade. The IO bureaucracy works on tasks written in the mandate because these are the tasks states have delegated to it and will evaluate its performance accordingly. It can be problematic, however, if IOs are only concerned about the set of issues in the mandate. New issues that no existing IOs are designated to work on arise, and the relative salience of existing issues changes. Meanwhile, conducting major reforms in IOs and creating new IOs are slow and costly. With an issue requiring urgent global governance, states face an international regime where the issue is written in almost none of the IOs' mandates. One possibility is to pursue bilateral cooperation, but cooperation through IOs is preferred for its ability to lower transaction costs, provide information, monitor states, etc. States may still want to cooperate through IOs.

While the IO bureaucracy may lack incentives to work on this under-governed issue based on the IO mandate, they have non-mandate-related reasons to address it. The bureaucracy cares about the influence of their organization. The IO bureaucracy, especially high-level bureaucrats, has strong incentives to respond to new demands in global governance. They strive to make the organization influential and have the principals value the IO. Just as firm employees care about the firm's performance (Lee and Liou, 2022), IO bureaucrats want the organization to thrive. This is because their career opportunity and personal pursuits are tied to the organization's success. When global finance entered a stable phase in the early 2000s, the International Monetary Fund (IMF) was at risk of losing relevance. The former French finance minister referred to the IMF as: "*This institution works well, with dedicated people and very high-level staff, but it is a factory to produce* *paper.*"[6] IMF chief Strauss-Kahn expressed concerns about the organization and stressed the need to "*keep the IMF relevant at a time when developing nations are growing rapidly, often have fat reserves, and have little need for IMF aid.*"[7] As a result, IMF bureaucrats started to work on trade and oil issues. Mohsin S. Khan, the director of the Middle East and Central Asia department, said: "*People are interested in working on Lebanon, Iraq, the West Bank-Gaza – those are the Brazils and Argentinas of today.*" Similarly, after the COVID-19 outbreak, as shareholders became less interested in infrastructure, AIIB expanded into health by providing health services and delivering vaccines (Zaccaria, 2024). AIIB president Jin Liqun said: "*Covid helped our shareholders to understand that when we develop infrastructure for tomorrow, we should not neglect healthcare systems...*"[8]

To become influential IOs in the eyes of the principals, the bureaucracy first needs to consider the principal's demand for governance on an issue. This demand consists of two aspects: whether IO governance is needed and the specific policies to be taken. First, an issue is more important to some states than others, and states may have different demand levels for IO governance on the issue. During the 2013 Ebola epidemic, West African countries and countries with close ties with them were more concerned than others. Certain vulnerable countries are more concerned about climate change than others. In the recent AI governance discussion, the EU countries are more active than the US. Within an IO, the aggregate demand for governing an issue in the IO will be low when some major principals are less concerned or oppose relevant IO governance. Then, the IO bureaucracy will gain less influence by expanding into this issue since some principals are indifferent or even dissatisfied with the expansion.

Second, even when principals agree that an issue should be addressed by IOs, they may disagree on the policies to be taken. The IO bureaucracy is most effective in seeking influence through

[6] IMF Plans to Cut Jobs, Lift Income, The Wall Street Journal, Dec 7 2007, retrieved from `https://www.wsj.com/articles/SB119697366200516166`.

[7] IMF Plans to Cut Jobs, Lift Income, The Wall Street Journal, Dec 7 2007, retrieved from `https://www.wsj.com/articles/SB119697366200516166`.

[8] "AIIB swivels to climate and private-sector financing ahead of COP26," Euromoney, 26 October 2021, retrieved from `https://www.euromoney.com/article/298jhh0zz4wk1bw2h375s/esg/aiib-swivels-to-climate-and-private-sector-financing-ahead-of-cop26`

expansion when the principals agree on the policies. While geopolitical alignment and policy congruence are often correlated, they may not necessarily be the same. When the level of policy congruence on an issue is low, the IO conducting any work on the issue satisfies some principals and leaves others dissatisfied. In an extreme case where two major principals hold exact opposite views on an issue, the IO working on this issue will make one of them increase their satisfaction level and the other less satisfied, adding up to little recognition from principals. In contrast, when two principals have the same preference, doing the same amount of work will increase the satisfaction of both. Combining the two aspects, higher demand for IO governance with congruent policy preferences among the principals will make the IO's scope expansion more effective in increasing its influence.

Given incentives to expand the scope, are IOs capable of working on issues outside their mandates? Although IOs are designed based on a relatively narrow mandate, many resources they have can be flexibly applied to other issues. I draw on the theory of Multi-product firms (MPFs) in economics and management. The number of MPFs has increased rapidly. They produce the vast majority of the total outputs (91%) with only around 40% of the number of firms (Bernard et al., 2010). Penrose (1959) proposes a resource-based view of firms, where the growth of firms is determined by whether underused resources can still be deployed in any way. Later works have employed this framework to explain the existence of MPFs. Panzar and Willig (1981) proposes a theory of economies of scope. According to this model, firms produce multiple products when quasi-general inputs make the cost of utilizing the input in two product lines lower than the added cost of producing the two products alone. Such excess resources include indivisible but non-specialized or specialized physical capital that can be used as common inputs for many products, human capital as common inputs, external economies, etc. For example, a special machine used to produce product A occasionally but is otherwise idle can be used if the production of another product B also uses it (Teece, 1982). Brand name is an example of a nonphysical resource that can be used for multiple products (Montgomery and Wernerfelt, 1992).

Although IOs are designed to work within some issue area, many of their political and economic resources can also be utilized to govern other areas. Such general-purpose resources include the general operational budget, the IO's legitimacy and influence on the public, the IO's bureaucratic system, etc. A sizeable proportion of an IO's budget is the operational budget, which can be used for general administrative and supportive purposes. The legitimacy and influence of IOs on the public resemble the brand name of firms, which can be used to govern other issues. Legitimacy is crucial for IOs to carry out policies (Buchanan and Keohane, 2006; Morse and Keohane, 2014; Putnam, 2017; Chayes and Chayes, 1998). Meanwhile, it is hard to establish legitimacy (Hurd, 2008; Grant and Keohane, 2005; Barnett and Finnemore, 1999; Dellmuth and Tallberg, 2021; Chapman, 2009) so it is a valuable resource for IOs. The bureaucratic system of an IO is also a general-purpose resource and is crucial to the functioning of an IO (Gray, 2018). Even the smallest IOs, like the International Seabed Authority (ISA), can have senior staff who have developed some general knowledge about negotiation over time. Another part of this system is the network that IOs establish with a wide range of actors (Lall, 2023; Tallberg et al., 2018; Ottaway, 2001), resembling the established buyer-supplier relations of firms that facilitate scope expansion (Chatain and Zemsky, 2007).

However, the resource generalizability of each IO is different. IOs with larger bureaucratic systems and more general supporting staff can better expand than others. Similarly, IOs that have already worked globally and have established local networks and legitimacy may find it easier to work on issues outside the mandate.

In practice, the IO bureaucracy can direct the IO's scope flexibly because it has some space of autonomy (Barnett and Finnemore, 1999). Due to information asymmetry, it can use this autonomy to expand the scope of the organization in daily operations. This information asymmetry has two aspects. First, states are unable to observe the bureaucracy's behavior fully and their ability of states to monitor the bureaucracy is limited. Much of the work of IOs is highly technical and complicated, which insulates the bureaucracy from states (Johnson, 2014). The IMF, for example, went through the independent evaluation office's scope evaluation that took several months in 2024. States may also be hesitant to closely instruct the work of an IO because IOs require flexibility in their work. Hence, states choose to leave some space of autonomy to the IO bureaucrats and allow them to act freely within that range. Second, even when governance is ineffective, it is difficult to tell whether it is caused by the bureaucracy or real-world challenges.

After observing the outcome, however, states may choose to change the level of delegation to the IO. States have to accept some inefficiency given information asymmetry, but they will choose to intervene when the gains from IO governance are too low compared to the costs. They do so by stopping the IO from working on the issue and reallocating resources. In cases of IO re-purposing, states can even dissolve the existing IO and create new ones (Gray, 2018). The Bank of International Settlements (BIS) was established to facilitate the collection and distribution of reparations payments imposed on Germany after World War I under the Treaty of Versailles. However, as these payments were canceled, the salience of this issue became zero. The BIS then turned to work on central bank cooperation and macroprudential policies. Observing its success, member states have accepted its new role. In other cases, IOs like the International Refugee Organization (IRO) can be dissolved if deemed unsuitable for other tasks.

2.2 Model

In this section, I model how the IO bureaucracy decides the organization's scope and the reaction of the principals. I first outline the model and then derive hypotheses from it. The intuition of the model is that while IO bureaucracies are delegated to work on mandate issues, they also care about organizational influence. This additional gain will motivate them to expand scope to work on issues principals demand governance on. There will be more significant expansion when scope expansion can help the bureaucracy gain influence more effectively. Drawing on the multi-product firm theory and considering the relationship between principals, the model shows that the bureaucracy will expand more when the IO has more general-purpose resources and the principals have higher policy congruence.

In this setting, the interaction between the IO bureaucracy and states is a typical principal-agent problem (Miller, 2005; Holmström, 1979; Shavell, 1979). First, the principal (member states) and the agent (IO bureaucracy) have different objectives. Member states care about the gains from governing an issue based on its current demand. The IO bureaucracy's gains instead depend on how central the issue is according to the mandate. The IO bureaucracy also cares about how governing the issue affects the organization's influence. Second, there is asymmetric information between the principal and the IO bureaucracy.

I construct a model in which an IO's bureaucracy decides its level of focus on an issue outside its core mandate. The game involves two actors: the IO and an aggregate principal state. There are two periods. In the first period, the IO decides how much resources are allocated to the issue. In the second period, the principal state decides whether to continue delegating to the IO.

In the first period, the IO observes the level of congruent demand of the aggregate principal. This demand is denoted as $s > 0$. If one unit of public good in M is provided, its value to principals will be s. Further, $s = \tilde{s} \cdot c$. Here, $\tilde{s} > 0$ is the principals' aggregate demand for IO governance on M, and $c \in [0, 1]$ is the level of congruence they have regarding the policy on M. For example, if all principals are highly concerned about immigration but have almost no consensus on immigration policies that IOs should implement, then $\tilde{s}$ may be a large positive number while c is close to 0. Overall, we get congruent demand $s = \tilde{s} \cdot c \to 0$ because principal states do not have a strong demand for IOs to take any type of immigration policy.

The decision the IO makes in this period is to allocate resource a ($a \geq 0$) to work on M. The IO's governance output on issue M is $G(a)$, which is a function of the IO's resource inputs. The value of this governance to the principals is $s \cdot G(a)$. Note that there are decreasing marginal returns in the resources devoted to an issue, so $G' > 0$, $G'' < 0$, and $\lim_{a \to \infty} G'(a) = 0$. The cost of working on M is $p \cdot a$, where $p > 0$ is the value of unit resources. Then, the gains of having the IO work on M for the principals is $s \cdot G(a) - p \cdot a$, which is simply benefit minus cost.

Next, I define the IO bureaucracy's utility function, which consists of two parts. First, the performance of the IO bureaucracy is evaluated based on its core mandate. Denote the value the IO mandate places on an issue area as $s' \geq 0$. In this paper, I focus on the case where a new issue arises or an issue becomes very important, so the principal always cares more about the issue than originally written in the mandate. Therefore, $s' < s$. Similar to principals, we get the gains of working on M for the IO: $s' \cdot G(a) - p \cdot a$. Second, the IO bureaucracy cares about its influence gained through working on M. This gain in influence depends on how much work the IO has done that is important to the principal, which is $s \cdot G(a)$. $k \geq 0$ captures how much the IO cares about its influence. When the IO employs a resources to M, the influence gain part of its utility is $k \cdot s \cdot G(a)$. The setup here resembles how managers make investments that make themselves more important to the shareholders (Shleifer and Vishny, 1989).

Formally, the utility of the IO bureaucracy is:

$$B = \underbrace{s' \cdot G(a) - p \cdot a}_{\text{Mandate Performance}} + \underbrace{k \cdot s \cdot G(a)}_{\text{Influence}} \tag{1}$$

In the second period, the principal state observes the scope of the IO and evaluates it. The utility of the principal is:

$$P = s \cdot G(a) - p \cdot a \tag{2}$$

As mentioned earlier, this is the value the IO creates for the principal. The principal maximizes its utility when setting a to a^* that satisfies:

$$G'(a^*) = \frac{p}{s} \tag{3}$$

The principal's action in the second period is whether to continue to delegate to the IO in issue M. Suppose that the IO can only decide to delegate or not. This is a reasonable assumption because in practice, it is very difficult to set the IO's level of focus on an issue at a level and monitor the IO to make sure that level is exactly met. The principal instead decides whether the IO should work on an issue or not. If $P = 0$, the principal becomes indifferent between stopping the IO from working on M or not.[9] When $P > 0$, the principal continues delegating to the IO. Finally, when $P < 0$, the principal stops the IO from working on M. Denote the resource input $a > 0$ that makes

[9]Zero here captures the principal's level of tolerance. Setting c at zero is for simplicity, and changing it to $c > 0$ does not change the result.

$P = 0$ as a_0.[10]

Suppose that without constraint placed by the principal, the IO maximizes its utility at $a = a^{**}$. Then, considering the principal's action in the second period, the IO bureaucracy will choose $a = \min\{a^{**}, a_0\}$ in the equilibrium. The principal will delegate to the IO to work on the issue.

Specifically, the IO maximizes B by setting a to a^{**} that satisfies:

$$G'(a^{**}) = \frac{p}{s' + k \cdot s} \tag{4}$$

Recall that $G''(\cdot) < 0$. Hence, a^{**} will increase as $G'(a^{**})$ decreases. Next, we examine when a^{**} will be greater than zero and when it further increases, which implies scope expansion and its degree.

A baseline fact is that when the IO bureaucracy does not care about influence, it will not work on issues outside the mandate. The IO will also not respond to principals' demand for governing new issues or increasingly salient issues. This is because $k = 0$, and $G'(a^{**}) = \frac{p}{s'}$. Since $G'(a^{**})$ does not depend on s, how much the IO works on M is fully determined by the importance of M in the IO's mandate. As a result, there will be a gap between the optimal governance for the principals and what is invested by the IO: Since $s' < s$, $G'(a^{**}) > G'(a^*)$ and therefore $a^{**} < a^*$.

We turn to the case when $k > 0$ so that an IO bureaucracy cares about influence. Intuitively, this means that the *Influence* term is positive once the IO works on it.[11] As long as $k > 0$, we will get $G'(a^{**}) < \frac{p}{s'}$ so that a^{**} will be larger than in the case it did not care about influence. Since scope expansion is defined as working beyond the mandate, the IO will expand its scope to work on the issue.

Hypothesis 1: The IO bureaucracy expands the scope of the organization to govern issues outside the core mandate when working on them increases the influence of the IO.

[10] The case where $a_0 = 0$ is obvious: The IO will not work on M.

[11] In this paper, I focus on the case where a new issue arises, or an existing issue becomes critical so that working on this issue will increase an IO's influence. If working on an issue makes an IO less important, we can modify the *Influence* term to be negative.

The key insight of this model is that while the IO lacks incentives to work on issues outside its mandate, a desire for organizational influence may make up for it. For there to be sufficient provision of governance on M, we need $G'(a^{**}) = G'(a^*)$. Solving for k, we get $k = \frac{s-s'}{s}$. Intuitively, this means that the importance the IO places on organizational influence becomes a parameter that re-weights the importance of issues in the IO's mandate and the current demand of the principal. Note that there is no guarantee that the IO will invest the same resources as the principal wants. When the IO places more importance on organizational influence, we get $k > \frac{s-s'}{s}$ and there is over-investment. When the IO places less importance on organizational influence, $k < \frac{s-s'}{s}$ so there is under-investment. This potential mismatch results from the *Influence* term only adding to the utility of the IO bureaucracy but not the principal. Organizational influence is a private interest the IO bureaucracy seeks for itself. Therefore, we observe states frequently criticizing IOs for expanding too much or too little.

For simplicity (and without loss of generality), I assume the function form of G in the following discussion. First, let $G(a) = t \cdot \log(a+1)$ ($t > 0$). Then, $G'(a) = \frac{t}{a+1}$. This meets the requirement that $G' > 0$, $G'' < 0$, and $\lim_{a \to \infty} G'(a) = 0$. Recall that $G(\cdot)$ is the function where an IO turns resource inputs on issue M into governance outcomes. Higher t then implies that the IO has a greater ability to do so.

First, larger s leads to larger a^{**}. As s increases, $G'(a^{**})$ decreases so that a^{**} increases. Since $s = \tilde{s} \cdot c$, the more the aggregate principal demands IO governance on issue M (larger $\tilde{s}$) and the greater congruence principals share about policy on M (larger c) both implies larger a^{**}. Importantly, the space of autonomy left for the bureaucracy also gets larger when s increases. To solve for a_0, we set $s \cdot G(a) - p \cdot a = 0$. Then:[12]

$$\frac{\partial a}{\partial s} = \frac{t \cdot \log(a+1)}{p - \frac{s \cdot t}{a+1}} > 0 \tag{5}$$

Since a_0 also increases with s, even if a^{**} reaches the threshold set by the principal, that threshold will be higher when s is larger.

[12] The numerator is always positive. When solving for the root that is greater than 0, $G'(a) < \frac{p}{s}$. Then, $p - \frac{s \cdot t}{a+1} > 0$.

Hypothesis 2(a): Given an issue, the IO bureaucracy will expand more into it when the total concern of the principals is higher.

Hypothesis 2(b): Given an issue, the IO bureaucracy will expand more into it when the principals agree more on policies to be taken on this issue.

Second, an increase in t also increases a^{**}. Plugging $G'(a) = \frac{t}{a+1}$ into $G'(a^{**}) = \frac{p}{s'+k\cdot s}$, we get $a^{**} = \frac{t}{p} \cdot (k \cdot s + s')$. In other words, when an IO has more general-purpose resources that make it more efficient in working on M, the IO will expand more into it. Similar to the previous case, a_0 increases with t. Therefore, even if a^{**} reaches the threshold the principal sets, the threshold will be higher when t is larger. That is, when the principal has greater policy congruence, a higher demand for governance, or the IO has more general-purpose resources, they leave a larger room for the IO to expand. Regardless of hitting the principal-set threshold or not, the IO will expand more with higher t.

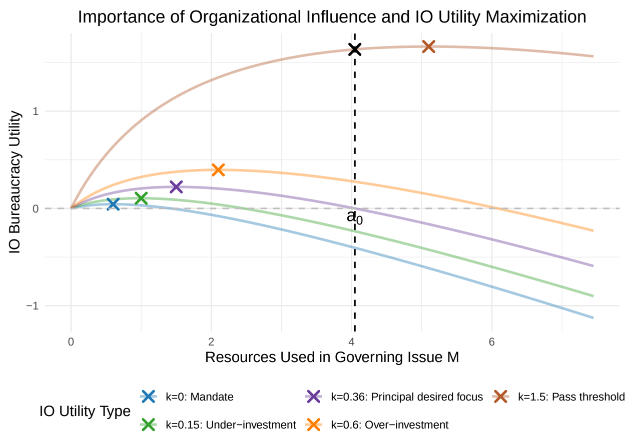
Hypothesis 3: Given an issue, the IO bureaucracy will expand more into it when the IO has more general-purpose resources.

Finally, consider a numerical example. Suppose $t = 1$, $p = 0.28$, $s = 0.7$, $s' = 0.45$. Figure 1(a) shows the utility of the IO bureaucracy when k, which captures how much the bureaucracy cares about organizational influence, increases from 0 to 1.5. When $k = 0$, the IO bureaucracy's focus is determined by the mandate. Since M is outside the mandate, the IO works very little on it. When k increases to 0.15, a^{**} increases, and the IO expands its scope to work more on M. However, the IO still focuses on M less than what the principal prefers. When k is 0.36, k fully supplements the IO's lacked incentive in working on M, and the IO prefers the same level of a^{**} as the principal. When k is 0.6, the IO over-invests. When k is 1.5, the IO's preferred investment in M will make the principal's utility negative, and the principal will stop the IO from expanding. Therefore, the IO will choose to invest exactly a_0. This shows how concern about organizational influence will make IOs expand into issues that can increase their influence.

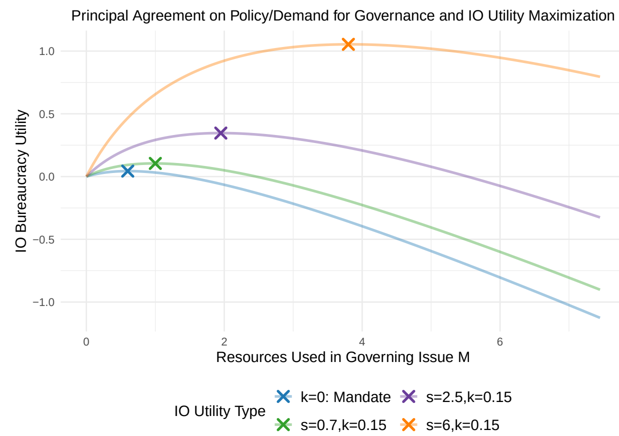
In Figure 1(b), only s changes and k is held at 0.15, except when the IO bureaucracy only cares about the mandate. Other parameters remain the same as before. When the principals have a higher level of agreement on policies to be taken in M, or they have a higher total demand for IO governance in M, the IO will also choose to focus more on M. This illustrates H2(a) and H2(b). Note that a_0 also increases with s, so that even if a^{**} reaches the threshold, the threshold will be higher when s is larger. In this specific setting, a^{**} will not hit the thresholds set by the principal.

In Figure 1(c), only t changes and s is held at 2.5. Still, other parameters remain the same as before. When the IO has more general-purpose resources and works more efficiently on M, the bureaucracy expands more into M. This illustrates H3. Note that a_0 also increases with t, so that even if a^{**} reaches the threshold, the threshold will be higher when t is larger. In this specific setting, a^{**} will not hit the thresholds set by the principal.

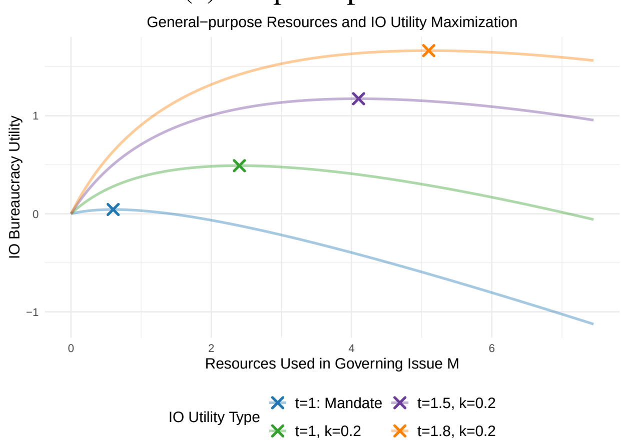
The model reveals that when the IO bureaucracy cares about organizational influence, it will expand the scope of IO activities to address rising challenges for the principals. The degree of expansion, however, differs across IOs. It depends on how effective this influence-seeking strategy is. When the IO has more general-purpose resources and the principals have more congruent policy preferences, the bureaucracy will expand more.



(a) Scope Expansion



(b) Demand for Governance/Principal Policy Congruence



(c) General-purpose Resources

Figure 1: Numerical Example for the Model

Note: In each figure, the x-axis is a (the resources the IO invests in governing issue M). The y-axis is B, the IO bureaucracy's utility when working on M. Different lines are scenarios with different IO utility functions. The crosses on each line are the highest utility the IO bureaucracy can get. Figure(a) illustrates H1: When k is positive, the IO bureaucracy cares about organizational influence and will expand the IO's scope to work on M. The level of resources invested may be under or over the optimal value preferred by the principal, depending on how much the bureaucracy cares about influence. When the IO's optimal a is over a_0, it chooses a_0 instead. Figure(b) shows H2(a) and H2(b): higher principal agreement on policies and greater total demand for IO governance on M leads to higher a chosen by the IO bureaucracy. Figure(c) shows H3: More general-purpose resources (higher t) makes the IO bureaucracy choose a higher a.

3 Data and Measurement

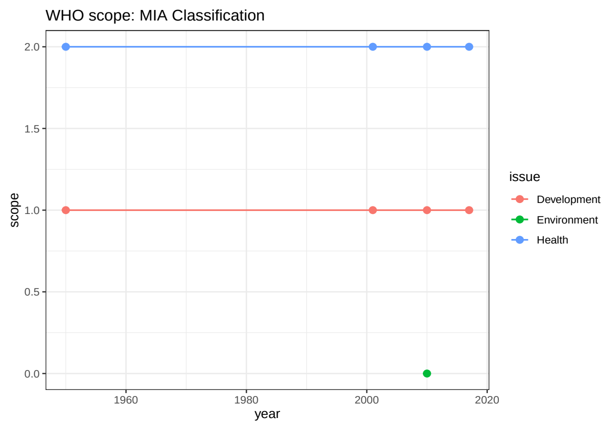
In this section, I introduce how I construct a dataset of IO job postings and use it to measure the scope of IOs' daily operations. I first explain the challenges that existing approaches face and then discuss my solution to them.

Existing studies on IOs classify IOs based on their names and mandates. For example, viewing the World Health Organization a health IO, the World Bank a development IO, the North Atlantic Treaty Organization (NATO) a security IO, etc. However, the daily operations of IOs may differ from the mandate. Attempts to understand IO operations focus on a set of IO publications (e.g., annual reports) or compare outcomes in some specific IO activities (e.g., lending) across a few similar but still different IOs.

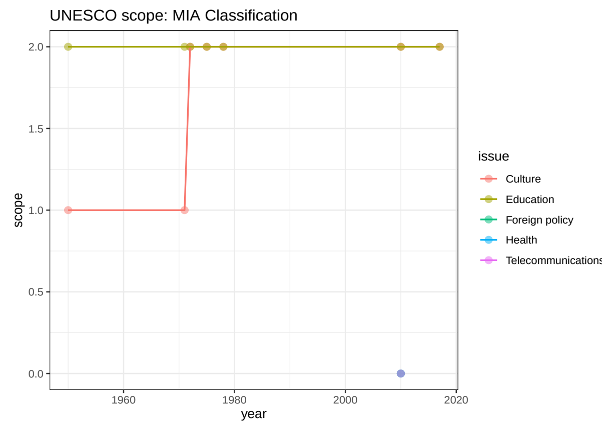
The most comprehensive empirical study of IOs' scope is the Measure of International Authority (MIA) project (Hooghe, 2017; Hooghe et al., 2019), where the scope of 76 IOs is manually coded based on their institutionalized policies, including the name of the IO, treaties, protocols, declarations, constitutions, framework legislation, budgetary documents, or white papers. Figure 2 plots the MIA policy scope scores of the WHO and UNESCO for a few policy areas. According to the plot, (1) the policy scope of the two IOs remains almost constant over 70 years, and (2) issues not in the IO mandate are coded as outside the scope. However, the WHO has actively advocated for climate financing, and UNESCO has also done a lot of work on health and telecommunications. While these existing measures can be used for studying the *de jure* mandate of IOs, they do not capture the bureaucracy's potential deviations from the mandate in their daily operations.

To study how IOs flexibly govern, we ideally want to observe their daily operations closely. However, this is practically impossible, and not all daily operations are recorded. Even within the recorded part, daily operations take various forms, and the records will be fragmented into different sets of documents within and outside the IO. Additionally, given the variety of operations and how they are recorded, it would be difficult to compare them across IOs.

I solve these problems by examining the job postings of IOs, which lists detailed daily operational tasks of bureaucrats. IO Job posting data has three advantages: (1) *Completeness*: Job postings cover the full range of the organizations' work in a detailed way; (2) *Unbiasedness*: The audience is job candidates, and therefore there will be less strategic concerns; (3) *Comparability*: Job postings follow similar "templates," so they allow comparative studies across IOs. For exam-



(a) WHO



(b) UNESCO

Figure 2: MIA Policy Scores Over Time

Note: The x-axis is time, and the y-axis is policy scope scores coded by the MIA project. 0 indicates that a policy is not within the organization's scope, 1 indicates a flanking policy area, and 2 indicates a core policy area.

ple, the Asian Development Bank published a job posting on April 10, 2024, to recruit a Natural Resources and Agriculture Economist.[13] The job post listed specific tasks that the officer will carry out (an excerpt):

> **Your Role:**
>
> As a Natural Resources and Agriculture Economist, you will assess and recommend operation strategies for agriculture, food, nature, and rural development in East and Southeast Asia and Pacific countries, engage developing member country (DMC) governments in policy dialogues and reforms, and conduct ADB operations to support climate-smart agri-food system transformation, and enhance climate resilience and adaptation. You will lead and/or support in identifying and developing loans, grants, technical assistances (TAs), and knowledge products, and provide technical support and backstopping to other staff. You will also administer loan, grant and TA projects, and non-lending products and services. This role will also contribute to the analyses and formulation of policies, strategies, and technical guidelines for the AFNR sector of DMCs.
>
> **You will:**
>
> - Lead and/or support the development of national, subregional and regional sustainable development and management of AFNR sector in DMCs in consultation with relevant government agencies, ADB RMs, and development partners.
> - Lead and/or support the analyses of country economics and AFNR policies in selected DMCs and contributes to the AFNR sector assessment and business development including policy-based loans.
> - Lead and/or support in the development, processing, and administration of loan, grant and TA projects, and ensure key technical, economic, financial, and crosscutting issues are incorporated into projects, including project economic and financial analyses and cost estimates.

[13] Natural Resources and Agriculture Economist, Asian Development Bank, April 10, 2024. Retrieved from `https://www.adb.org/careers/240222`.

- Lead and conduct economic and sector work in AFNR in the context of inclusive, gender-sensitive and environmentally sustainable economic growth.
- Identify and promote evidence-based policymaking and results-oriented investments towards sustainable and resilient agri-food systems in DMCs.
- Contributes to regional cooperation and integration for sustainable agriculture and food security.
- Liaise with development agencies and partners on collaborative sector, policy, and knowledge works and co-financing.
- ...

Qualifications:

- Master's degree or equivalent, in Environment, Sustainable Development, Finance, Economics or related fields; or University degree in Environment, Sustainable Development, Finance, Economics with additional relevant professional experience can be considered.
- Minimum of 8 years of relevant professional experience with strong policy focus including the below elements.
- Direct experience in originating and structuring infrastructure projects or PPP transactions.
- ...

This text reveals the daily work of an economist in the ADB who needs to work on issues related to rural development in East and Southeast Asia and Pacific countries. The economist's tasks include supporting loans, promoting inclusive, gender-sensitive, and environmentally sustainable economic growth, identifying sustainable investments, promoting cooperation in sustainable agriculture and food security, etc. The Qualifications section also helps us to understand the specific skills required for the job. Without job postings, the work of this economist may not be fully captured in formal publications of the ADB if some part of it is politically unpopular or does not yield tangible outcomes. Even if all the work listed here is captured in some written publications, they are likely to be highly fragmented and documented in different forms. Some will appear in loan contracts and investment portfolios, and others will result in multilateral cooperation agreements and annual reports. Two additional example job postings from the ICAO and ILO can be found in Section D in the Appendix.

I create an original dataset on 674,700 job postings of 238 intergovernmental IOs (IGOs) from 2007 to 2022. The data source includes official IO job sites, third-party recruitment platforms, official IO Twitter and Linkedin accounts, and others. I summarize the data collection details and the distribution of job postings over time in Table A and Figure A1 in the Appendix. This population covers 55 out of the 73 IOs that still exist in the MIA project, and further expands to cover a wide range of 238 IOs listed as IGOs in the IO Yearbook.[14] The complete list of IOs covered in this paper is in Section A in the Appendix.

For each job posting, I have the date it is posted, content of the post (overview, tasks and responsibilities, qualifications, education requirements, other notes), job location, and level (grade).[15] I remove preambles that are shared across most posts in an IO because they contain little information about the job.

I use a subset of my data to validate the ability of IO job postings to recover IO daily work and their fast response to real-world changes in Figures B4 and Figure B6 in the Appendix. When I apply a topic model, job postings can recover the core mandate issue areas of IOs as well as identify additional issues. After the Russian invasion and the Taliban took over Afghanistan, there was an immediate surge in related mentions in IO job postings. This shows that IO job postings reflect instant changes in IO behavior.

4 Text Analysis and Causal Identification Methods

The first empirical task is to identify the issue area focus of job postings, and the second task is to use the estimated IO scope over time to test my hypotheses.

4.1 Identifying the Scope of International Organizations

I use Large Language Models (LLMs) to classify job postings. This approach takes advantage of models pre-trained on a large corpus with multiple sources and genres and is suited for identifying issue topics in the text. For descriptive analysis of IO scope, I use a zero-shot text classification model to cover a complete set of issue areas. For hypothesis testing, I hand code a subset of job

[14] I match IO names across different sources and remove duplicated postings. For the UN, I put all UN office and department postings under United Nations, unless they are specialized agencies, funds, or programmes such as the IMF and UNESCO.

[15] For some job postings, department is available.

postings and fine-tune a sentence transformer for a few selected topics to produce more reliable classifications.

First, I use a zero-shot text classification model to identify a broad range of topics covered in IO job postings. The zero-shot text classification model is a type of machine learning model that classifies text into categories that it has never seen before. Specifically, I use **bart-large-mnli**, a BART-large pre-trained on the Multi-Genre Natural Language Inference (MultiNLI) dataset.[16] This is one of the most widely used zero-shot text classification LLMs. It works by posing job postings as the Natural Language Inference (NLI) premise and constructing a hypothesis from each issue area label (Yin et al., 2019). For example, when examining the topic "Energy," it evaluates the hypothesis "*The text is about Energy.*"

Because this method understands the semantic meaning of labels, it is useful for identifying a wide range of possible topics, even when some are rare in job postings. For example, "fisheries" is much less common than "development" as a topic in the daily work of IOs, and it is hard to train models to identify job postings about fisheries accurately. Using **bart-large-mnli**, I can identify the complete set of topics IOs work on. I use the list of 25 issue area topics in the MIA project, which is based on previous research and substantive knowledge. The 25 topics are: (1) Development and poverty reduction, (2) Environment and climate, (3) Regional policy, (4) Social and welfare system, (5) Education, (6) Agriculture, (7) Health, (8) Culture and Media, (9) Justice and security, (10) Research policy, (11) Migration and immigration, (12) Human rights, (13) Transportation, (14) Foreign policy, (15) Commercial Competition regulation, (16) Fisheries and maritime, (17) Industrial policy, (18) Energy, (19) Taxation and macroeconomic policy, (20) Telecommunication, (21) Humanitarian aid, (22) Trade and tariffs, (23) Financial stabilization, (24) Financial regulation, and (25) Military and defense. I add "Artificial Intelligence" as a new topic in recent years. Additionally, I capture pure administrative jobs by adding the 27th topic "Administrative support."

The model outputs a probability vector for each job post. It assigns to each topic the probability

[16]BART-large is a pre-trained transformer model developed by Facebook AI, based on the BART (Bidirectional and Auto-Regressive Transformers) architecture. MultiNLI is a crowd-sourced collection of 433k sentence pairs annotated with textual entailment information. See `https://huggingface.co/facebook/bart-large` and `https://huggingface.co/datasets/nyu-mll/multi_nli`.

that the job post is about this topic, and 27 probabilities add up to 1 within each post. To reduce noise, I only take the top three topics with the highest probability for each job post and assign $1/3$ to each topic. Then, I calculate the average probabilities of each topic within each IO and certain time windows. The result then represents the scope of an IO over time.

Although **bart-large-mnli** is powerful and convenient for identifying a wide range of topics, it is less reliable because it is not trained on text specific to IO job postings. For hypothesis testing, I hand-code a subset of job postings and fine-tune a sentence-transformers model **all-MiniLM-L6-v2**. Specifically, I code each job post as one if the candidate's job is in an issue area and zero otherwise. A job post can belong to multiple issue areas. Then, I take this pre-trained model that produces sentence embeddings (maps sentences and paragraphs to a high-dimensional vector space) and use my labeled job postings to update its weights. By doing so, I not only take advantage of the model being pre-trained on a large corpus, but also adjust it for the nuances in classifying job postings.

I take the four of the most popular issues in the job postings: development, health, environment, and military cooperation, and fine-tune models for them. When given a new job posting, the fine-tuned model will output zero (the job is not about this issue) and one (the job is about this issue) for each issue area. I conduct fine-tuning only for the four selected issues both because they are used for hypothesis testing and because fine-tuning the model needs many positive cases to perform well.

Table B in the Appendix shows the in-sample and out-of-sample performance of my fine-tuned models.[17] Overall, the models perform well according to conventional standards.

After obtaining the fine-tuned models, I use them to classify all job postings. They identify whether each job posting is within each issue area or not. Each job posting can belong to multiple issue areas. Similar to the previous method, I average this 0/1 classification score within each organization over a time window. For each IO, I get the proportion of job postings on health (similarly, for environment, development, and military cooperation). This measure is easy to interpret,

[17] Since there are always more zeros than ones in the data, I report F-1 scores only for the positive class. The metrics for the negative class and the weighted metrics are always much higher.

and I use it in my downstream hypothesis testing. Alternatively, I perform a robustness check to normalize within each job post (for example, code $(0.5, 0.5)$ if a job post belongs to both health and environment), and all results remain the same. To account for the misclassifications of the machine learning models, I also perform bias correction using Egami et al. (2024). However, the method only readily applies to linear regression models in this setting, so I use it as a robustness check in the Appendix.

4.2 Discussion on Job Postings and Issue Topics

This study uses a new data source and measurement, so I address several potential concerns below. Empirical evidence for the points below are in the Appendix.

4.2.1 IO Job Posts and Actual IO Activities

Theoretically, IO job postings should be much more objective than other information we observe from IOs. First, this is because the audience is IO job candidates, not states. Other data and publications will receive high attention from the states and the public, so we might worry that they are biased and can be window-dressing. Meanwhile, there is little reason to window-dress for job candidates. Second, IOs have strong reasons to list things that the candidate will actually do in job postings. The purpose of job postings is to recruit suitable candidates. Omitting or biasing information in postings results in suboptimal searches. The market of IO candidates is also large (e.g., compared to university professors), so IOs need to rely on such market searches instead of private contacts. Creating friction in this labor market is unnecessary and inefficient.

To empirically substantiate this point, I show that changes in the focus of IO job postings match their actual activities. Budget and spending are among the most "factual" and consequential reflections of IO activities. Figure B1 compares the World Bank's Development Assistance for Health (DAH) spending with its estimated focus on health using job postings data.[18] We see that

[18] Data on Development Assistance for Health (DAH) is from the Institute for Health Metrics and Evaluation (IHME)'s Financing Global Health database.

their trends roughly match over time, although the change in magnitude may be different: "increase (-2013) → decrease (2013-2016) → increase (2016-2018) → decrease (2018-2019) → increase (2019-)."[19]

The pattern increases our confidence that the job postings data aligns with IOs' actual activities. However, this does not diminish the usefulness of job postings data. In fact, such data on spending is very scarce. First, the data is only available at the year level, so I aggregated the job postings data to compare. Second, this IHME data on health financing is only available for three major IGOs, and the World Bank is the only one that has data in more than five years. Third, non-development bank IOs may engage in health in ways other than development assistance, and it would be hard to capture and compare across organizations. Finally, this only includes data on health spending but not all issue areas.

4.2.2 New Jobs and Inference about the Entire Bureaucracy

Job postings are only about new candidates, which is informative because they tell us the bureaucracy's plan for the scope in the current period. However, they also show the scope of the entire organization. This is because, compared to many other professions, IO job contracts are relatively short-term.[20] Therefore, the change of scope in the entire organization is lagged compared to the job postings, but not too much. To see how much job postings speak to the entire organization's focus, I use information on the terms of each job post as they are advertised. Specifically, at each time point, I use the term of the jobs to back out all currently hired bureaucrats in the organization.[21] Then, I calculate the operational scope of this entire bureaucracy. Using the ADB as an example, Figure B2 (a) shows its focus on climate calculated using job postings in the current month, and

[19] The 2013 spike is likely due to both the start of the Ebola outbreak and Jim Yong Kim, a medical doctor and global health expert, being appointed as the President of the World Bank in 2012.

[20] The short-term nature of IO jobs may be caused by its funding constraints and project-based work. Two articles discuss this issue: `https://www.ijmonitor.org/2021/03/ier-blog-series-in-search-of-staffing-flexibility-and-positive-working-conditions-at-the-icc`; `https://www.thenewhumanitarian.org/newsletter/2024/05/01/inklings-uns-short-term-workforce-problem`.

[21] Long-term job contracts are usually between 2.5 and 5 years, and short-term jobs are between 6 months to 1 year. Therefore, we might be slightly biased in the aggregate calculation for the first few years, but later years are more accurate.

(b) shows the focus of all employed bureaucrats.[22] Overall, there is a lag in the entire IO when the focus of new postings changes, but the lag is short, and overall patterns match. Another concern may be that the rate of staff replacement differs across issue areas. In Figure B7 in the Appendix, I conduct the same analysis on ADB's focus on development. The pattern is very similar to climate, so this should not be a concern.

4.2.3 Skill Substitutability and Changes in Tasks after Employment

The previous subsection's estimation of the overall bureaucracy assumes that the hired bureaucrats will work on issues they are assigned to. This is a reasonable assumption because bureaucrats are recruited based on their interest and ability to work on an issue. They may be unwilling and unable to work on other issue areas after entering the IO. But there might still be some level of skill substitutability across issue areas. For some pairs of issues, the required skills may be similar so that candidates can be asked to work on another issue after they are hired. Note that it should only lead to an underestimate of scope expansion, and the size of the underestimation should be small because IO contracts are relatively short-term.

It is hard to estimate the degree of substitutability, but we can infer it from the coexistence of issue topics in observed job postings. If one candidate is often asked to work on two issue areas, then the skills of the two issue areas should be more substitutable. Figure B3(a) shows the number of job postings classified into each issue area. Off-diagonal blocks represent jobs that cover two issues at the same time. Figure B3(b) shows the proportion of mixed jobs in proportion to the total number of jobs in issue areas on the rows. First, co-existence is not highly prevalent. However, interestingly, jobs in all issue areas have some mixture of climate. This implies that even when we identify the expansion of IOs into climate, we are still underestimating such expansion. For example, we might expect bureaucrats hired as pure development economists in development banks, for example, also to be able to work on climate once the organization expands its scope. Nevertheless, the degree of underestimation will be similar between the three issue areas.

[22] For the vast majority of ADB jobs, short and long-term labels are available.

4.3 Hypothesis Testing: Difference-in-Differences

Hypothesis 1 predicts that IOs will work on issues outside their mandates, so I provide evidence for it in the descriptive section. Then, I test hypotheses 2 and 3 using a difference-in-differences (DiD) design. The unit of analysis is "IO-issue-quarter." To test each hypothesis, I will analyze how shocks to the explanatory variables lead to changes in the scope of one or a group of IOs. For **Hypothesis 2(a)**, the shock is a sudden increase in the principals' governance demand of an issue due to real-world events. The shock in **Hypothesis 2(b)** is the exogenous change in the level of policy preference congruence on an issue among IO principals. To test **Hypothesis 3**, I examine how IOs with different levels of general-purpose resources respond to shocks.

Although I use exogenous shocks as treatment, there could still be issues that happen simultaneously with these events. Therefore, I use a set of other IOs that are unlikely to be affected by this shock as the control group and implement a DiD analysis.

The specific designs I use are as follows: First, to test **Hypotheses 2(a)** and **3**, I examine the effect of the COVID-19 outbreak in January 2020 on 13 development banks. To see the heterogeneous effect based on general-purpose resources, I split the banks into two groups based on their operational budget in 2023. Operational budget are less tied to specific projects, so that the bureaucracy have flexibility in utilizing it. Therefore, I use the size of operational budget as a proxy for general-purpose resources. The World Bank,f Asian Development Bank, and European Investment Bank are classified as large banks with more general-purpose resources. African Development Bank, Asian Infrastructure Investment Bank, Black Sea Trade and Development Bank, European Bank for Reconstruction and Development, Islamic Development Bank, New Development Bank, Caribbean Development Bank, East African Development Bank, and Trade and Development Bank are classified as smaller banks with less general-purpose resources.[23] I use 20 IOs in areas that are less likely to be affected by COVID-19 as the control group.[24]

[23]The three large banks had an operational budget greater than 800 million USD, while the smaller banks had less than 550 million USD.

[24]All IOs can be affected to some extent, but some may be less affected. I use these IOs as the control group. The control group IOs are: World Food Programme, United Nations Environment Programme, United Nations High Commissioner for Refugees, Food and Agriculture Organization of the United Nations, United Nations Relief and Works

The implication of **Hypotheses 2(a)** and **3** is that large development banks should have a stronger expansion into health after the COVID-19 outbreak. In contrast, the smaller development banks may move very little.

To test **Hypothesis 2(b)**, I examine the impact of the US withdrawal from UNESCO in January 2019 on the focus of UNESCO on health and development. The US withdrew from UNESCO in January 2019 due to dissatisfaction with the position of UNESCO on Israel-related issues. The withdrawal led China to increase its contributions and become the organization's largest donor. It exerted significant influence over the organization and had 56 Chinese heritage sites become protected by the World Heritage Committee. The Biden administration explicitly stated that the US was rejoining UNESCO to "counter Chinese influence." The US and China, as two major principals, are likely to disagree on many issues. However, as China obtained disproportionate influence after the US withdrew, the UNESCO bureaucracy faces a principal with one congruent policy preference. We should observe UNESCO expanding its scope after the US withdrawal.

Health is an issue outside of the scope of UNESCO, so I expect the focus on health to increase after treatment. Since we do not have a fine-tuned model for culture and education, I examine UNESCO's focus on development instead. Although UNESCO is not a traditional development IO, development is much closer to its core mandate compared to health. The UN describes the mandate of UNESCO as follows: "*UNESCO's mission is to contribute to the building of a culture of peace, the eradication of poverty, sustainable development and intercultural dialogue through education, the sciences, culture, communication, and information.*"[25] Poverty reduction and development is mentioned, but health is not. Therefore, I expect that UNESCO will reduce its focus on development after treatment. I use all other IOs as the control group.

Agency for Palestine Refugees in the Near East, United Nations Educational, Scientific and Cultural Organization, Organization for Security and Cooperation in Europe, International Atomic Energy Agency, European Space Agency, European Organization for Nuclear Research, United Nations Industrial Development Organization, CGIAR System Organization, World Intellectual Property Organization, North Atlantic Treaty Organization, International Criminal Court, United Nations University, International Fund for Agricultural Development, EUROCONTROL, Green Climate Fund, and the International Residual Mechanism for Criminal Tribunals.

[25] UNESCO: United Nations Educational, Scientific and Cultural Organization, United Nations, retrieved from `https://www.un.org/youthenvoy/2013/08/unesco-united-nations-educational-scientific-and-cultural-organization`.

For all analyses, IO-quarter units with less than five job postings are discarded to reduce noise. To test the sensitivity of my analysis to potential missing job postings, I remove one data source (HKS career office, Wayback Machine, and others) and conduct all analyses again. The results remain robust. I correct for potential bias caused by mislabeling in machine learning models in downstream inference following Egami et al. (2024). In this case, the method can only be readily applied to linear regression models, so I use it as a robustness check in the Appendix.

5 Documenting the Scope of IOs Over Time

In this section, I present descriptive patterns on IO scope expansion. First, the focus of the international regime complex changes flexibly over time. Second, individual IOs work on issue areas outside of their core mandates. Third, due to individual IOs' scope expansion, international regimes often include many IOs not designated to work on corresponding issues. Finally, new global challenges and changes in the relative salience of issues lead to rapid changes in international regimes. In this section, I use results from the zero-shot classification model to cover the complete set of issue areas.

Figure 3 shows the aggregated focus of all IOs over time. It demonstrates that the focus of IOs changes frequently. Although the international regime complex is relatively fixed in terms of the set of active IOs and their mandates, the operational scope of the regime complex is flexible. This contrasts with the static pattern when using the MIA policy scores. Focusing on the four issue areas, we see that IOs have increasingly focused on environment and climate change. Meanwhile, the focus on development and poverty reduction has decreased. The focus on military cooperation also has a moderate increase, and the focus on health issues remains stable in the long run. Figure B5 in the Appendix shows the time trend for all topics.[26]

If individual IOs only work on their core mandate, we would expect to see changes globally only when IOs dissolve or new IOs are created. Such events should not lead to the frequent changes in Figure B5. This naturally implies that individual IOs may work outside of their mandate. Fig-

[26]For the four selected topics here, I have fine-tuned models for them, so I use their classifications instead.

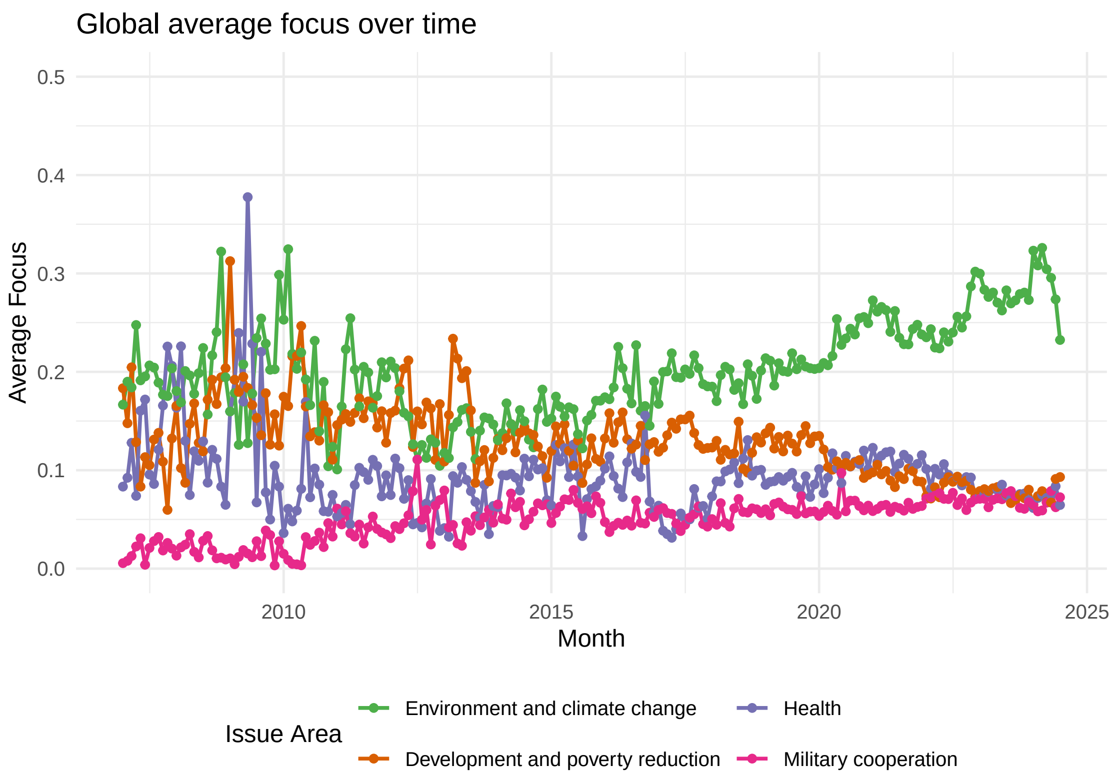
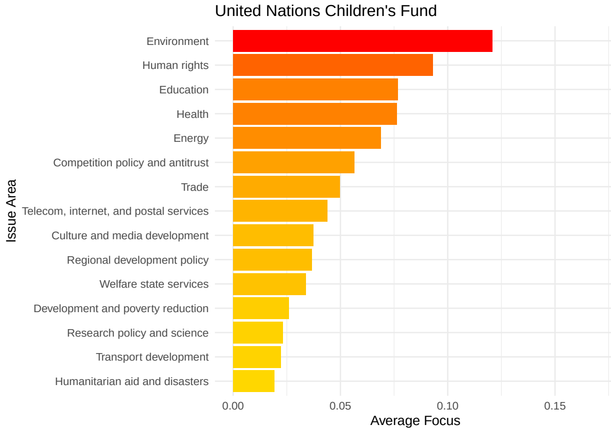


Figure 3: Aggregated Focus of IOs on Issues Over Time

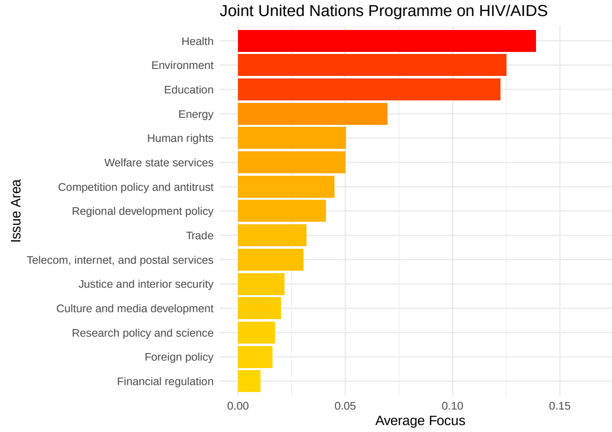
Note: The x-axis is time, and the y-axis is the proportion of an IO's job postings classified into an issue area.

ure 4 shows the scope of four example IOs aggregated over time. The core mandate of each IO is listed with high probabilities. UNICEF works on Human rights and Education; the Joint United Nations Programme on HIV/AIDS works on Health; The CGIAR System Organization works on Research Policy and Science and Environment; the African Union works on a broad set of issues including Environment, Education, Energy, Welfare state services, etc. In addition, IOs work extensively outside of their core mandate. For example, both UNICEF and the Joint United Nations Programme on HIV/AIDS work heavily on Environment. The latter also works on Education and Human rights. CGIAR System Organization also works on Development and poverty reduction.

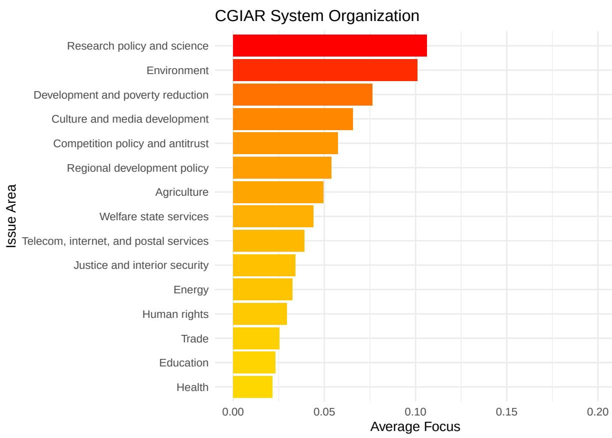
As a result of the scope expansion of individual IOs, international regimes will include many IOs that are not designated to work on this issue. Existing studies identify international regimes based on the *de jure* scope of IOs and their main policy frameworks (Keohane and Victor, 2011;



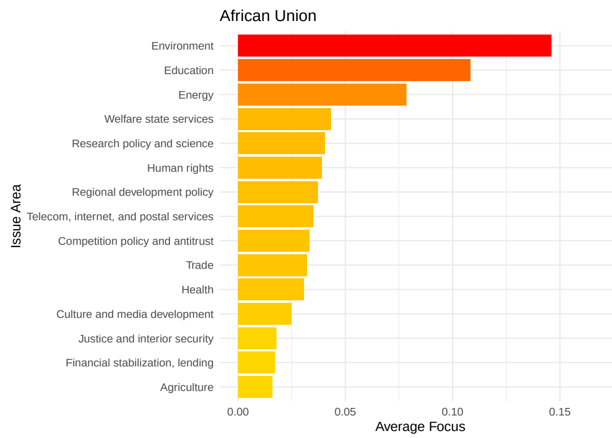
(a) UNICEF



(b) UNAIDS



(c) CGIAR



(d) AU

Figure 4: Issue Topic Proportions of Example IOs

Note: In each figure, the x-axis is estimated probabilities, and the y-axis is issue areas with top-15 topic probabilities for each IO. Given the coding scheme, $1/3$ is the highest score possible and indicates that an issue is within the top-3 focus in all postings of an IO. A score of 0.1, for example, translates into an issue within the top-3 focus in 30% of the postings.

Pratt, 2018), which can be different from *de facto* regimes in daily operations. Figure 5 shows the Human rights, Fisheries and maritime affairs, Financial stabilization, and Immigration and refugees regimes.[27] In almost all cases, IOs with core mandates in other areas are observed in the plot. This is because the salience of some issues in these areas must have increased in certain periods.

To further show that changes in regimes follow new global challenges and state demands for

[27] Note that the limitation here is that only IOs with available job postings are covered.

Figure 5: Example International Regimes Identified

Note: Bubbles represent IOs. The size of the bubbles represents the average focus of the IO on this issue over time. All IOs are plotted, and 20 IOs with the highest focus on this area are annotated.

global governance, I present a few examples. Figure 6 shows the evolution of the climate regime over ten years. As states increasingly demand governance in climate change, the regime has grown rapidly. Similarly, Figure 7 shows the emergence of the global AI governance regime. The presence of many European IOs in 2024 also aligns with the fact that the EU countries are the most engaged about AI governance. Figure 8 shows a more rapid change: one month after the Russian invasion in 2022, the regime on military cooperation grew larger.

Overall, this section supports **Hypothesis 1**: IOs constantly expand their scope to work on issues outside the mandate. They expand to areas where working on these issues can increase their organization's influence.

Figure 6: The Global Climate Regime

Note: Bubbles represent IOs. The size of the bubbles represents the average focus of the IO on this issue over time. All IOs are plotted, and 20 IOs with the highest focus on this area are annotated.

Figure 7: The Global AI Governance Regime

Note: Bubbles represent IOs. The size of the bubbles represents the average focus of the IO on this issue over time. All IOs are plotted, and 20 IOs with the highest focus on this area are annotated.

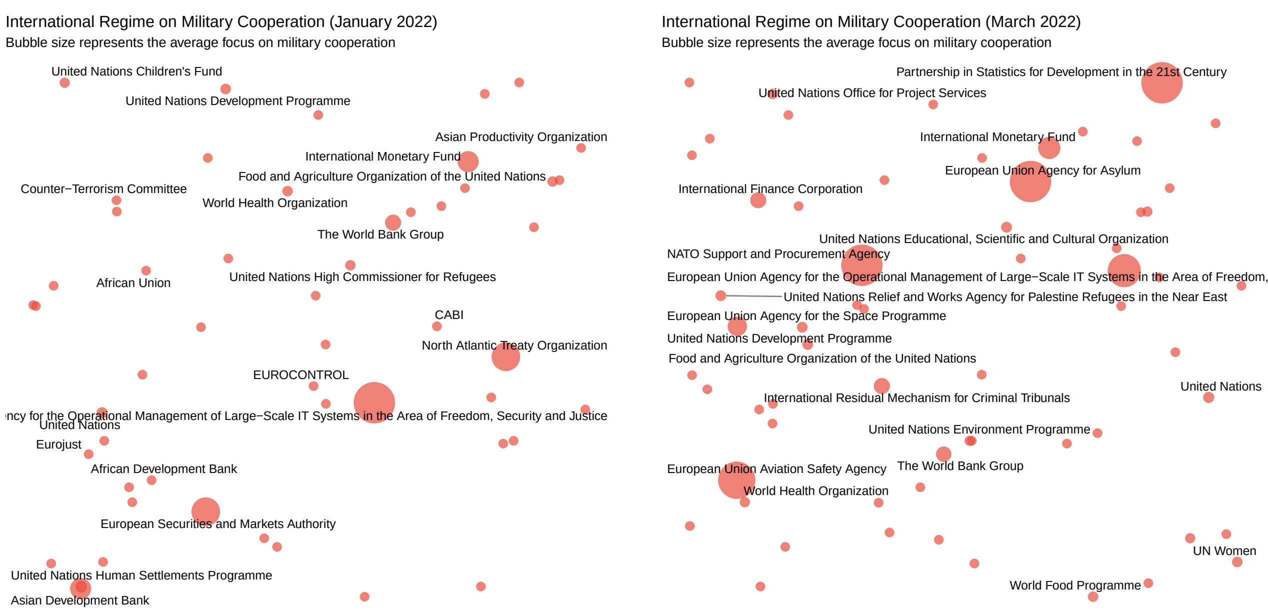


Figure 8: The Global Military Cooperation Regime

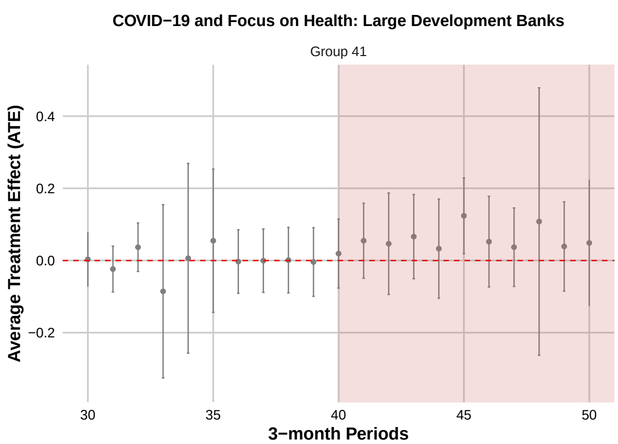
Note: Bubbles represent IOs. The size of the bubbles represents the average focus of the IO on this issue over time. All IOs are plotted, and 20 IOs with the highest focus on this area are annotated.

6 Results

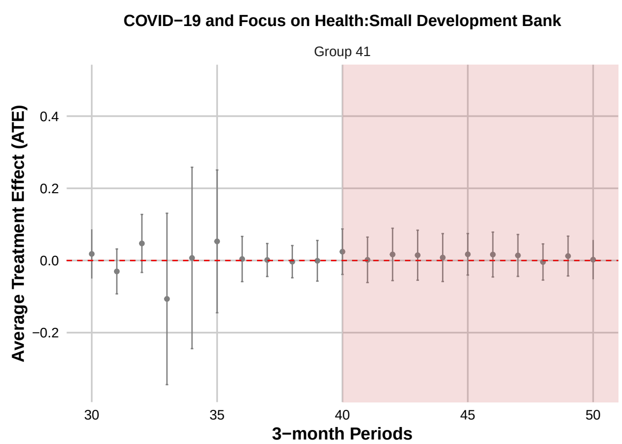
This section presents results on testing Hypotheses 2 and 3 to explain the degree of IO scope expansion. As mentioned earlier, the analysis in this section uses models fine-tuned on job postings for reliability.

6.1 New Demands and General-Purpose Resources

First, I examine the effect of the COVID-19 outbreak in January 2022 on the development and health IOs to test **Hypotheses 2(a)** and **3**. Figure 9 presents the results of a DiD analysis on the large and smaller development banks. Large development banks increased their focus on health significantly after the outbreak, while smaller banks moved very little.



(a) Large Banks



(b) Small Banks

Figure 9: The Effect of COVID-19 Outbreak on IOs' Focus on Health

Note: The x-axis is time (the number of 3-month periods starting from January 2010), and the y-axis is the effect of the treatment (COVID-19 outbreak) on the proportion of an IO's job postings on health. The dots are estimated average treatment effects, and the vertical lines are 95% confidence intervals.

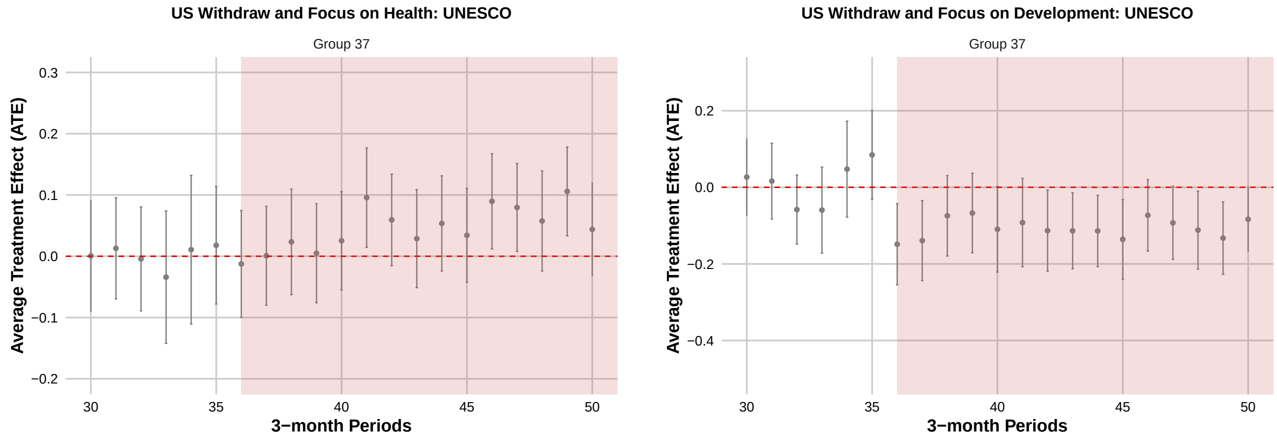
The findings support **Hypotheses 2(a)** and **3**. When the salience of health increased, the large development banks with more general-purpose resources expanded to work on it. The effect size means that the banks increased their job postings on health by around ten percentage points. In the quarter with statistically significant results, this translates into approximately 120 more staff hired to work on health. In the first six quarters after the treatment, the estimated increase in new health-related hires is around 460. Meanwhile, the smaller banks with fewer such resources moved very little. The large development banks not only have larger bureaucratic systems and local networks but also have more funding that is not tied to specific projects. This offers them the flexibility to utilize their resources in health during the outbreak.

6.2 Congruent Principal Policy Preferences

Finally, I analyze the effect of increased policy preference congruence among principals on IO scope choices. After the US withdrew from UNESCO, the level of policy congruence among major principals increased drastically. As discussed earlier, China had a disproportionate influence over the organization after the US withdrew, while both China and the US were influential before. From the UNESCO bureaucracy's perspective, choosing a policy and implementing it can now more easily generate influence, as China has become the only major principal it needs to court. **Hypothesis 2(b)** predicts that the US withdrawal should increase its focus on issues beyond the mandate (e.g., Health) while decreasing its focus on issues closer to the mandate (e.g., Development).

The results in Figure 10 are consistent with this prediction. After the treatment, UNESCO significantly increased the focus on health while decreasing the focus on development. The size of the effect in both cases results in an increase and decrease in approximately 10% related job postings. UNESCO justified its expansion into health issues as "*Because children and young people who receive a good quality education are more likely to be healthy, and likewise those who are healthy are better able to learn and complete their education.*"[28]

[28] Health and education: For healthy, happy and thriving learners, UNESCO, retrieved from https://www.unesco.org/en/health-education#:~:text=By%20reducing%20health%2Drelated%20barriers,to%20understand%20their%20rights%2C%20learn.



(a) UNESCO: Health

(b) UNESCO: Development

Figure 10: US Withdrawal and the UNESCO's Focus on Health and Developpment

Note: The x-axis is time (the number of 3-month periods starting from January 2010), and the y-axis is the effect of the treatment (US withdrawal from UNESCO) on the proportion of UNESCO's job postings on health and development. The dots are estimated average treatment effects, and the vertical lines are 95% confidence intervals.

7 Conclusion

Contrary to the common characterizations of IOs as working within narrow *de jure* issue areas following the original designs by principals, I argue that IOs often expand their scope and work outside the core mandate. When new global challenges arise or existing issues become more salient, they actively work beyond the mandate to deal with them. The international regime complex is defined not only by multiple IOs being designated to work on one issue area but also by IOs expanding outside their mandate to work on it. The informal aspect of IO activities plays a crucial role in global governance.

I explain IO scope expansion using a model of the bureaucracy's choice of scope. IO bureaucrats not only work to fulfill the mandate tasks but also strive to increase the value of their organization. Therefore, IO bureaucrats will expand the scope of the organization when other issues become more salient to the principals. Scope expansion is most effective for increasing the organization's value when the principals have a higher demand for governance and congruent preferences and when the IO has more general-purpose resources.

I introduce IO job postings as a new source of data and measurement to study IO activities. IO scope expansion is common and occurs frequently over time. Following new global challenges and shocks to relative issue importance, such as the COVID-19 outbreak, IOs expand beyond the mandate to govern flexibly. Variations in other conditions, such as principal congruence and IO resources, also cause the bureaucracies to adjust the scope of their organization.

The bureaucracy carefully steers the organization in a changing world and governs flexibly. The findings shed light on a core question in international relations: How are global public goods provided? States are not the only actors determining their provision. IO bureaucrats provide global public goods through their daily activities. Through this process, they determine the type and amount of public goods provided. Instead of being programmed by states, IOs actively compete for influence as global public good entrepreneurs.

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Appendix:

Flexible Governance in a Changing World: The Scope Expansion of International Organizations through Daily Operations

A Data Collection

Source	Number of Postings	Organizations	Period
Inspira	150,000	UN Agencies	2010-2024
Devex	400,000	IGOs	2007-2024
Impactpool	800,000	IGOs	2015-2024
UNTalent	200,000	IGOs	2020-2024
HKS Career Office/Individual official websites/ Twitter/ Wayback Machine/Others	1377	IGOs	2002-2024

Table A1: Data Sources

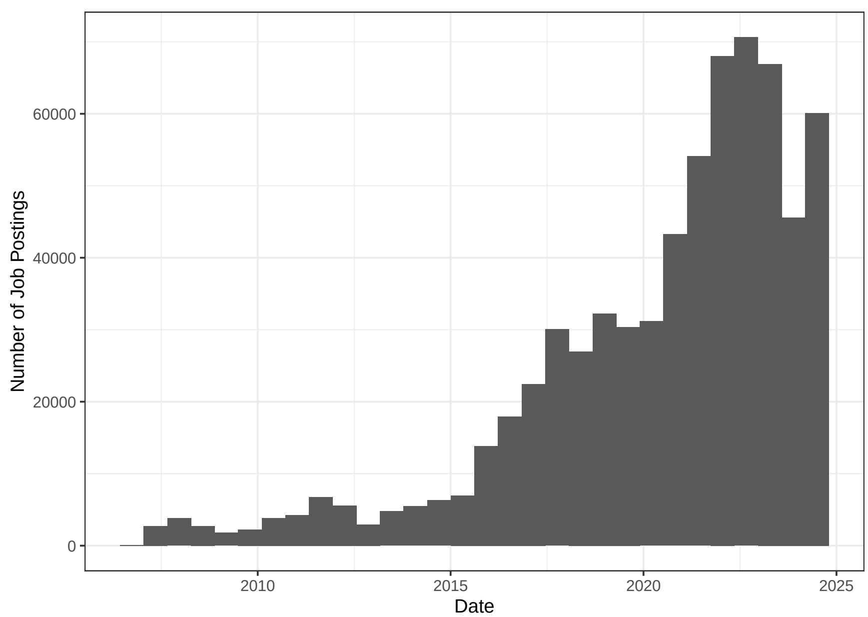


Figure A1: The Number of Job Postings Over Time

ID	Name
1	Abdus Salam International Centre for Theoretical Physics
2	Adaptation Fund
3	Africa Centres for Disease Control and Prevention
4	African Development Bank
5	African Development Bank Group
6	African Development Fund
7	African Ministers' Council on Water
8	African Trade Insurance Agency
9	African Union
10	Agency for the Cooperation of Energy Regulators
11	ASEAN Foundation
12	ASEAN Wildlife Enforcement Network
13	ASEAN+3 Macroeconomic Research Office
14	Asia-Pacific Economic Cooperation
15	Asian Development Bank
16	Asian Development Bank Institute
17	Asian Productivity Organization
18	Association of South East Asian Nations
19	Baltic Marine Environment Protection Commission - Helsinki Commission
20	Bank for International Settlements
21	Biobanking and BioMolecular resources Research Infrastructure
22	Black Sea Trade and Development Bank
23	Body of European Regulators for Electronic Communications
24	Bureau International des Expositions
25	CABI
26	Caribbean Community
27	Caribbean Development Bank
28	Caribbean Disaster Emergency Management Agency
29	CARICOM Implementation Agency for Crime and Security
30	CARICOM Regional Organization for Standards and Quality
31	Central European Free Trade Agreement
32	CGIAR System Organization
33	Commission for Environmental Cooperation
34	Common Fund for Commodities
35	Common Market for Eastern and Southern Africa
36	Commonwealth Secretariat
37	Conference of States Parties of the Organization for the Prohibition of Chemical Weapons
38	Consejo Centroamericano de Superintendentes de Bancos, de Seguros y de Otras Instituciones Financieras
39	Council of Europe
40	Council of Europe Development Bank

Table A2: IOs Covered in the Data (1)

ID	Name
41	Council of the European Union
42	Counter-Terrorism Committee
43	Court of Justice of the European Union
44	Development Bank of Latin America
45	East African Community
46	East African Development Bank
47	EUROCONTROL
48	Eurojust
49	European Agency for Safety and Health at Work
50	European Bank for Reconstruction and Development
51	European Banking Authority
52	European Central Bank
53	European Centre for Disease Prevention and Control
54	European Centre for Medium-Range Weather Forecasts
55	European Centre for Social Welfare Policy and Research
56	European Centre for the Development of Vocational Training
57	European Chemicals Agency
58	European Commission
59	European Council
60	European Court of Human Rights
61	European Data Protection Board
62	European Defence Agency
63	European Economic and Social Committee
64	European Economic Area
65	European Environment Agency
66	European External Action Service
67	European Fisheries Control Agency
68	European Food Safety Authority
69	European Forest Institute
70	European Foundation for the Improvement of Living and Working Conditions
71	European Free Trade Association
72	European Institute for Gender Equality
73	European Institute of Innovation and Technology
74	European Institute of Public Administration
75	European Insurance and Occupational Pensions Authority
76	European Investment Bank
77	European Investment Fund
78	European Labour Authority
79	European Maritime Safety Agency
80	European Medicines Agency

Table A3: IOs Covered in the Data (2)

ID	Name
81	European Molecular Biology Laboratory
82	European Ombudsman
83	European Organisation for the Exploitation of Meteorological Satellites
84	European Organization for Nuclear Research
85	European Parliament
86	European Partnership of Supervisory Organisations in Health Services and Social Care
87	European Patent Office
88	European Police Office
89	European Public Law Organization
90	European Research Council
91	European Schoolnet
92	European Securities and Markets Authority
93	European Southern Observatory
94	European Space Agency
95	European Stability Mechanism
96	European Training Foundation
97	European Union
98	European Union Agency for Asylum
99	European Union Agency for Cybersecurity
100	European Union Agency for Fundamental Rights
101	European Union Agency for Railways
102	European Union Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice
103	European Union Agency for the Space Programme
104	European Union Aviation Safety Agency
105	European Union Drugs Agency
106	European Union Institute for Security Studies
107	European Union Intellectual Property Office
108	European Union Satellite Centre
109	European University Institute
110	Focusing Resources on Effective School Health
111	Food and Agriculture Organization of the United Nations
112	Frontex, the European Border and Coast Guard Agency
113	Geneva Centre for Security Sector Governance
114	Global Fund to Fight AIDS, Tuberculosis and Malaria
115	Green Climate Fund
116	Group of Friends United against Human Trafficking
117	IMPACT - International Initiative Against Avoidable Disablement
118	Inter-American Development Bank
119	Interafrican Bureau for Animal Resources
120	Interagency Panel on Juvenile Justice

Table A4: IOs Covered in the Data (3)

ID	Name
121	Intergovernmental Group of Twenty-Four on International Monetary Affairs
122	International Agency for Research on Cancer
123	International Atomic Energy Agency
124	International Center for Agricultural Research in the Dry Areas
125	International Centre for Integrated Mountain Development
126	International Centre for Migration Policy Development
127	International Civil Aviation Organization
128	International Civil Service Commission
129	International Commission on Missing Persons
130	International Court of Justice
131	International Criminal Court
132	International Criminal Police Organization - INTERPOL
133	International Crops Research Institute for the Semi-Arid Tropics
134	International Customs Tariffs Bureau
135	International Development Association
136	International Development Law Organization
137	International Development Research Centre
138	International Energy Agency
139	International Energy Forum
140	International Finance Corporation
141	International Fund for Agricultural Development
142	International Holocaust Remembrance Alliance
143	International Institute for Democracy and Electoral Assistance
144	International Institute for Justice and the Rule of Law
145	International Labour Organization
146	International Livestock Research Institute
147	International Maritime Organization
148	International Monetary Fund
149	International Network for Bamboo and Rattan
150	International Organisation of Vine and Wine
151	International Organization for Migration
152	International Partnership for Energy Efficiency Cooperation
153	International Renewable Energy Agency
154	International Residual Mechanism for Criminal Tribunals
155	International Seabed Authority
156	International Telecommunication Union
157	International Trade Centre
158	International Training Centre of the ILO
159	International Tropical Timber Organization
160	International Vaccine Institute

Table A5: IOs Covered in the Data (4)

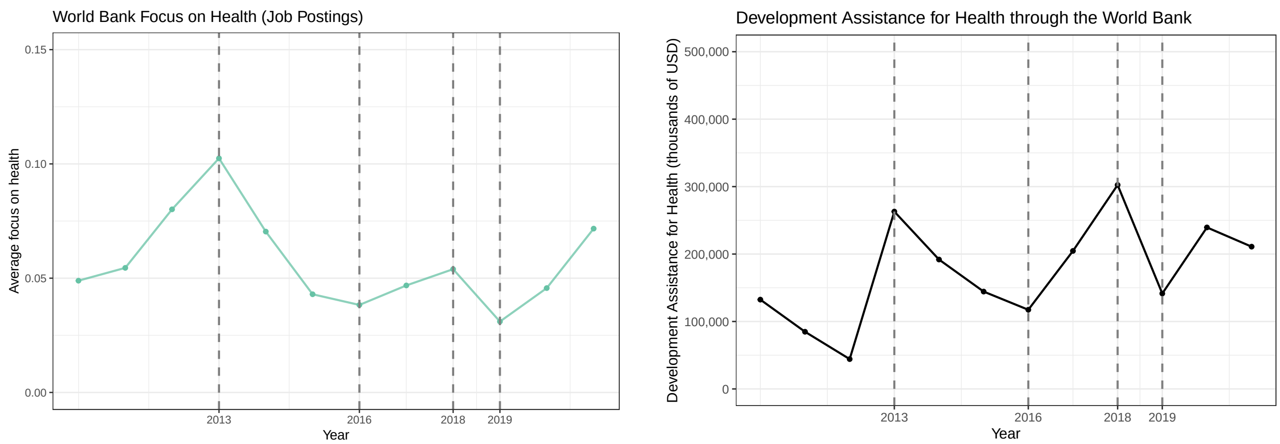
ID	Name
161	Islamic Development Bank
162	Joint Committee of the Nordic Medical Research Councils
163	Joint United Nations Programme on HIV/AIDS
164	King Abdullah Bin Abdulaziz International Centre for Interreligious and Intercultural Dialogue
165	Mekong River Commission
166	Multilateral Investment Guarantee Agency
167	NATO Airborne Early Warning and Control Force Command
168	NATO Defense College
169	NATO Support and Procurement Agency
170	New Development Bank
171	Nordic Development Fund
172	North Atlantic Treaty Organization
173	OECD Development Centre
174	OPEC Fund for International Development
175	Organisation for Economic Co-operation and Development
176	Organisation for the Prohibition of Chemical Weapons
177	Organisation of Eastern Caribbean States
178	Organisation of Islamic Cooperation
179	Organization for Security and Cooperation in Europe
180	Organization of American States
181	Organization of the Petroleum Exporting Countries
182	OSCE - Office for Democratic Institutions and Human Rights
183	OSCE High Commissioner on National Minorities
184	Pacific Islands Forum Fisheries Agency
185	Pan American Health Organization
186	Partnership in Statistics for Development in the 21st Century
187	Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization
188	Regional Environmental Centre for Central and Eastern Europe
189	SAARC Development Fund
190	SADC Plant Genetic Resources Centre
191	Secretariat of the Pacific Regional Environment Programme
192	Southern African Development Community
193	Southern Common Market
194	The Hague Conference on Private International Law
195	The World Bank Group
196	Trade and Development Bank
197	UN Tourism
198	UN Women
199	UNDP International Policy Centre for Inclusive Growth
200	UNESCO Institute for Lifelong Learning

Table A6: IOs Covered in the Data (5)

ID	Name
201	UNESCO Institute for Statistics
202	Union for the Mediterranean
203	United Nations
204	United Nations Children's Fund
205	United Nations Development Programme
206	United Nations Educational, Scientific and Cultural Organization
207	United Nations Environment Programme
208	United Nations High Commissioner for Refugees
209	United Nations Human Settlements Programme
210	United Nations Industrial Development Organization
211	United Nations Institute for Disarmament Research
212	United Nations Institute for Training and Research
213	United Nations Office for Project Services
214	United Nations Population Fund
215	United Nations Relief and Works Agency for Palestine Refugees in the Near East
216	United Nations System Staff College
217	United Nations University
218	Universal Postal Union
219	Western and Central Pacific Fisheries Commission
220	World Bank Institute
221	World Customs Organization
222	World Food Programme
223	World Health Organization
224	World Intellectual Property Organization
225	World Meteorological Organization
226	World Trade Organization
227	Latin American Integration Association
228	Northwest Atlantic Fisheries Organization
229	Intergovernmental Organisation for International Carriage by Rail
230	Permanent Court of Arbitration
231	Pacific Islands Forum
232	South Asian Association for Regional Cooperation
233	Shanghai Cooperation Organization
234	Asian Infrastructure Development Bank
235	African Risk Capacity Agency
236	Asia Pacific Leaders Malaria Alliance
237	European Joint Undertaking for ITER and the Development of Fusion Energy
238	Nordic Investment Bank

Table A7: IOs Covered in the Data (6)

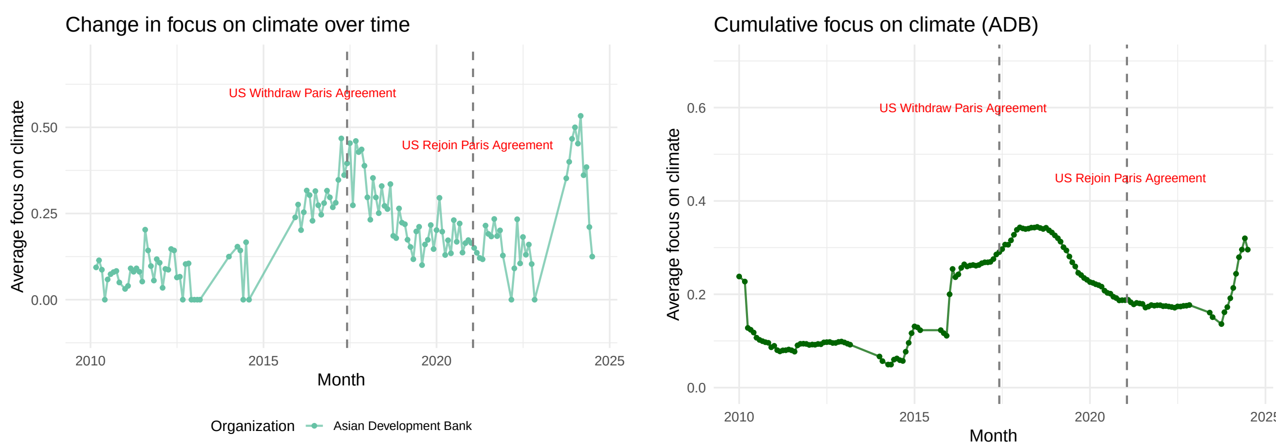
B Additional Figures on the Data and Measurement



(a) Job Postings' Focus on Health (b) Development Assistance for Health Spending

Figure B1: The World Bank's Focus on Health Over Time

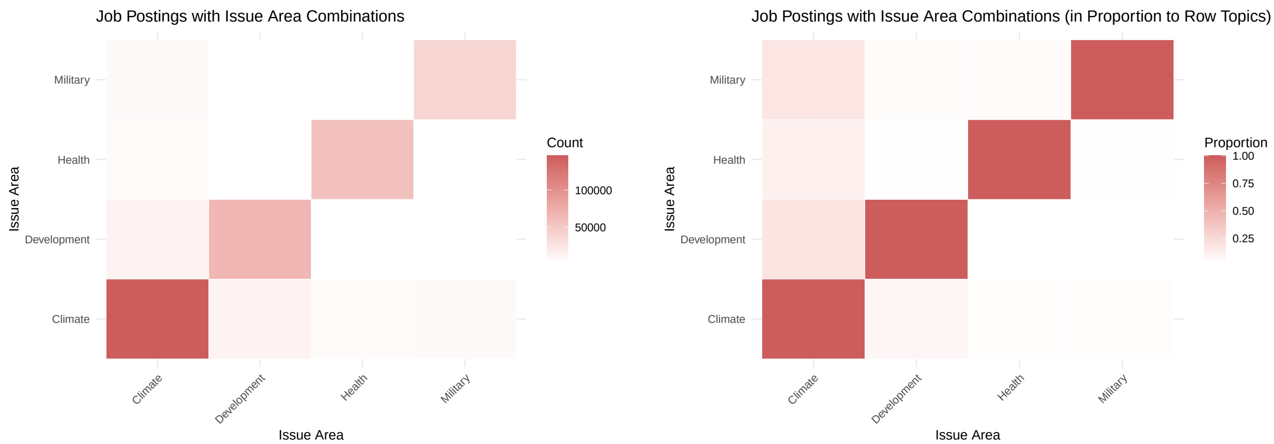
Note: The x-axis is time. In (a), the y-axis is the proportion of the World Bank's job postings classified as about health each year. In (b), the y-axis is its Development Assistance for Health spending. The vertical lines mark major years that the trends of the line changes.



(a) New Job Postings (b) All Currently Employed Bureaucrats

Figure B2: The ADB's Focus on Climate

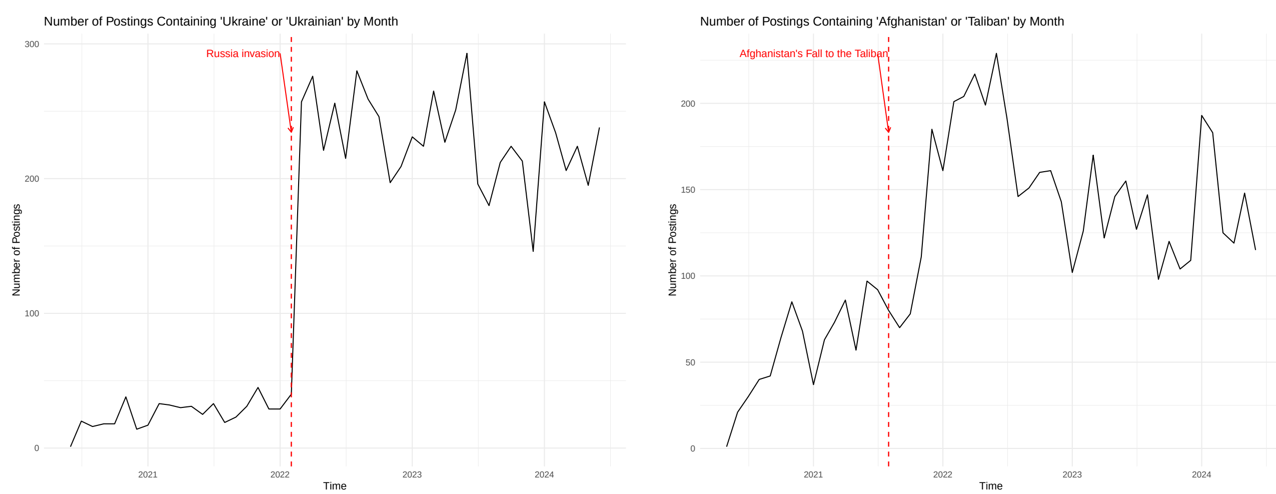
Note: The x-axis is time, and the y-axis is the ADB's average focus on climate over time. (a) is calculated based on the job postings posted during each current month on the x-axis. (b) is calculated based on all currently employed bureaucrats up to the current month on the x-axis.



(a) Raw Counts (b) In Proportion to Row Topics

Figure B3: Heatmap on the Coexistence of Topics in Job Postings

Note: In (a), the diagonal blocks are the number of job postings on each topic, and the off-diagonal blocks are the number of job postings with both row and column topics coexisting in one post. In (b), the diagonal blocks are 1. The off-diagonal blocks are the proportion of job postings with both row and column topics coexisting in one post to the total number of postings in each row. For a topic on the row, it captures the proportion of jobs that belong to it and mentions another topic on the column.



(a) Ukraine Crisis (b) Taliban Takeover

Figure B4: Focus on Specific Issues Over Time

Note: The x-axis is time, and the y-axis is the number of job postings mentioning relevant keywords by month. Both figures show that after salient world events, the prevalence of relevant keywords ("Ukraine"/"Ukrainian" in (a) and "Afghanistan"/"Taliban" in (b)) increases immediately in IO job postings. This validation figure is based on UNTalent data (2020-2024).

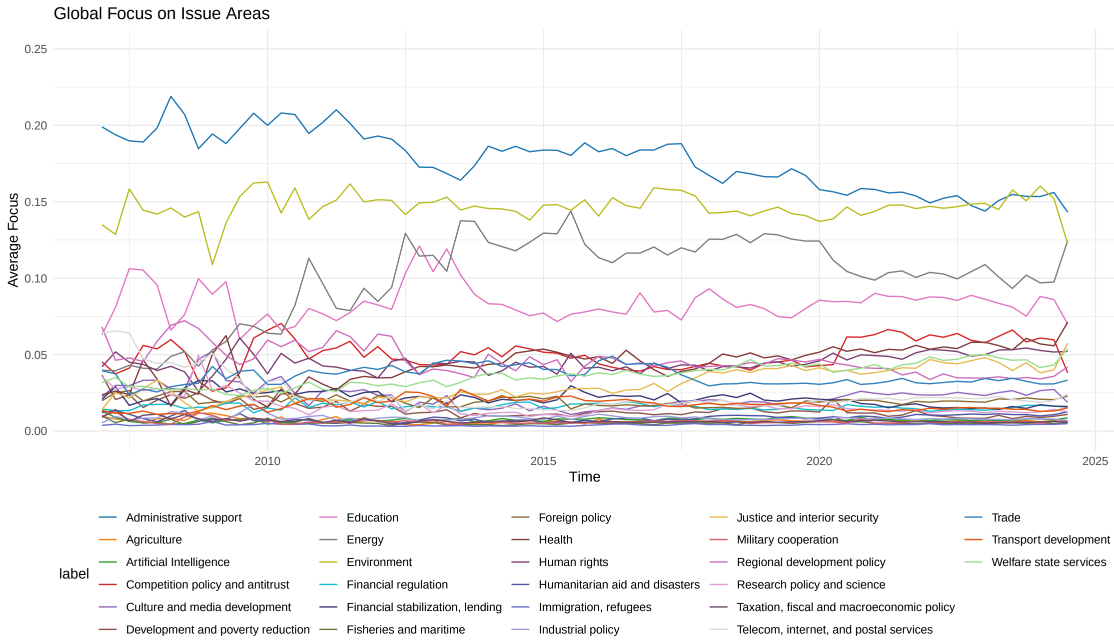
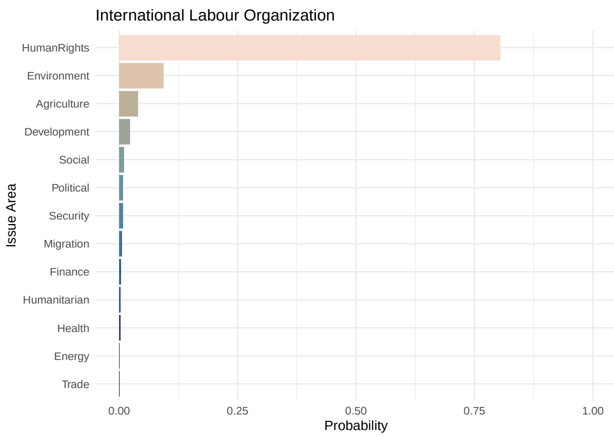


Figure B5: Aggregated Focus of IOs on All Issues Over Time

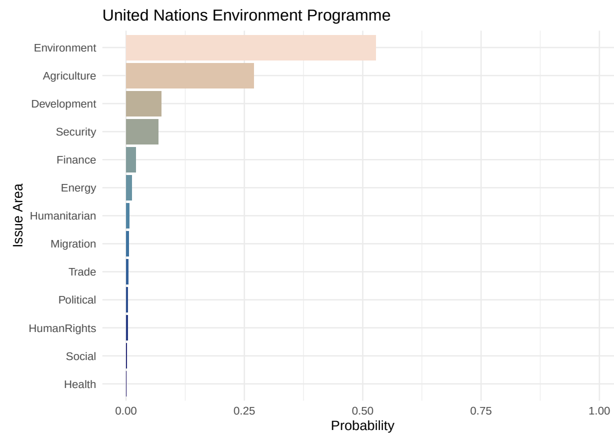
Note: The x-axis is time, and the y-axis is the average focus of IOs on an issue area. Given the coding scheme, $1/3$ is the highest score possible and indicates that an issue is within the top-3 focus in all postings. A score of 0.1, for example, translates into an issue within the top-3 focus in 30% of the postings.

Model	**Sample**	**Accuracy**	**Precision**	**Recall**	**F1-Score**
Health	in	1.000	1.000	1.000	1.000
	out	0.930	0.750	0.692	0.720
Environment and climate	in	0.962	1.000	0.750	0.857
	out	0.880	0.643	0.563	0.600
Development and Poverty Reduction	in	1.000	1.000	1.000	1.000
	out	0.760	0.700	0.438	0.742
Military Cooperation	in	0.997	0.950	1.000	0.997
	out	0.950	0.250	0.333	0.953

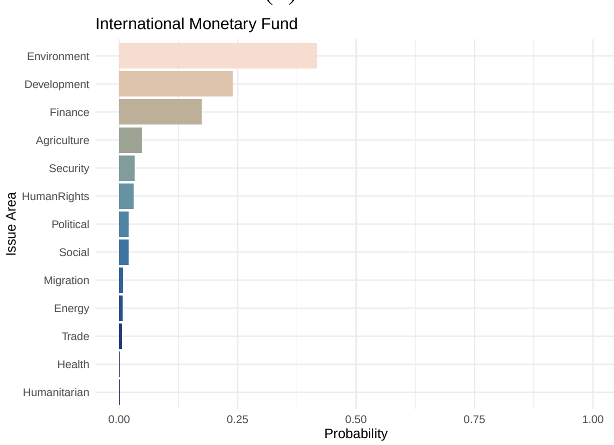
Table B1: Performance of Fine-tuned Models on IO Job Postings



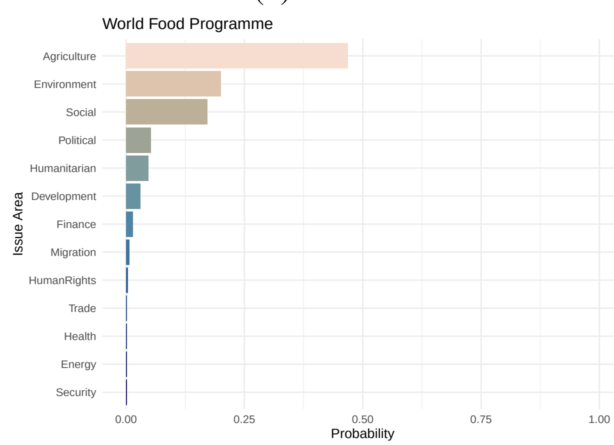
(a) ILO



(b) UNEP



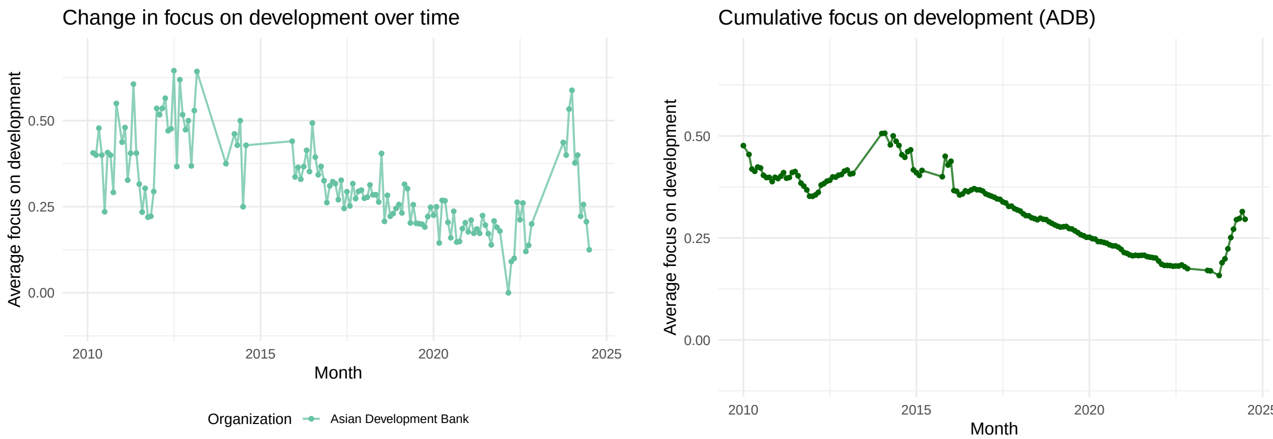
(c) IMF



(d) WFP

Figure B6: Issue Topic Proportions of Example IOs

Note: In each figure, the x-axis is estimated topic probabilities, and the y-axis is issue areas. The validation figure is based on UNTalent data (2020-2024) and topics are identified using Eshima et al. (2023).



(a) New Job Postings

(b) All Currently Employed Bureaucrats

Figure B7: ADB's Focus on Development

Note: The x-axis is time, and the y-axis is the ADB's average focus on development over time. (a) is calculated based on the job postings posted during each current month on the x-axis. (b) is calculated based on all currently employed bureaucrats up to the current month on the x-axis.

C Bias Correction

In this section, I run linear models that test my four hypotheses. Then, I use Egami et al. (2024) to correct the bias induced by model misclassification.

Y_{kit} is IO i's focus on an issue k at time t. In all cases, the model I run is:

$$Y_{kit} = \beta_0 + \beta_1 \cdot \text{is\_treated}_i + \beta_2 \cdot \text{post\_shock}_t + \beta_3 \cdot \text{is\_treated}_i \cdot \text{post\_shock}_t,$$

where is_treated_i is an indicator of whether the IO i is treated, and post_shock_t is an indicator of whether the change in conditions has happened.

The signs of the coefficient estimates are consistent with the main text. The estimates are not always significant as the standard errors are large. However, standard errors may be reduced if more labeled job postings are provided. Figure C1 below shows the reduction in standard errors as the number of labeled job posting IO-time aggregates increases.

Variable	Large Banks	Small Banks	Health IOs
(Intercept)	0.092 (0.068)*	0.113 (0.064)**	0.039 (0.075)
is_treated	-0.051 (0.078)	-0.013 (0.065)	1.569 (1.770)
post_shock	-0.002 (0.068)	-0.013 (0.064)	0.052 (0.075)
is_treated:post_shock	0.055 (0.078)	0.014 (0.065)	-1.556 (1.770)

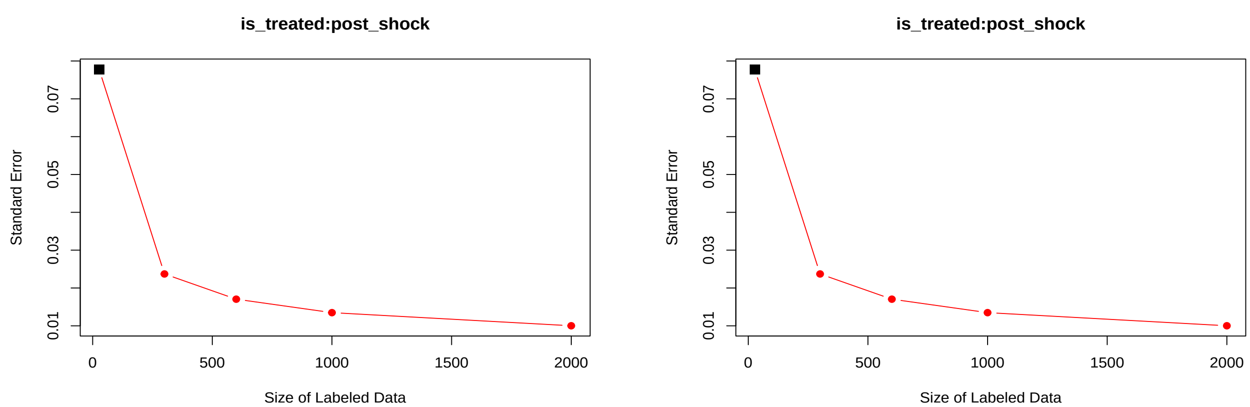
Table C1: COVID-19 Outbreak and the Focus of IOs on Health

Variable	WB (Development)	ADB (Development)	WB and ADB (Environment)
(Intercept)	0.211 (0.029)***	0.187 (0.030)***	0.178 (0.027)***
is_treated	-0.231 (0.343)	0.480 (0.347)*	-0.177 (0.170)
post_shock	-0.001 (0.075)	0.089 (0.080)	0.083 (0.091)
is_treated:post_shock	1.404 (0.795)**	-0.866 (0.722)	0.298 (0.433)

Table C2: AIIB Establishment and the Focus of IOs on Development and Environment

Variable	UNESCO (Health)	UNESCO (Development)
(Intercept)	0.133 (0.031)***	0.302 (0.045)***
is_treated	-0.077 (0.031)***	0.014 (0.046)
post_shock	-0.018 (0.031)	0.003 (0.045)
is_treated:post_shock	0.033 (0.032)	-0.004 (0.047)

Table C3: US Withdrawal and the Focus of UNESCO on Health and Development



(a) Large Bank Model

(b) Small Bank Model

Figure C1: Bias Correction: Power Analysis

D Additional Example Job Postings

D.1 Example 1: Technical Officer, Remotely Piloted Aircraft Systems (ICAO)

- Organization: International Civil Aviation Organization
- Link: `https://uncareer.net/vacancy/technical-officer-remotely-piloted-aircraft-systems-rpas-675478#google_vignette`
- Date posted: May 06, 2024

Org. Setting and Reporting

The Air Navigation Bureau (ANB) is responsible for providing technical guidance to the Air Navigation Commission (ANC), the Council, and the Assembly. ANB provides technical expertise in aviation-related disciplines to States, industry and all elements of the Organization. The Bureau is also responsible for maintaining and implementing the Global Aviation Safety Plan (GASP) and Global Air Navigation Plan (GANP), including its aviation system block upgrades as well as producing yearly safety and air navigation status reports. The ANB develops technical studies and proposals for Standards and Recommended Practices (SARPs), and Procedures for Air Navigation Services (PANS) for further processing by the governing bodies of ICAO. The Bureau also develops related procedures and guidance material and manages the Universal Safety Oversight Audit Programme (USOAP) and Continuous Monitoring Approach that monitors all States on a continuous basis. The ANB is also responsible for the development of guidance material supporting optimized airspace organization and management, thereby maximizing air traffic management performance of airspace and international traffic flows and supporting the growth of traffic without compromising safety. The Remotely Piloted Aircraft Systems (RPAS) Section serves as the focal point for all RPAS-related matters at ICAO and is responsible for the development of Standards and Recommended Practices (SARPs), Procedures for Air Navigation Services (PANS) and guidance material related to the operation, certification and airworthiness of RPAS, C2 Links, detect and avoid system requirements, licensing and training of remote pilots and air traffic management integration issues, amongst others. The RPAS section also serves as the focal point within the Organization for unmanned/remotely piloted aviation and advanced air mobility (AAM) and is responsible for managing and coordinating developments in these areas. The Technical Officer, Remotely Piloted Aircraft Systems (RPAS) reports directly to the Chief, RPAS section, providing technical advice and services in relation to the development of Standards and Recommended Practices for Annex 1 â Personnel Licensing, Annex 2 â Rules of the Air, Annex 3 â Meteorology, Annex 6 â Operation of Aircraft, Annex 7 â Aircraft Nationality and Registration Marks, Annex 8 â Airworthiness of Aircraft, Annex 10 â Aeronautical Telecommunications, Annex 11 â Air Traffic Services, Annex 14 â Aerodromes, as well as guidance material for the Manual on Remotely Piloted Aircraft Systems (RPAS) (Doc 10019), the forthcoming Manual on C2 Links for RPAS, the Detect and avoid (DAA) Manual, the online Unmanned Aircraft Systems (UAS) Toolkit and related ICAO documents. The incumbent serves as the Secretary of the RPAS Panel and prepares briefing material and working papers. S/he carries out duties and responsibilities in support of related matters, as assigned to her/him by the Supervisor. He/she carries out duties and responsibilities in support of operations-related matters, as assigned to her/him by the Supervisor. The incumbent collaborates closely with other Technical Officers in the Air Navigation Bureau and other Bureaux, as well as with Regional Offices for all RPAS, UAS and AAM-related matters.

Responsibilities

- Function 1 (incl. Expected results) Contributes to the development of working papers on RPAS, UAS and AAM matters by providing technical input for the ICAO Council, Air Navigation Commission (ANC) and international meetings, achieving results such as: â¢ Provide technical input to working papers, State letters and other documentation required to present Annex and PANS amendment proposals to the ANC and ICAO Council. â¢ Prepare technical studies and working papers for the ANC and international meetings relating to RPAS, UAS, AAM and related subjects. â¢ Provide input to facilitate technical discussions during ICAO meetings and conferences. â¢ Participate in the discussion of such papers and provide support, information/documentation, as needed. â¢ Provide and support further development of the ASBU modules related to the integration of RPAS into non-segregated airspace and at aerodromes; and â¢ Provide comprehensive analysis of issues raised by States and international organizations and provide recommendations for appropriate solutions.
- Function 2 (incl. Expected results) Leads the development of technical provisions for RPAS, achieving results such as: â¢ Serve as Secretary of the RPAS Panel in the development of flight operations, airworthiness, safety management, air traffic management, C2 Link, detect and avoid, human factors and aerodrome provisions, amongst others. â¢ Prepare high-level technical working papers, information papers and briefings for the RPAS Panel and its working groups. â¢ Conduct necessary follow-up on actions resulting from the discussion of the papers and related recommendations, decisions or outcomes reached during the panel and working group meetings. â¢ Draft panel meeting technical reports in cooperation with Technical Officers, Rapporteurs and Panel Officers. â¢ Liaise between the RPASP and the Aerodromes Panel (AP), Communications Panel (CP), Surveillance Panel (SP), Air Traffic Management Operations Panel (ATMOPSP), Airworthiness Panel (AIRP), Aviation Security Panel (AVSECP), Trust Framework Panel (TFP), Cybersecurity Panel (CYSECP), Committee on Aviation Environmental Protection (CAEP), Dangerous Goods Panel (DGP), Navigation Systems Panel (NSP) Flight Recorder Working Group and Flight Operations Panel (FLTOPSP), Safety Management Panel (SMP), Separation and Airspace Safety Panel (SASP), the Legal Committee and all relevant ICAO expert groups, to ensure the harmonized and timely development of RPAS-related provisions. â¢ Provide technical input in the coordination and review of all draft guidance material provided; and â¢ Contribute to and /or develop relevant documentation for publication.
- ...

  Competencies

  - Professionalism: Knowledge of the Convention on International Civil Aviation and its Annexes, ICAO Standards and Recommended Practices (SARPs) and their application. Thorough knowledge of unmanned/remotely piloted aviation and advanced air mobility. Ability to work in a team environment, ensuring that objectives and timelines are met. Ability to deal with complex issues with diplomacy, tact and maturity of judgment. Ability to produce reports and papers on technical issues and to review and edit the work of others. Shows pride in work and in achievements; demonstrates professional competence and mastery of subject matter; is conscientious and efficient in meeting commitments, observing deadlines and achieving results; is motivated by professional rather than personal concerns; shows persistence when faced with difficult problems or challenges; remains calm in stressful situations. Takes responsibility for incorporating gender perspectives and ensuring the equal participation of women and men in all areas of work.
  - ...

D.2 Example 2: Gender Specialist (ILO)

- Organization: International Labour Organization
- Link: `https://uncareer.net/vacancy/gender-specialist-665882`
- Date posted: February 29, 2024

Introduction

The position is located in the [ILO Decent Work Technical Support Team for South Asia and Country Office for India (DWT/CO-New Delhi). It is a centre of technical excellence, which supports seven countries in South Asia i.e. Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka and the Maldives; to realize decent work for inclusive growth and sustainable development. DWT/CO-New Delhi provides overall technical support for the preparation, implementation, monitoring and evaluation of Decent Work Country Programmes. DWT/CO-New Delhi also provides strategic guidance in formulating policy and work programmes as required by the ILO country offices and the constituents in South Asia in close collaboration with the ILO Regional Office for Asia and the Pacific (RO-Asia and the Pacific), the Decent Work Technical Support Team for East and South-East Asia and the Pacific (DWT-Bangkok) and ILO headquarters technical departments.

The main role of the position is to provide technical advisory services and capacity building support to ILO constituents in South Asia, in collaboration with the other specialists in DWT/CO-New Delhi. The Gender Specialist also provides resource mobilization support and technical support to relevant development cooperation projects. The position is part of the ILO Gender Network and a member of the Conditions of Work and Equality Department's (WORKQUALITY) Global Technical Team. The role is also to promote gender equality and inclusion, and respect for diversity.

The incumbent works under direct supervision of the Director of DWT/CO-New Delhi. The incumbent also receives technical oversight and advice from the Chief of the Gender, Equality, Diversity and Inclusion Branch (GEDI), of the WORKQUALITY Department at ILO headquarters. The incumbent will work in close collaboration with other DWT technical specialists, particularly international labour standards, fundamental principles and rights at work, employers' and workers' activities, labour administration, labour inspection and occupational safety and health, and social dialogue, and with the other ILO Country Offices in the sub-region, as well as UN bodies and other relevant sub-regional and national institutions and initiatives.

Key Duties and Responsibilities

- As primary specialist in the area(s) of [gender, equality, diversity and inclusion, the incumbent, is responsible for substantial segments of the work programme. Identify priorities for/on these technical areas, develop strategies, as well as deliver and coordinate high-quality technical support at sub-regional and national levels to advance the Decent Work Agenda and social justice, taking into account the integration of cross-cutting policy drivers, including international labour standards, social dialogue, gender equality and non-discrimination, and a just transition towards environmentally sustainable economies and societies. Lead work streams/teams involved in this work and ensure the effective management of staff and consultants in accordance with ILO standards, the results-based management framework and through timely and effective use of the Performance Management Framework (PMF) and other feedback mechanisms, as applicable.
- Review and facilitate the strengthening and effective implementation of inclusive institutional, legal and policy frameworks. Provide expert policy and technical advice in the areas of gender, equality, diversity and inclusion to ILO constituents and other concerned stakeholders with a view to promoting the formulation of inclusive and gender-responsive

policies and programmes, and their impactful implementation and monitoring to ensure equitable outcomes. Promote relevant international labour standards.

- Support ILO constituents in identifying their needs and provide adequate technical support, including through comparative policy analyses. Facilitate the effective participation and advocacy role of employers' and workers' organizations in policy design, implementation and evaluation of decent work programmes and projects.
- Provide technical inputs to the design and implementation of Decent Work Country Programmes (DWCPs) as well as UN and other development cooperation frameworks. Participate in multidisciplinary initiatives, efforts, developments, plans, reviews, activities with a view to ensuring an integrated approach for the delivery of the Decent Work Agenda.
- Initiate, design, conduct/commission and/or coordinate innovative and gender-mainstreamed research and analysis that meets the evolving needs of constituents and other key stakeholders in the world of work area and leads to the formulation of policy advice, recommendations, policy and technical guidelines, and the development of new and enhancement of existing methodologies and concepts to address gender equality issues, including with respect to (but not restricted to) the following areas: the care economy, the distribution of paid and unpaid work, the harmonization of work and family responsibilities, gender sensitive statistics, equal remuneration for work of equal value and the gender pay gap, care policies and measures including maternity protection, violence and harassment including sexual harassment, quantity and quality of women's participation in labour market, multiple discrimination/intersectionality and decent work for domestic workers and home based workers.
- ...

Required qualifications

- Education: Advanced level university degree (Master's or equivalent) in social sciences, public administration, law or economics with demonstrated technical expertise in the field of gender equality or other relevant field. A first-level university degree (Bachelor's or equivalent) in one of the afore-mentioned fields or other relevant field with an additional two years of relevant experience, in addition to the experience stated below, will be accepted in lieu of an advanced university degree.
- Experience: At least seven years of experience in the world of work issues with a particular focus on gender equality and non-discrimination, including at the international level.
- Languages: Excellent command of English. A working knowledge of another working language of the Organization (French, Spanish) or a language of the South Asia or Asia-Pacific region would be an advantage.
- Knowledge and technical/behavioural competencies: Excellent knowledge and understanding of theories, trends and approaches in the area(s) of gender, equality, diversity and inclusion including gender policies and issues, gender analysis, and mainstreaming gender into projects and programmes with the ability to plan, coordinate and guide the development and implementation of new concepts policies, techniques and procedures in response to evolving technical needs.

  ...