The Review of International Organizations (2023) 18:693–724
https://doi.org/10.1007/s11558-023-09488-2

Institutional Overlap in Global Governance and the Design of Intergovernmental Organizations

Bernhard Reinsberg[1,2] · **Oliver Westerwinter**[3]

Accepted: 21 February 2023 / Published online: 28 March 2023

Abstract

How does the increasingly dense network of overlapping institutions in global governance affect the design of intergovernmental organizations (IGOs)? We argue that institutional overlap can unleash mimicking dynamics whereby states design new IGOs using the design of existing organizations that engage in similar issue areas and perform similar governance tasks for similar member states as templates. Using design templates from the reference group of overlapping institutions is a strategy for boundedly rational designers in situations of complexity because it reduces uncertainty and lowers the costs of identifying suitable institutional solutions. Overlap therefore increases the design similarity between new and pre-existing IGOs, specifically where pre-existing organizations have institutional designs that made them endure. Introducing a new measure of institutional overlap in global governance and new data on the design and governance tasks of the 534 IGOs from the Correlates of War Project, we corroborate our argument using regression analyses. Our results hold important lessons for theories of institutional design, regime complexity, and global governance more broadly.

Keywords Intergovernmental organizations · Institutional overlap · Institutional design · Regime complexity · Global governance

Author Contributions Author contributions to research design and conceptualization: B.R. (50%), O.W. (50%); statistical analysis: B.R (70%), O.W. (30%); writing: B.R. (40%), O.W. (60%). The order of authors is chosen alphabetically.

Responsible Editor: Axel Dreher

✉ Bernhard Reinsberg
bernhard.reinsberg@glasgow.ac.uk

[1] School of Social and Political Sciences, University of Glasgow, 40 Bute Gardens, Glasgow G12 8RT, UK

[2] Centre for Business Research, University of Cambridge, Cambridge, UK

[3] Independent Researcher, St. Gallen, Switzerland

1 Introduction

In many issue areas of world politics, international cooperation is governed by a dense network of overlapping institutions (Dorussen & Ward, 2008; Greenhill & Lupu, 2017; Ingram & Torfason, 2010). Issues, such as climate change, global health, and trade, once governed by relatively disconnected international rule sets, are today governed by a plethora of agreements and organizations that intersect with one another in multiple ways (Alter & Meunier, 2009; Alter & Raustiala, 2018; Raustiala & Victor, 2004). Intergovernmental organizations (IGOs) are at the core of this networked governance architecture and their creation, design, and performance is shaped by the institutional context in which they are embedded (Kahler, 2021).

Despite broad acknowledgement of the importance of overlap for the lives of IGOs, we know little about how it affects their institutional design. In addressing this gap, we study the effect of institutional overlap on the convergence of institutional designs among IGOs. A better understanding of IGO design similarities helps researchers to determine the likelihood of cooperation and conflict among organizations and the effectiveness of international cooperation (Betts, 2013; Biermann & Koops, 2017; Clark, 2021; Westerwinter, 2022). We argue that overlap can provide the basis for mimicking dynamics in global governance whereby states design new IGOs using the designs of existing organizations that engage in similar issue areas and perform similar governance tasks for their member states as templates (Biermann, 2008; Brosig, 2011; Hofmann, 2011; Kalyanpur & Newman, 2017). States—as boundedly rational institutional designers with limited cognitive capabilities and information constraints acting under uncertainty (Jupille et al., 2013)—assess the combinations of design elements that have been used in the past to structure organizations with a similar policy focus, governance tasks, and memberships, and borrow these institutional components to craft new IGOs. We expect states to mold new IGOs especially based on the design templates of similar pre-existing organizations that are still alive—which designers take as an indicator of organizational success (Debre & Dijkstra, 2021; Eilstrup-Sangiovanni, 2020; Gray, 2018). Borrowing from the existing stock of past institutional designs results in a convergence of designs across overlapping IGOs.

We test our argument using a new measure of institutional overlap in global governance and new data on the institutional design and governance tasks of the 534 IGOs from the Correlates of War (COW) Project (Pevehouse et al., 2021). Using directed IGO dyads as the unit of analysis, we find that overlap between new and existing organizations has steadily declined in the full sample of IGOs in 1945–2014. This finding raises questions about extant case study work which highlights increasing overlap among IGOs (Betts, 2013; Gehring & Faude, 2014; Hofmann, 2011; Raustiala & Victor, 2004), but resonates with more recent studies which find that states not always desire more overlap (Eilstrup-Sangiovanni, 2022; Fioretos, 2021). It also underscores the importance of systematic measurement and data that includes information on a broader set of IGOs in advancing our understanding of institutional complexity in global governance. We also

observe convergence of institutional designs of new and existing IGOs throughout the period covered by our data (1815–2014).

Our statistical analysis shows that overlap between new and existing IGOs is correlated with the similarity of their designs. As new IGOs overlap more with pre-existing organizations, states opt for similar designs. This holds particularly for successful legacy IGOs that are still alive when a new organization is created. Furthermore, design convergence is more consistently associated with overlap of governance tasks and issue areas than with intersecting memberships. This indicates that states draw information from overlapping IGOs more indirectly—by surveying pre-existing organizations with similar governance tasks—rather than obtaining it more directly through overlapping memberships. By contrast, we find little evidence for an association between shared issue areas of new and existing IGOs and their design similarity, which we would expect if states, as highlighted by rational design theory, crafted new organizations in response to cooperation problems.

Our theory about the contextual design of new IGOs is related to and complements the Use-Select-Change-Create (USCC) framework introduced by Jupille et al. (2013). While their framework provides a detailed theoretical lens to understand the whole set of states' institutional choices when they face a new problem they want to address through multilateral cooperation, our contextual design theory focuses on the last stage of this sequence of choices; namely, institutional creation. Our theory provides a detailed look at how states design new IGOs once they have reached the point where they decide to create a new organization.[1] Presuming that states may create IGOs for reasons other than a desire for alternative institutional designs, such as power politics (Helfer, 2004; Morse and Keohane 2014; Jupille et al., 2013), they may still find the designs of existing IGOs useful to address the problem they seek to govern and therefore look toward the features of overlapping existing IGOs to inform their design choices for new organizations.

Combining two disconnected strands of literatures on regime complexity and institutional design, we highlight two main contributions of our study. First, by locating the origin of the institutional design of IGOs in their overlap with pre-existing organizations, we join recent works emphasizing the importance of the institutional environment for the design of organizations (Copelovitch & Putnam, 2014; Grigorescu, 2010; Jupille et al., 2013). By focusing on institutional overlap as main explanatory variable, we overcome the focus on the design of singular organizations in the rational design literature, which has become problematic in light of increasingly dense institutional spaces. Despite the recognition that institutional designers do not operate in a vacuum, empirical analyses have lagged behind theoretical advances with regards to institutional context. While recent work on the design

[1] At first glance, our argument that states choose the structural features of new organizations drawing on the designs of overlapping existing IGOs seems to be at odds with the USCC framework. After all, why would states create new organizations that are similar in terms of their design when they concluded that a new organization is needed? This critique overlooks that states have multiple reasons for creating IGOs, of which the desire for alternative designs is only one. We thank an anonymous reviewer for encouraging us to engage with this question.

similarity of preferential trade agreements (Baccini et al., 2015) and copying among international agreements (Allee & Elsig, 2019; Clark & Pratt, 2022) comes closest to ours in spirit, these studies are confined to a single policy domain and thus do not allow for comparisons across issue areas. Similarly, influential work on Europeanization—discussing how new regional integration projects emulate the design of the European Union (Börzel & Risse, 2012)—is necessarily limited in its geographical scope and therefore poses challenges for generalizations across the larger population of IGOs.

Second, we introduce a new measure of institutional overlap in global governance, which we conceptualize as the overlap of IGO memberships, issue areas, and governance tasks. A key advantage of our measure over existing operationalizations is that it integrates the main dimensions that theoretical discussions of regime complexity have highlighted as causally important (Busch 2007; Henning and Pratt 2021; Hofmann, 2011; Lipscy, 2017; Raustiala & Victor, 2004; Urpelainen and Van de Graaf 2015). Existing quantitative measures of overlap focus on intersecting memberships or issue areas (Copelovitch & Putnam, 2014; Haftel & Hofmann, 2019; Haftel & Lenz, 2022; Sommerer & Tallberg, 2019), omitting the critical dimension of governance tasks. Our measure addresses this shortcoming and is the most comprehensive measure of institutional overlap in global governance to date. It allows researchers to systematically map levels of institutional overlap across issue areas and over time, which facilitates comparative empirical research. Given that most studies on the topic are based on single or small numbers of cases in particular issue areas, this is an important contribution (Henning, 2017; Kelley, 2009; Keohane & Victor, 2011).

By employing new disaggregated measures of institutional context, our work also offers insights into how overlap shapes design similarity. We find that the positive relationship between overlap and design similarity is driven by states using the information contained in the designs of pre-existing organizations indirectly by examining their governance task portfolios rather than directly through overlapping memberships.

The paper proceeds as follows. In the next section, we develop our theoretical argument about how institutional overlap between existing and new IGOs can be a transmission belt for the convergence of institutional designs. The third section presents our research design. In the fourth section, we present our empirical results. The final section concludes.

2 Institutional Overlap and the Design of New IGOs

2.1 Design-in-context in world politics

Students of international cooperation have acknowledged the importance of institutional overlap in shaping the design of international institutions (Copelovitch & Putnam, 2014; Duffield, 2003; Hofmann, 2011; Jupille et al., 2013; Westerwinter, 2022). Studies argue that states do not create new institutions in a vacuum but consider the extant landscape of global governance institutions (Abbott et al., 2016;

Copelovitch & Putnam, 2014; Kalyanpur & Newman, 2017). They emphasize how pre-existing institutions can facilitate future cooperation by reducing uncertainty, generating trust, and providing institutional focal points, which inform states in their decisions about the design of new cooperation (Copelovitch & Putnam, 2014; Hofmann, 2011; Jupille et al., 2013). Our argument builds on this productive line of research. We start from the observation that, under conditions of increasing institutional density, states, when making decisions about how to design new IGOs, do not start from a clean slate but build on and respond to the existing institutional architecture of global governance. In such situations, the ideas, interests, and experiences of government officials are already aligned around some set of existing institutions which they consider when negotiating the creation of new IGOs (Jupille et al., 2013; Raustiala & Victor, 2004). In doing so, we assume, states act strategically, although boundedly rational in the sense that they face cognitive limitations and information constraints, and seek to maximize the benefits and minimize the costs of cooperation considering existing institutional context (Jupille et al., 2013).[2]

We define institutional overlap as the intersection of the governance tasks, memberships, and policy domains of two or more institutions (Hofmann, 2011; Urpelainen & Van de Graaf, 2015). The governance tasks of two institutions can be considered similar if they perform similar tasks, such as knowledge generation, standard-setting, or monitoring, for their member states. The memberships of two institutions intersect if they share some portion of their members. The policy domains of two IGOs overlap if they operate in a similar set of issue areas.

Institutional overlap can emerge from the co-existence of a growing number of international agreements and organizations and an array of informal forms of cooperation among states and non-state actors, including informal intergovernmental organizations (IIGOs) (Vabulas & Snidal, 2013), transgovernmental networks (TGNs) (Slaughter, 2004), and transnational public–private governance initiatives (TGIs) (Westerwinter, 2021). Investigating the consequences of the plethora of overlaps among these different types of global governance institutions is a daunting task. We begin this endeavor by focusing on the overlap among IGOs. IGOs form part of the institutional core of governing many issue areas of world politics (Jupille et al., 2013; Kahler, 2021). They act as focal points (Jupille et al., 2013), orchestrators (Abbott et al. 2015), and managers (Oberthür & Stokke, 2011) of institutional interactions and play important roles in the creation and design of new IGOs (Johnson and Urpelainen, 2014) and other types of institutional arrangements (Abbott & Snidal, 2009; Andonova, 2017). Thus, although overlap among IGOs captures only a portion of all institutional overlaps in global governance, it is an essential portion and consequential for the design of new organizations. In the conclusions, we reflect

[2] While our theoretical discussion focuses on states and government officials as the main agents behind the creation of new IGOs, our argument applies to a broader set of designers that includes representatives of other IGOs (Johnson 2014) and non-governmental organizations (NGOs) with access to IGOs (Tallberg et al. 2014). IGO and NGO personnel involved in the discussions about new organizations can tap into the information contained in the designs of past IGOs and channel this information into the negotiations of new organizations, thereby contributing to design convergence between past and new IGOs.

on how future research may explore overlap among a broader set of global governance institutions.

States look to existing overlapping organizations when deciding which set of institutional design features to adopt for a new IGO (Abbott et al., 2016; Grigorescu, 2010; Hofmann, 2011; Ovodenko & Keohane, 2012; Sommerer & Tallberg, 2019). States that seek to identify the most suitable design combination for a new organization examine the stock of design components and their combinations in pre-existing IGOs that perform similar tasks, in similar policy domains, for similar groups of member states and use these existing design combinations as institutional blueprints (Hofmann, 2011; Kalyanpur & Newman, 2017). In other words, they look at the designs of the "reference group" of overlapping pre-existing IGOs and model new organizations that are meant to fulfill similar tasks in similar policy domains based on these templates (Simmons & Elkins, 2004).

Why would states choose to imitate the designs of overlapping organizations when deciding how to structure new IGOs? Designing the institutional structures of IGOs and matching them to the problem that states seek to address is a time-consuming and challenging task (Abbott & Snidal, 1998; Koremenos et al., 2001; Koremenos 2016). Obtaining high-quality information about the problem under consideration and which combination of design elements are most likely to deliver effective governance and with what distributive consequences is costly and often remains partial even for resourceful governments (De Búrca, Keohane, and Sabel 2014; DiMaggio & Powell, 1983; Jupille et al., 2013; Ovodenko & Keohane, 2012). In other words, uncertainty about effective and otherwise desirable institutional solutions is pervasive among states that negotiate over IGOs based on incomplete information. This uncertainty is further enhanced under conditions of institutional complexity where multiple overlapping organizations are active in governing the same issue domain and interact with one another in various ways. In such situations, matching IGO designs to a given problem is especially challenging because it becomes harder to foresee how overlapping organizations will interact, how these interactions will shape governance outcomes, and how partnering states will respond to the new opportunities to forum-shop among organizations (Jervis, 1997; Orsini et al., 2020). Thus, the uncertainty that states face when designing new IGOs under institutional complexity contains elements of both uncertainty about the state of the world and uncertainty about other states' behavior (Koremenos et al., 2001). This uncertainty reinforces the bounded rationality of states which makes modeling new IGOs based on overlapping existing organizations an attractive strategy for institutional designers.

Modeling the institutional design of new IGOs based on the features of existing organizations that perform similar tasks and engage with similar policy fields allows states to reduce the costs and uncertainty involved in selecting the features of new organizations (DiMaggio & Powell, 1983; Johnston, 2008; Simmons & Elkins, 2004). As aptly stated by DiMaggio and Powell (1983: 156): "in fields characterized by a high degree of uncertainty, new entrants, which could serve as sources of innovation and variation, will seek to overcome the liability of newness by imitating established practices within the field." This imitation sets in motion a dynamic of design mimicking which over time leads to increasing homogenization of designs

among overlapping IGOs (Biermann, 2008; DiMaggio & Powell, 1983). As a result, as the overlap of IGOs increases, their institutional designs converge toward a similar set of features as new IGOs are crafted drawing on the features of existing organizations (DiMaggio & Powell, 1983; Dingwerth & Pattberg, 2009). This relationship between overlap and design convergence can be expected to be particularly pronounced in uncertain and information poor environments (DiMaggio & Powell, 1983; Kalyanpur & Newman, 2017). High uncertainty may originate from a variety of sources, including the complexity of the problems that new IGOs are tasked to address, such as climate change or financial crises, (Búrca et al., 2014; Henning, 2017) and the ambiguity of their mandates (Kalyanpur & Newman, 2017).

Tendencies toward the convergence of institutional designs between newly created and existing organizations can be observed in many cases where two IGOs overlap in their governance tasks, policy domains, and memberships. For example, the African Union (AU) has been modeled with respect to some important institutional design features after the United Nations (UN) and the European Union (EU) (Brosig, 2011). "One can observe that the decision-making bodies in the UN, the EU, and the AU which deal with foreign and security policy (the UN Security Council, the EU Peace and Security Committee, and the AU Peace and Security Council) are structured similarly" (Brosig, 2011: 161). In the area of development, the newly-founded Asian Infrastructure Investment Bank follows the design patterns of legacy multilateral development banks, such as the Asian Development Bank and the World Bank (Ella, 2021). These examples illustrate that institutional designers, as our argument suggests, look regularly toward the structures of overlapping organizations when making decisions about the design features of new IGOs.

2.2 Direct and Indirect Contextual Design

Design similarity through imitation can occur through different pathways. We identify two: direct and indirect contextual design (Biermann, 2008; Grigorescu, 2010; Ovodenko & Keohane, 2012; Simmons & Elkins, 2004; Sommerer & Tallberg, 2019). Under direct contextual design, the convergence of designs is facilitated by overlapping memberships whereby states that participate in both old and new IGOs share their experience with a certain combination of design features for the provision of specific governance tasks and the tackling of particular problems while crafting the new organization. Shared members constitute network links among IGOs (Böhmelt and Spilker 2016; Hafner-Burton et al., 2009) which are "characterized by multiple interaction lines (and) provide an ideal exchange structure for the flow of knowledge across institutions" (Biermann, 2008: 161). This overlap of memberships and the information exchange that can occur through these links acts as a direct transmission belt for design similarity. The more states a new and an existing organization share, the higher the likelihood that information about design features is shared and the architects of the new organization draw on the design components present in the overlapping pre-existing organization (Böhmelt and Spilker 2016; Gehring & Oberthür, 2009; Grigorescu, 2010; Ovodenko & Keohane, 2012).

As a result, the new IGO will adopt a package of design features that resembles the design of the legacy IGO.

The creation of the compliance systems of the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) and the Kyoto Protocol under the United Nations Framework Convention on Climate Change (UNFCCC) provides an illustration of design convergence through direct contextual design (Gehring & Oberthür, 2009). When the UNFCCC was negotiated, those states that were already involved in the Montreal Protocol had made positive experiences with its compliance procedure. They shared these experiences with the other countries participating in the UNFCCC negotiations which shaped their beliefs about the possibilities of this compliance mechanism and eventually facilitated the adoption of the same institutional design feature in the Kyoto Protocol (Oberthür, 2001). Thus, the design of the new institution was shaped by the direct flow of information through overlapping member states between the new and pre-existing cooperative effort.

Design convergence may also happen without direct interactions of the memberships of new and old organizations. Without being involved in both new and old IGOs, states may simply survey the designs of existing organizations that provide similar governance tasks in similar policy fields in search for institutional solutions for the problems they seek to address. They assess the available stock of combinations of design elements (Börzel & Risse, 2012; Gehring & Oberthür, 2009; Kalyanpur & Newman, 2017). Based on this stocktaking, they model new IGOs that set out to address similar tasks in similar domains as the legacy organization based on the older design templates (Biermann, 2008; DiMaggio & Powell, 1983; Hofmann, 2011; Ovodenko & Keohane, 2012). When choosing from the menu of possible design packages, states turn to the functional reference group of pre-existing organizations of the new IGO to indirectly derive information and decide how to tailor its formal structure toward the goals they want to achieve (Elkins and Simmons 2004; Sommerer & Tallberg, 2019).

Hofmann (2011) emphasizes the importance of indirect contextual design in the negotiations over the EU's common security and defense policy (CSDP). Although the institutional structure of the CSDP was a matter of choice among the EU member states, pre-existing institutional structures in the security and crisis management domain were used as templates and informed the range of available options. "NATO represented the most appealing template as it was the most credible and successful security institution around and its membership overlapped significantly with that of the EU" (Hofmann, 2011: 108). As a result, the main bodies of the EU's new institutional architecture—the Political and Security Committee, the European Union Military Committee, and the European Union Military Staff—"were modelled on their NATO counterparts" (Hofmann, 2011: 108). As this example suggests, direct and indirect contextual design are not mutually exclusive but can operate in parallel and complement each other. We explore both pathways of design convergence in our empirical analysis.

To summarize, we argue that if a new IGO performs similar governance tasks in similar policy fields for a similar group of member states as a pre-existing organization, the design of the new organization is more likely to be similar to

the design of the existing organization. In contrast, IGOs that overlap only little or not at all should have less similar institutional features. This discussion yields the following hypothesis:

Hypothesis 1: The more a new IGO overlaps with an existing IGO, the more similar are their institutional designs.

In practice, IGO design similarity under conditions of overlap is rarely perfect. States use the existing stock of design elements creatively and adapt it to the particular governance problem they wish to address as well as the interests and power of the actors involved in creating a new organization (Börzel & Risse, 2012; Gehring & Oberthür, 2009; Kalyanpur & Newman, 2017; Ovodenko & Keohane, 2012). This adaptation of design templates drawn from overlapping IGOs to the specific circumstances of a new IGO opens up room for design differentiation alongside similarity and allows for the avoidance of exact copies of existing organizations. This is illustrated by the similarity of international courts in regional integration systems, particularly in Latin America and Africa, which have emulated the EU's European Court of Justice model, while adapting some of its features to protect the national sovereignty of member states (Alter, 2012).

States are likely to consider the performance of past institutional features when deciding on the design of new organizations. If, for example, states use the information contained in the institutional designs of pre-existing IGOs indirectly by looking at how similar the governance tasks they perform are compared to the new organization they intend to form, then rational states can be expected to pay more attention to the design of past IGOs if these IGOs are considered successful. If they failed, we would expect no effect or possibly even a negative effect as states actively try to avoid a design that performed badly in the past (Simmons & Elkins, 2004). The same holds for the situation in which states directly access information about the design of pre-existing organizations through overlapping memberships. States that are members of both old and new organizations are more likely to share their experiences with previous design combinations if these designs effectively served their intended purposes. One principal and highly visible indicator of the general success of a past institutional solution is its viability (Debre & Dijkstra, 2021; Eilstrup-Sangiovanni, 2020; Gray, 2018). While dead organizations may often be considered failures, IGOs that still exist at the time a new organization is created have managed to achieve at least basic organizational goals and ensured their survival. Thus, when drawing on the design templates of overlapping IGOs, the creators of new organizations can be expected to pay more attention to the designs of those legacy organizations that survived as opposed to those that faded away. We, therefore, hypothesize:

Hypothesis 2: The positive relationship between overlap and design similarity between two IGOs holds more strongly with respect to prior IGOs that are still alive when the new IGO is created.

3 Research Design

To test our hypotheses, we construct a directed dyadic IGO dataset in which the dyads are between any given newly created IGO and all pre-existing organizations. For each directed pair of IGOs, we capture the similarity of their institutional designs and their level of overlap.

3.1 Dependent Variable

To test our hypothesis, we require a measure of IGO design similarity. We define the variable IGO DESIGN SIMILARITY as the similarity between the design vectors of a given new IGO and each of the IGOs that were created up until one year before its creation. Design vectors are five-dimensional sets of binary variables: 1) SECRETARIAT measures whether the founding document of an IGO establishes an independent secretariat; 2) MONITORING captures the presence of an institutionalized monitoring mechanism; 3) ENFORCEMENT accounts for an institutional mechanism to sanction non-compliant behavior; 4) DISPUTE SETTLEMENT records the presence of a procedure to settle disputes, including issues of interpretation; and 5) VOTING records the presence of codified procedures for decision-making. We coded these design features of IGOs based on primary sources, such as their founding treaties and public websites, as well as secondary sources, such as scholarly articles and reports.[3]

These design features are broad traits of IGOs. Naturally, within these categories more nuanced variation exists and is relevant for the operations of organizations. For example, IGOs may have different types of monitoring systems (Dai, 2002) or secretariats with more or less autonomy (Haftel & Thompson, 2006). Nevertheless, our five design variables capture important differences in the formal structures of IGOs that have been highlighted in previous studies (Abbott & Snidal, 1998; Downs et al., 1996; Koremenos et al., 2001; Smith, 2000). Other recent studies of IGO similarity also use binary design features as constituent elements of their similarity indices (Jetschke et al., 2021). 91.6 percent of the IGOs in our data have a secretariat.[4] Dispute settlement, monitoring, and enforcement are less common, with 30.5, 24.0, and 16.9 percent of the IGOs in the data having these design features. 56.0 percent of IGOs codify decision-making procedures (Table A1).

To obtain dyadic design similarities, we compute the cosine similarity of the two five-dimensional design profiles for any pair of IGOs:

[3] The online appendix provides more detail on how the institutional design features of IGOs were coded. Our selection of these five indicators builds theoretically on the existing literature and empirically on confirmatory factor analysis, which shows that all five design features load onto a common latent factor (Table A2).

[4] While having a secretariat is in principle a definitional feature of IGOs according to the COW Project, coding ambiguities result into the inclusion of a small number of organizations into the data that lack permanent such administrative support structures (Jud, Westerwinter, and Wright 2022).

$$D_{ij} = \frac{\sum_{k=1}^{K} d_i(k) d_j(k)}{\sqrt{\sum_{k=1}^{K} d_i^2(k)} \sqrt{\sum_{k=1}^{K} d_j^2(k)}}$$

where k is an index running through the five IGO design elements, and $d(k)$ is an indicator function for whether an IGO has the design element k. The subscripts i indicate a given IGO at its founding moment, and j runs over all pre-existing IGOs. Cosine similarity ranges between zero (completely different designs) and one (completely identical designs). Thus, a higher value indicates that the design of a new IGO is largely inspired by the pre-existing organization. Ranging empirically from 0 to 1 in our sample, DESIGN SIMILARITY has a mean of 0.665 and a standard deviation of 0.229. An example of an IGO pair with low design similarity is the dyad between the Organization of Arab Petroleum Exporting Countries (OAPEC) and the Economic Community of West African States (ECOWAS) (0.447). Both have a secretariat, but only ECOWAS has all remaining design features while OPAEC has not. An example of a dyad with high design similarity are the Multilateral Investment Guarantee Agency (MIGA) and the International Fund for Agricultural Development (0.894). Both have a secretariat and stipulate provisions for decision-making, dispute settlement, and enforcement, but only MIGA has a monitoring mechanism.[5]

Figure 1 plots the distribution of DESIGN SIMILARITY over time across decades. In the total sample, IGO design similarity has remained relatively stable throughout the period from 1815 to 2014. Looking at the median, IGO design similarity was lower only for IGOs created in 1985–94. In terms of inter-quartile spread, the IGOs created during 1945–54, 1965–74, and 1985–94 were generally less similar to their predecessors than in other periods.

In the appendix, we explore the evolution of IGO design similarity for different subsets that of theoretical interest for students of world politics. We find similar patterns in the evolution of IGO design similarity across issue areas (Figure A1). We focus on trade and commerce, finance, development, and environment. While median IGO design similarities are stable over time for development and the environment, they have first increased in finance until the mid-1970s and declined thereafter, coinciding with the end of the Bretton Woods era. In trade, median design similarity has been high throughout, but was particularly high for trade IGOs established in 2005–14, coinciding with the stalemate at the WTO and the spread of (similar) alternatives. These aggregate trends conceal outliers with more limited overlap, such as in the area of finance where states have experimented with new combinations of institutional design features (Henning, 2017). In addition, we differentiate IGOs by geographical scope (Figure A2). Here we observe relatively stable median IGO design similarities and somewhat increasing diversity in the designs of regional organizations (left panel of Figure A2). These patterns are broadly in line with recent work on the similarity of regional IGOs (Jetschke et al., 2021). For global IGOs, we observe an increase in design similarities throughout most of our

[5] We reproduce the calculation of design similarity for this example. The design vectors are: $d_{MIGA} = (1,1,1,1,1)$, $d_{IFAD} = (1,1,1,1,0)$. Hence, $D = (1+1+1+1+0)/(\sqrt{5} * \sqrt{4}) = 0.894$.

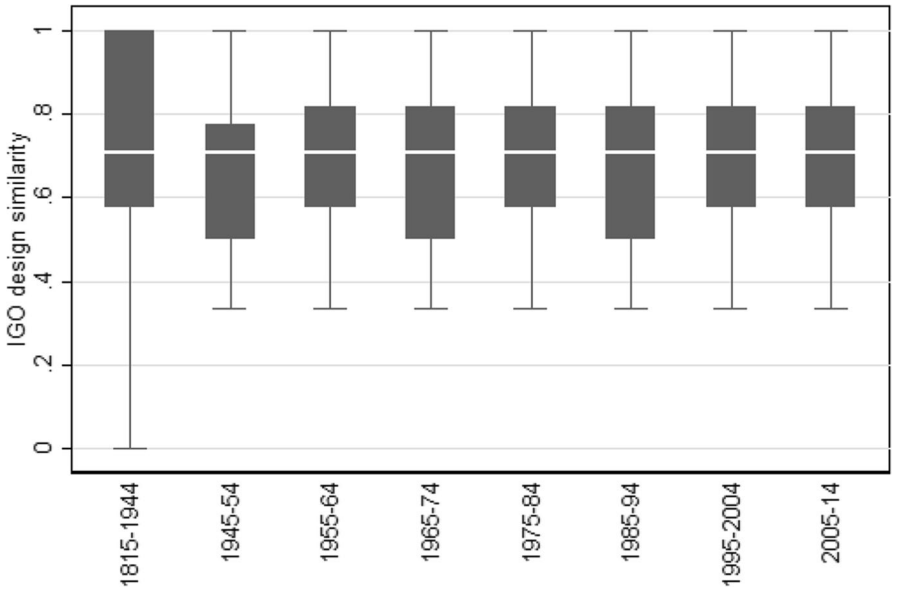

Fig. 1 Average IGO design similarity, 1815–2014. *Notes*: White lines in boxes show the median level of IGO design similarity for those IGOs created in the time period shown. Gray boxes indicate the interquartile range

observation period, with a peak in the most recent period, indicating a relatively continuous convergence of design portfolios (right panel of Figure A2). Finally, we compare interventionist IGOs and non-interventionist IGOs (Boehmer et al., 2004). For non-interventionist IGOs, we find a gradual shift in the over-time distribution toward more similar designs, while no clear patterns are discernible for interventionist IGOs, which have a generally higher median IGO design similarity.

3.2 Key Predictors

We introduce a new measure of institutional overlap in global governance, anchored in the regime complexity literature (Alter & Raustiala, 2018; Raustiala & Victor, 2004; Urpelainen and Van de Graaf 2015; Young, 1996). We conceptualize this measure as the overlap of IGO memberships, governance tasks, and issue areas.

The notion of overlap is central to our understanding of institutional complexity in global governance. In their seminal article, Raustiala and Victor (2004: 279) define a regime complex as "an array of partially overlapping and nonhierarchical institutions governing a particular issue area." In another influential contribution, Orsini et al. (2013: 29) develop a definition of a regime complex as a "network of three or more international regimes that relate to a common subject matter; exhibit overlapping membership; and generate substantive, normative, or operative interactions recognized as potentially problematic whether or not they are managed effectively." While these definitions differ in several ways, they share a common conceptual core: Institutional

complexity captures a situation in which the governance authority of two or more institutions overlap.

This suggests two aspects that are constitutive of institutional overlap: Overlap in policy focus and overlap in membership. Overlap in policy focus means that two IGOs contribute to the governance of the same issue area. For example, the World Trade Organization (WTO) and the EU overlap in their focus on governing trade relations. Similarly, the UN and the AU are both active in the governance of international peace and security. Overlapping membership describes a situation in which the same states are members of two IGOs. For example, the EU and the OECD share large parts of their membership and so do the Organization for American States and the Andean Community.

A third feature that is fundamental for understanding institutional complexity in world politics is the overlap of the functions or governance tasks that IGOs perform. In their pioneering contributions, Young (1996) and Rosendal (2001) state that "overlap implies that the functional scope of one regime protrudes into the functional scope of others" (Rosendal, 2001: 96). More recent studies also highlight intersecting governance tasks, i.e. institutional functions, as a central dimension of overlap (Hofmann, 2011; Urpelainen and Van de Graaf 2015). In the regime complex literature, task overlap among the constituent elements of a complex is identified as one of the key characteristics that make the strategic environment of regime complexes distinct from situations governed by integrated regimes (Alter & Meunier, 2009; Alter & Raustiala, 2018; Raustiala & Victor, 2004). Yet, no existing quantitative measure of overlap in global governance incorporates this critical dimension of intersection between IGOs. For example, the Coalition for Rainforest Nations and the Cocoa Producers Alliance have similar portfolios of governance tasks. They both engage in standard-setting, standard implementation, and information collection and dissemination. Conversely, the Commission for Technical Cooperation in Africa South of the Sahara and the Common Fund for Commodities have entirely orthogonal task portfolios. While the former focuses on service provision and information collection and dissemination, the latter is a standard-setting and implementation IGO.

For any given pair of a new and a pre-existing IGO, our dyadic OVERLAP measure is calculated in four steps. First, we compute the membership overlap between the new and old IGO as the share of common member states between them. Based on information on state memberships in IGOs from the COW IGO data (Pevehouse et al., 2021), we count the number of states that are members of both organizations and divide by the total number of (unique) states that are members in any of the two organizations. More formally, for any IGO dyad, we compute:

$$M_{ij} = \frac{\sum_{n=1}^{N} \left(s_i(n) s_j(n)\right)}{\sum_{n=1}^{N} max\left(s_i(n), s_j(n)\right)}$$

where $s_i(n)$ and $s_j(n)$ are indicator functions for the membership of state n in IGO i and IGO j, respectively, and N is the number of states in the international system. M_{ij} has a minimum of zero indicating two IGOs with completely disjoint sets of

member states and one for two IGOs with identical memberships. We refer to this measure as membership overlap.

Second, governance task overlap refers to the cosine similarity of the profiles of non-mutually exclusive governance tasks of two IGOs. A governance task profile is a tuple of eight dummies, capturing whether the organization has a mandate respectively for 1) information-gathering, 2) agenda-setting, 3) service provision, 4) funding, 5) capacity-building, 6) standard-setting, 7) policy implementation, and 8) monitoring (Abbott & Snidal, 2009; Avant et al., 2010; Westerwinter, 2021).[6] Formally, we compute this measure as follows:

$$G_{ij} = \frac{\sum_{k=1}^{K} g_i(k) g_j(k)}{\sqrt{\sum_{k=1}^{K} g_i^2(k)} \sqrt{\sum_{k=1}^{K} g_j^2(k)}}$$

with k being the running index over the K governance tasks and $g_i(k)$ and $g_j(k)$ being indicator functions for whether IGOs i and j are active in governance task k, respectively. G_{ij} ranges from zero (indicating orthogonal task portfolios) to one (identical portfolios). Importantly, while there may be some overlap between organizations that perform monitoring as a governance task and have a monitoring mechanism as an element of their institutional design, the two variables are conceptually and empirically distinct.[7] IGOs that monitor implementation of a specific international rule or standard (monitoring as governance task) may or may not have an institutionalized monitoring mechanism for their member states in place (monitoring as design feature).[8]

Third, issue overlap is computed as the cosine similarity of the profiles of the issue areas in which two IGOs are active. An issue profile is a 9-tupel of binary issue areas, drawn from the COW IGO data (Table A3). Similar to other recent datasets on international institutions (Hooghe, Lenz, and Marks 2019; Koremenos 2016; Tallberg et al. 2014), we distinguish nine major issue areas in which IGOs can operate: Security, environment, health, human rights, development, trade and commerce, finance, social affairs, and technical affairs.[9] Formally, the computation of issue area overlap I_{ij} is similar to the formula for G_{ij}. As Table A3 in the online appendix

[6] The online appendix provides more detail on how the governance tasks that IGOs perform were coded. 36.9 percent of the IGOs in our data engage in standard-setting and rule-making, 34.8 percent implement international standards and rules, 21.7 percent engage in monitoring, 19.6 percent are funding organizations, 28.1 percent contribute to capacity-building, 60.8 percent provide services, 50.2 percent are involved in agenda-setting, and 81.5 percent provide information.

[7] The correlation between the two variables in our sample of 534 IGOs is low ($\rho = 0.235$).

[8] Nevertheless, we acknowledge concerns about the possible overlap of monitoring as governance task and design feature and its implications for our findings. To address these concerns, we estimate models that exclude monitoring from our design similarity measure as part of our robustness analysis.

[9] The online appendix provides more details on how the issue areas in which IGOs are active were coded. 20.4 percent of the organizations in our data contribute to the governance of environmental problems, 29.6 percent deal with problems related to trade and commerce, 36.7 percent focus on development issues, and 24.9 and 41.2 percent address issues related to technical and social affairs. Finance, health, security, and human rights IGOs are less frequent constituting 11.6, 8.2, 6.2, and 3.6 percent of the organizations in our data respectively.

shows, membership overlap, governance task overlap, and issue overlap are virtually orthogonal, with Pearson correlation coefficients ranging from -0.002 to 0.056. Using factor analysis, we confirm that the three dimensions do not have any common variation that would warrant combining them into a single factor (Table A4).

Finally, we define OVERLAP between a newly created IGO *i* and a pre-existing IGO *j* as the product of their membership overlap, governance task overlap, and issue overlap. The rationale for this measure builds on the intuition that all three kinds of institutional overlaps must be present for overlap to exert an effect on the design of IGOs (Urpelainen and Van de Graaf 2015). Formally, we compute:

$$Overlap_{ij} = M_{ij} \bullet I_{ij} \bullet G_{ij}$$

OVERLAP varies between 0 for IGOs that are completely unique in terms of their membership, governance task portfolio, and issue area portfolio compared to a given legacy IGO, and 1 for IGOs that have identical memberships, task portfolios, and issue area portfolios with this legacy organization. Values in between these two extremes capture degrees of overlap. In our sample, OVERLAP has a mean of 0.010 and a standard deviation of 0.036. The average overlap of new IGOs with prior organizations is small because of its composite nature: limited overlap in either of the three dimensions causes overlap to be small, even if there is significant overlap in the other dimensions. For example, an IGO dyad with low overlap are the Montreal Protocol Multilateral Fund Secretariat and the Niger River Commission (OVERLAP = 0.008). While both are environmental IGOs that overlap in some functions, their membership is relatively disjunct, in part because the Niger River Commission is a regional organization. An example of an IGO pair with high overlap are the WTO and the World Intellectual Property Organization (WIPO) (OVERLAP = 0.448), given their near-universal membership, functional similarity, and issue area similarity. In this particular case, overlap was engineered through regime-shifting of intellectual property rights protection from the WIPO into the newly-created WTO, notably by the United States (Helfer, 2004). Table A5 in the online appendix shows the top-20 most overlapping pairs of new and pre-existing IGOs in our data.

We use OVERLAP as main predictor to test our hypotheses on the effect of institutional overlap on IGO design similarity. We also disaggregate OVERLAP into two components, examining the individual effects of MEMBERSHIP OVERLAP and FUNCTIONAL OVERLAP—the product of overlaps in governance tasks and issue areas.[10] This disaggregation allows us to start exploring whether states use the information contained in the designs of past institutions in a more direct or indirect way. If institutional overlap is related to design convergence based on direct information transmission through shared members, we would expect a positive correlation between the membership overlap and the design similarity of new and pre-existing IGOs. If states use information from the designs of past IGOs more indirectly by surveying the design features of existing organizations that perform similar tasks in similar

[10] As suggested by Figure A7 in the online appendix, the correlation between membership overlap and functional overlap is low ($\rho = 0.011$).

issue areas, this would suggest a positive relationship between functional overlap and design similarity. Table A6 in the online appendix provides an overview of our key measures along with descriptive statistics.

Figure 2 plots OVERLAP averaged over the IGOs created in a given decade. With respect to all IGOs, we find that OVERLAP first declines relatively fast between 1945–1964 before stabilizing in the mid-1960s. In 2005–14, IGO overlap has declined further. These patterns suggest that overall IGOs have become increasingly diversified.

In the appendix, we explore the evolution of IGO overlap among pertinent subsets of IGOs. Looking across issue areas, we find broadly the same characteristic pattern of declining average overlap, albeit starting from different absolute levels (Figure A4). Furthermore, overlap decreases considerably in two long periods in finance (1945–84 and 1985–2014), interrupted only by a sudden increase in overlap in between. In all issue areas, except for the environment, overlap is lowest in the most recent period. Distinguishing IGOs by geographical scope, we find the same decline of overlap for regional IGOs and global IGOs (Figure A5). For regional IGOs, the drop in overlap occurs in 1955–64, while for global IGOs, the drop occurs in 2005–14. Finally, for interventionist IGOs, overlap patterns do not follow the general pattern. Instead, we find an increase in overlap in 1995–2004, the most recent period with available data (Figure A6).

Together, these descriptive findings suggest that overlap among IGOs has declined over the past decades. As Figure A8 in the online appendix shows, this decline is not driven by the creation of new organizations with increasingly larger

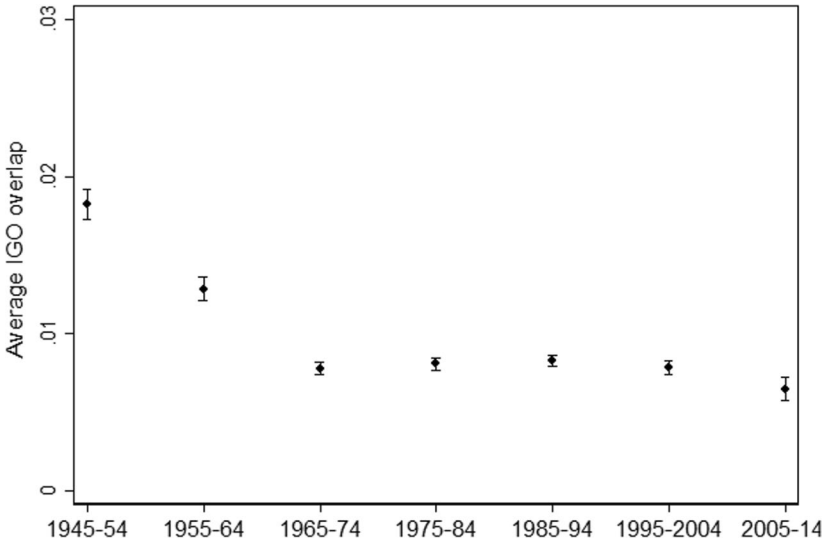

Fig. 2 Average IGO overlap, 1945–2014. *Notes*: Points show the average IGO overlap and whiskers the 95%-CI of the mean. Note that average overlap of all IGOs that existed at any given point in time may be different from the average overlap of those IGOs created in a given decade

memberships, broader governance task portfolios, and larger policy scopes. This finding questions case study scholarship which portrays overlap among IGOs as increasing (Gehring & Faude, 2014; Gomez-Mera, 2015; Raustiala & Victor, 2004) but resonates with more recent studies which find that states may not always desire more overlap and that IGO overlap may in some issue areas have been more pronounced in the past than today (Eilstrup-Sangiovanni, 2022; Fioretos, 2021). Given that these case studies often focus on prominent organizations, such as the WTO (Gehring & Faude, 2014), NATO (Hofmann, 2009), the EU (Hofmann, 2011), or the International Monetary Fund (Henning, 2017), their finding of increasing institutional overlap is likely to be driven by the focus on prominent cases of major, interventionist organizations rather than reflecting a more general trend in the larger population of IGOs. This highlights the importance of systematic measurement and the use of data that includes different types of IGOs for advancing our understanding of institutional overlap in global governance.

3.3 Control Variables

Our substantive control variables are located at different levels of analysis and reflect commonly-discussed alternative accounts of institutional design in world politics.

At the dyad level, we always control for the number of shared issue areas between IGO *i* and IGO *j*. This captures the main rival explanation for IGO design similarity based on rational design theory according to which similar cooperation problems and the resulting functional demands lead to similar institutional designs (Koremenos et al., 2001). In additional robustness checks, we also measure the number of shared sub-issues of two IGOs which takes into account the possibility that cooperation problems are more likely to be similar within narrower sub-issue areas.[11] Data on IGO issue areas and sub-issue areas comes from the COW IGO data (Pevehouse et al., 2021). Furthermore, we control for whether an IGO *i* is based in the same region as a pre-existing IGO *j* (Sommerer & Tallberg, 2019). Regional identifiers are exclusive, so that a given organization is located in either Africa, Asia and Oceania, the Middle East, Europe and North America, Latin America, or operates globally.[12] We code organizations that have members from more than one region as global and those that have members from only one region as based in that particular region. In additional model permutations, we include the difference in the number of major powers—the G7 countries, China, and Russia—between IGO *i* and IGO *j* as well as the policy distance of the member states of both IGOs. The latter is computed as the difference in the average ideal point estimates among the member states of both organizations based on member state voting behavior in the UN General Assembly (Bailey et al., 2015).

[11] Personal communication with Barbara Koremenos, 29.04.2021.

[12] Regional groupings are based on the nine COW regions but we consolidate some to make them more similar to those used by the UN/World Bank. Results do not hinge on this choice.

At the IGO level, we distinguish between covariates for IGO *i* and IGO *j*, with IGO *i* being the newly created organization and IGO *j* being a pre-existing organization. For IGO *i*, unless we include fixed effects for IGO *i*, we control for the (logged) number of member states, the size of the state system, and dummies for issue areas and governance tasks. Fixed-effect estimation is our default choice because it captures any unobserved confounder that does not vary across IGO *i*. Moreover, we control for decennial period effects in all models, capturing common trends in IGO design.

We also include covariates for IGO *j*. We use the founding year, considering that the degree to which states will model new IGOs based on previous IGOs may depend on how long those IGOs have been existing. Furthermore, we control for the number of major powers and the (logged) number of member states of the legacy organization to test whether IGO design convergence is affected differently by prior IGOs with powerful members and larger IGOs.

We measure design similarity and control variables at the foundational year of an IGO, which in our view provides the cleanest test of our arguments. Nonetheless, this choice is not without its challenges. One (albeit unlikely) challenge arises from evolving IGO designs that respond to changes in overlap.[13] The other challenge is measurement error in overlap to the extent that existing IGOs expanded their memberships, policy scope, or governance functions over time. We are willing to accept these potential measurement errors because institutional variables are relatively slow-moving. Table A7 in the online appendix presents summary statistics for all dyadic variables included in our main analysis.

4 Results

To begin, we plot the relationship between IGO overlap and IGO design similarity in the raw data. Figure 3 shows that the association is far from perfect, but greater overlap tends to be associated with greater similarity in IGO designs. This is also confirmed by a simple linear regression fit through the data. We now scrutinize this relationship using linear multivariate regression.[14]

4.1 Main Results

Table 1 presents our first set of results where different columns represent models with different sets of controls. We find a robust positive correlation between overlap

[13] We measure issue area, design, and governance task variables for 2014 and other covariates in the founding year of an organization. This yields a clean test of our design convergence hypothesis. However, it may induce some measurement error because IGO designs, may have evolved over time. We acknowledge this limitation but argue that the resultant measurement error is small given that institutional designs are persistent over time (Shanks, Jacobson, and Kaplan 1996; Jupille, Mattli, and Snidal 2013; Abbott, Green, and Keohane 2016). Furthermore, the alternative of collecting covariate data for the most recent year available (Hooghe and Marks 2015) seems less plausible to us as it assumes that rapid institutional change is possible and would indeed respond to contemporary factors.

[14] We verify that the distributional assumptions of OLS estimation are met (Figure A9).

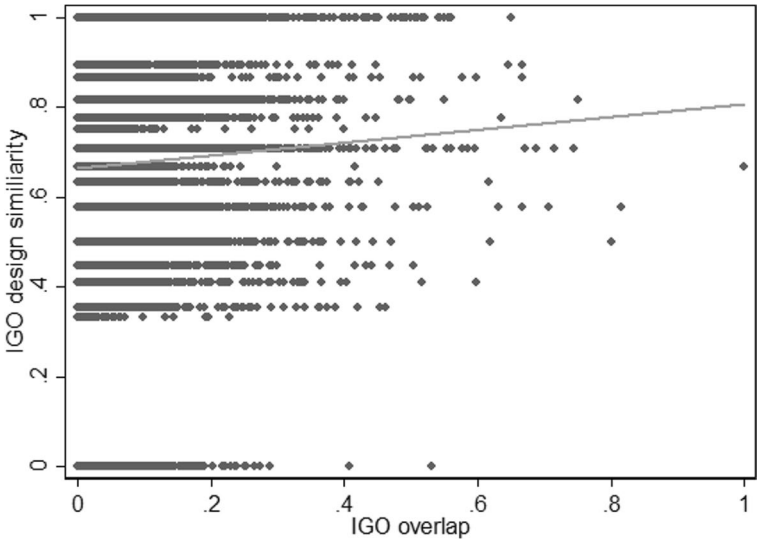

Fig. 3 IGO overlap and IGO design similarity

and IGO design similarity. In substantive terms, based on model 1 we find that an increase in overlap by one standard deviation is associated with an increase in design similarity by up to 0.004—equivalent to 1.92 percent of a standard deviation of that variable ($p < 0.001$). For a change from minimum to maximum overlap, this effect would be 0.118 (95%-CI: 0.068–0.168)—equivalent to 53.5 percent of a standard deviation ($p < 0.001$). To illustrate this substantive effect, consider the case of three

Table 1 Determinants of IGO design similarity

	(1)		(2)		(3)	
IGO design similarity						
Overlap_{ij}	0.118***	(0.025)	0.124***	(0.026)	0.079*	(0.033)
$\text{Number of shared issue areas}_{ij}$	0.005***	(0.001)	0.004*	(0.002)	0.005*	(0.002)
$\text{Shared region}_{ij}$	-0.001	(0.002)	0.002	(0.002)	0.002	(0.003)
Start year_{j}			-0.002***	(0.000)	-0.001***	(0.000)
$\text{Number of major powers}_{j}$			-0.001	(0.000)	0.003***	(0.001)
$\text{Number of member states}_{j}$			-0.002°	(0.001)	0.003	(0.002)
$\text{Difference in major powers}_{ij}$					0.003***	(0.000)
$\text{Difference in ideal points}_{ij}$					-0.001	(0.001)
Fixed effects	Yes		Yes		Yes	
Time period dummies	Yes		Yes		Yes	
Observations	107,627		92,365		46,783	
Within-R2	0.159		0.160		0.142	

Linear regression with fixed effects on IGO *i*. Robust standard errors clustered on IGO *i* in parentheses. Significance levels: ° $p < 0.1$ * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

trade organizations: Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), and World Trade Organization (WTO). Despite overlap of governance tasks and issue areas, their overlap with the EU is zero (for COMESA and EAC) or small (for the WTO), due to non-overlapping membership. If EAC, COMESA, and WTO were formed exclusively by EU member states, design similarity would be 0.04 index points higher (95%-CI: 0.02–0.06). This finding is consistent with our argument that in their decisions about the design of new IGOs, states use the design of overlapping existing organizations that serve similar groups of states and perform similar functions in similar policy fields as templates when selecting the features of new organizations.

In terms of our substantive control variables, we find a positive relationship between the number of shared issue areas between IGO *i* and IGO *j* and their design similarity. Since our key predictor of interest remains significant, this means that results are not driven by IGO pairs with many common issue areas. Being based in the same geographical region is not associated with design similarity. By contrast, we find some characteristics of the pre-existing IGO to be relevant: Design similarity is consistently higher with less recently established IGOs. Including additional dyadic covariates, we find that a greater difference in the number of major powers in both IGOs increases their design similarity. Specifically, if the new IGO is created primarily by major powers, while the legacy IGO is not, design similarity increases. Conversely, new IGOs created by lesser powers in response to powerful legacy IGOs are more dissimilar. Furthermore, a greater difference in the average ideal points of the members of both IGOs is not significantly associated with less similar designs.

To test whether designers consider the success of previous overlapping organizations when using them as blueprints, we divide the institutional context within which a new IGO is crafted in successful and unsuccessful organizations. For any given new IGO, a successful prior IGO is one that survived up until the year of its creation, whereas an unsuccessful prior IGO died before that. We use the survival of previously created IGOs as a fundamental and for IGO designers highly visible indicator of the general effectiveness of prior institutional solutions (Gray, 2018). Table 2 shows the determinants of IGO design similarity separately for the two sets of pre-existing organizations. We find a strong positive relationship between institutional overlap and design similarity in the subset of successful IGOs ($p < 0.001$). In contrast, the relationship between overlap with unsuccessful pre-existing organizations is at best marginally significant. In terms of effect sizes, an increase in overlap with successful pre-existing IGOs increases design similarity by at most 0.139 ($p < 0.001$) from minimum to maximum—or 61.6% of its standard deviation. Conversely, a similar increase in overlap with unsuccessful previous IGOs is related to an increase in design similarity by at most 0.072—a substantively smaller and statistically only marginally significant effect ($p < 0.1$). This implies that successful pre-existing IGOs provide an informative template for future design projects under institutional complexity, while there is no consistent relationship between overlap and design similarity with previous organizations that died.

In the appendix, we probe robustness of this finding using a coarser variant of the measure of unsuccessful IGOs. Following Vabulas and von Borzyskowski (2022), we consider as unsuccessful only those prior IGOs that died because they

Table 2 Determinants of IGO design similarity separately for successful and unsuccessful pre-existing IGOs

	Successful pre-existing IGOs			Unsuccessful pre-existing IGOs		
	(1)	(2)	(3)	(4)	(5)	(6)
$Overlap_{ij}$	0.130***	0.139***	0.089*	0.072°	0.072°	-0.007
	(0.026)	(0.028)	(0.036)	(0.041)	(0.041)	(0.062)
Number of shared issue $areas_{ij}$	0.005**	0.002	0.005*	0.008***	0.008***	0.004
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)
Shared $region_{ij}$	-0.001	0.004	0.003	0.002	0.004	-0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.006)
Start $year_j$		-0.002***	-0.005***		-0.001***	-0.002***
		(0.000)	(0.000)		(0.000)	(0.000)
Number of major $powers_j$		-0.003***	0.008***		-0.000	0.014***
		(0.000)	(0.001)		(0.000)	(0.002)
Number of member $states_j$		-0.001	0.005**		0.001°	-0.006**
		(0.001)	(0.002)		(0.001)	(0.002)
Difference in major $powers_{ij}$			0.009***			0.003***
			(0.000)			(0.001)
Difference in ideal $points_{ij}$			0.002			-0.017***
			(0.001)			(0.003)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time period dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	82,839	68,714	39,735	24,788	23,651	7048
Within-R2	0.151	0.152	0.148	0.243	0.244	0.150

Linear regression with fixed effects on IGO *i*. Robust standard errors clustered on IGO *i* in parentheses. "Success" is defined as survival of IGO *j* up until the year in which IGO *i* was created. Significance levels: ° $p<0.1$ * $p<0.05$ ** $p<0.01$ *** $p<0.001$

ceased operations, and not those prior IGOs that were replaced by other IGOs or that merged with other IGOs to form a new organization. Our main takeaways are unchanged: We find that overlap is significantly positively related with IGO design similarity in the sub-sample of successful IGOs, but unrelated in the sub-sample of unsuccessful IGOs (Table A8).

We now disaggregate overlap into two components—membership overlap (M_{ij}) and governance task − issue area or functional overlap ($G_{ij} \cdot I_{ij}$)—which provides insights into how institutional complexity is related to IGO design convergence. Table 3 shows the results. We find a robust positive and statistically significant correlation between functional overlap and IGO design similarity. In substantive terms, an increase in functional overlap by one standard deviation increases design similarity by up to 0.012 ($p<0.001$)—about 5.4 percent of its standard deviation. Membership overlap is also positively related to design similarity, but this result is not consistently significant across model specifications. This suggests that the convergence of institutional designs between overlapping new and pre-existing IGOs is possibly

Table 3 Determinants of IGO design similarity using a disaggregated overlap measure

	(1)		(2)		(3)	
IGO design similarity						
Membership overlap$_{ij}$	0.029**	(0.009)	0.031**	(0.010)	0.016	(0.012)
Functional overlap$_{ij}$	0.048***	(0.006)	0.046***	(0.007)	0.057***	(0.010)
Number of shared issue areas$_{ij}$	-0.005*	(0.002)	-0.006*	(0.002)	-0.008*	(0.003)
Shared region$_{ij}$	-0.002	(0.002)	0.001	(0.002)	0.002	(0.003)
Start year$_{j}$			-0.002***	(0.000)	-0.001***	(0.000)
Number of major powers$_{j}$			-0.001	(0.000)	0.003***	(0.001)
Number of member states$_{j}$			-0.003*	(0.001)	0.002	(0.002)
Difference in major powers$_{ij}$					0.002***	(0.000)
Difference in ideal points$_{ij}$					-0.001	(0.001)
Fixed effects	Yes		Yes		Yes	
Time period dummies	Yes		Yes		Yes	
Observations	107,627		92,365		46,783	
Within-R2	0.160		0.161		0.143	

Linear regression with fixed effects on IGO *i*. Robust standard errors clustered on IGO *i* in parentheses. Significance levels: ° p < 0.1 * p < 0.05 ** p < 0.01 *** p < 0.001

more driven by indirect rather than direct information transmission between a new cooperative effort and the context within which it is embedded.

Next, we examine the effect of overlap on IGO design similarity across issue areas, focusing on trade and commerce, environment, development, and finance. Tables A9 and A10 in the online appendix report the results. We see in Table A9 that overall overlap is positively related to design similarity across issue areas, although this relationship is most significant in trade and in development, followed by the environment. Table A10 further shows that functional overlap has a positive and significant association with design similarity across issue areas, while membership overlap is not consistently significant across issue areas. These findings provide additional evidence that design convergence between overlapping IGOs is occurring more through indirect information flows than direct information flows based on shared members.

4.2 Robustness Checks and Further Analyses

To probe the robustness of our findings, we use three alternative operationalizations of overlap. First, we calculate overlap as the product of membership and governance task overlap conditioning on two IGOs having at least one issue area in common. This measure could be considered an alternative operationalization of the conceptualization of institutional overlap within regime complexes which focuses on shared functional domains and memberships for organizations that are involved in governing a particular issue area (Raustiala & Victor, 2004). We do not find any marked

differences in our results when using this alternative measure (Table A11).[15] Second, we replace our measure of membership overlap with the overlap of major powers and compute overlap as the product of major power overlap, issue area similarity, and governance task similarity of pre-existing and new IGOs.[16] Again, our results do not qualitatively differ when using this alternative operationalization, although precision is lower than before (Table A12). Third, we are concerned that our results could be affected by the skewness of the overlap measure. Hence, we re-run the analysis after taking the natural logarithm of overlap (with an offset of one to avoid missing values). Our results are unaffected (Table A13).

To demonstrate the significance of our contribution of introducing governance task overlap, we show how conclusions drawn from focusing only on membership overlap and issue overlap may be misleading. To that end, we augment our baseline regression with both membership overlap and issue area overlap. Using three overlap measures, we find that only our comprehensive measure of overlap which incorporates all three dimensions is statistically significant in the hypothesized direction. While membership overlap has no relationship with IGO design similarity, the coefficient of issue area overlap is significantly negative (Table A14).

We also estimate our models using alternative operationalizations of our dependent variable. First, we drop codified decision-making procedures as design feature, because decisions about how to calibrate this design dimension may follow a different logic than for monitoring, enforcement, and dispute settlement (Hooghe & Marks, 2015; Koremenos & Betz, 2013; Koremenos et al., 2001). Re-running our analysis with the resulting similarity measure based on four items, we find qualitatively similar results (Table A15). Second, some may argue that the structure of IGO decision-making procedures—rather than whether such procedures are formalized at all—may be conceptually more pertinent. Hence, we source data on voting procedures in the main bodies of IGOs (Blake & Payton, 2015). We consider whether an IGO uses non-unanimous voting, which reflects greater pooling (Hooghe & Marks, 2015). Using this alternative operationalization of the decision-making dimension in our five-element design vector, we corroborate our earlier findings (Table A16). Third, we drop the design feature for monitoring, addressing the potential concern that monitoring as a design feature and monitoring as a governance function are conceptually too close. To be sure, both variables are operationalized differently and capture different aspects of IGOs. Nevertheless, we estimate our models excluding monitoring from our design similarity measure. We corroborate our core findings (Table A17). Finally, we use a different distance metric—the Jaccard index—to compute design similarities. Intuitively, the Jaccard index captures how many design features are identical between two IGOs, as a proportion of the number of design features. Here we consider both the common absence as well as the common presence of a design feature. The Jaccard index has been used in prior related work (Jetschke et al., 2021), and we find that it is highly correlated to ours. Hence, the results are qualitatively unaffected (Table A18).

[15] The correlation between this alternative measure and OVERLAP is $\rho = 0.944$.

[16] The correlation with our original overlap measure is $\rho = 0.631$.

Next, we address concerns that our results are driven by individual matching design features. To that end, we use five alternative dependent variables, capturing whether two IGOs both have adopted a given design feature. In each regression, we compare pairs of IGOs which both have the design feature to those pairs of IGOs in which only one IGO has the design feature. We find that the relationship between overlap and design similarity is significantly positive for all design features, although it is only marginally significant for secretariats (Table A19). In further analyses, we find significantly positive relationships between governance task overlap and matched design for all five design features (Table A20).

In the following robustness tests, we address methodological concerns. To begin, we replace ten-year period dummies with five-year period dummies, which is appropriate if common design trends change more frequently than every ten years (Table A21). We also use year-fixed effects instead of ten-year period dummies (Table A22). None of these alternative choices affect our core result.

Next, we probe whether our main results hold using imputed data (Honaker, King, and Blackwell 2011). With non-imputed data, loss of observations can be substantial. This makes our results less comparable across models and could induce bias, given that missingness in covariates is likely to be more prevalent in earlier years. Using imputed data on our control variables addresses these concerns (Lall, 2016). Our main takeaways are the same. We continue to find a strong relationship between institutional overlap and design similarity (Table A23). Furthermore, we find that this relationship holds strongly with respect to successful prior IGOs, but not unsuccessful prior IGOs (Table A24).

To confront concerns about selection bias, we estimate a Heckman-type model that estimates IGO creation in addition to IGO design. Following Reinsberg and Westerwinter (2021), we create a set of proposal IGOs based on the empirical distribution of member states, issue area profiles, and governance task profiles. This induces variation in the observability of IGO dyads. This analysis confirms all results from our single-stage models (Table A25).

In another set of robustness tests, we show that our argument holds against further alternative explanations of IGO design similarity. As these alternatives require contextual measures that do not vary across dyads for the same organization, we remove the fixed effects for IGO *i* and instead include additional indicator variables for issue areas and governance tasks for IGO *i*. As we cannot do justice to all these alternatives, our proxies are relatively crude, but the results are indicative. World polity theory would expect a global trend towards a single dominating organizational script, implying IGO design convergence across world regions (Boli & Thomas, 1997). To test these expectations, we add region dummies. Theories of organizational ecology expect the density of a particular type of organization in an issue area to affect the design of new organizations (Abbott et al., 2016; Freeman & Hannan, 1977; Morin, 2020). Hence, we add the logged number of prior IGOs in the same issue area profile, along with the logarithm of the squared number. In addition, gridlock theories would expect lower IGO design similarity as the heterogeneity of the states in the international system increases (Hale et al., 2013). Hence, we add the average coefficient of variation of the polity scores of all states in the foundational year of an organization. Finally, arguments about organizational progeny suggest that IGO bureaucracies can

affect IGO design decisions and replicate design templates for new creations (Johnson & Urpelainen, 2014). To explicitly account for such possibility, we draw on new data indicating whether an organization is an emanation of an existing organization (Jud, Westerwinter, & Wright 2022). In all these tests, we continue to find a strongly robust positive relationship between overlap and IGO design similarity (Table A26).

Finally, we address potential inaccuracies in the COW IGO dataset. Based on new data that identify various potential shortcomings of the COW IGO data (Jud, Westerwinter, & Wright 2022), we exclude cases that do not meet the criteria highlighted in the COW IGO definition because they are not independent of other IGOs (type I), are subsidiary bodies or special agencies of other IGOs (type II), or are emanations of other IGOs (type III) (Pevehouse et al. 2020). We also exclude cases that raise questions regarding a possible merging of two previously separate organizations (type IV). These inaccuracies are problematic for our analysis because they potentially distort our empirical assessment of the relationships between some of the IGOs in the data which, in turn, may affect our overlap measure as well as our design similarity variable. In total, we identify 130 IGOs that could be problematic in one or more of these four ways and re-run our main models without the affected 34,938 IGO dyads. Table A27 provides an overview of the excluded cases. Table A28 shows that our findings are qualitatively unaffected when using this more restrictive sample.

Having established robustness of our main findings, we conduct additional analyses. Using split-sample analysis, we explore effect heterogeneity. First, we divide the sample into regional IGOs and inter-continental IGOs. The results are not different between inter-continental IGOs and regional IGOs (Table A29). Second, we probe effect heterogeneity with respect to whether IGOs have ambiguous mandates that cover more than a single policy domain. Organizational isomorphism research emphasizes that imitation of institutional designs of legacy organizations by new entrants is particularly pronounced in situations of ambiguity and uncertainty (DiMaggio & Powell, 1983; Kalyanpur & Newman, 2017). Table A30 shows that the substantive effect of overlap on design similarity is stronger for multi-issue IGOs. Third, when splitting the sample at the median number of governance tasks, we find that the positive relationship between overlap and design similarity is significant only for IGOs with an above-median number of governance tasks—for organizations with high levels of governance task ambiguity (Table A31). These sets of findings resonate with our argument that in uncertain and information poor environments the informative value of institutional overlap for designers of new IGOs is especially pronounced. Fourth, we examine whether the relationship between overlap and design similarity varies between IGOs that include major powers (G7 countries) and those that do not, without finding a sizeable difference (Table A32). Finally, we assess whether overlap is differently related to design similarity in different types of international systems, particularly focusing on the Cold War and post-Cold War periods (Table A33). We find the effect to be more significant during the Cold War.

These additional findings corroborate the results of our main analysis and identify institutional overlap as an important factor that shapes IGO design convergence across different types of IGOs, scales of cooperative endeavors, with more and less ambiguous mandates, IGOs with and without major power members, and historical periods.

5 Conclusion

We examine how institutional overlap affects the design of IGOs. We argue that when states create new IGOs, they model their design based on the features of pre-existing organizations with overlapping memberships, governance tasks, and issue areas.[17] This design convergence is particularly pronounced for pairs of IGOs that include legacy organizations that have endured. It is also more consistently associated with the overlap of governance tasks and issue areas than it is with membership overlap. These findings hold in a broad range of robustness checks. Together, they indicate that design convergence is more prevalent among IGOs than theories highlighting differentiation as a main consequence of institutional overlap suggest. This points toward the need to develop more nuanced theories of institutional overlap and its consequences for global governance. Beyond overlap, we find that IGO characteristics highlighted by other theoretical approaches have independent effects on design similarity. For example, new IGOs created by lesser powers are more dissimilar with respect to legacy IGOs controlled by powerful states. The findings suggest that explanations based on institutional overlap complement power-based approaches and institutionalist explanations of state choices regarding the design of IGOs.

Our paper makes important contributions to the study of institutional overlap and complexity in global governance and how such overlap is related to the institutional design of new cooperation. We conclude by discussing three areas for future research. First, we offer a theoretical argument that explains how institutional overlap is related to the convergence of institutional designs between new and existing IGOs, and our statistical analysis provides robust empirical evidence for the existence of this association. We also begin to explore which dimensions of overlap are related to IGO design convergence. Our findings suggest that especially mimetic processes based on similar governance task and issue area portfolios facilitate design convergence among IGOs. This suggests that the functional match between new and old organizations is more informative for states' design decisions than direct information transmission through shared member states. The importance of finding the suitable design to effectively address a given problem or the lack of credibility of sharing private information through direct communication among states could be reasons underlying these patterns in our data. These are hypotheses that future research may examine more systematically using both more fine-grained quantitative data and, especially, in-depth qualitative methods that allow researchers

[17] This does, however, not imply that design differentiation may not occur at a deeper level. Our design similarity measure captures similarities of two IGOs in terms of the presence of five design features: Secretariat, monitoring, enforcement, dispute settlement, and decision-making procedures. Convergence at this level does not exclude the possibility of differentiation within these five design characteristics. For example, while two IGOs may both have formally codified decision-making procedures, they may differ in the specific decision-making rules they adopted. Future research may explore the relationship between institutional overlap and design convergence at this more fine-grained level. We thank Mette Eilstrup-Sangiovanni for bringing this point to our attention.

to explore the causal mechanisms that link different dimensions of institutional overlap to IGO design convergence.

Second, we introduce a new measure of institutional overlap in global governance that allows researchers to capture overlap among IGOs across issue areas and over time. This measure improves on existing qualitative and quantitative approaches to capture institutional overlap (Copelovitch & Putnam, 2014; Haftel & Hofmann, 2019; Haftel & Lenz, 2022; Sommerer & Tallberg, 2019; Urpelainen & Van de Graaf 2015). However, our measure and the new data that we collected to study the relationship between IGO overlap and design convergence are not without limitations. Importantly, future efforts should be directed at creating dynamic measures of overlap to account for evolving membership, governance tasks, and policy areas. Furthermore, future research could collect nuanced information on the performance of existing IGOs that goes beyond their viability. If, as our results suggest, states pay particular attention to the design templates of overlapping pre-existing IGOs that have proven to be successful in the sense of organizational survival, then rationally choosing states can also be expected to pay careful attention to more specific aspects of IGO performance, such as output productivity, goal attainment, or efficiency (Gutner & Thompson, 2010; Lall, 2017; Tallberg et al., 2016). Thus, an important extension of our analysis would be to incorporate more fine-grained information on the performance of past IGOs.

Finally, a logical next step following from our analysis is to consider overlaps of different types of global governance institutions and how they shape the design of new IGOs and other institutional forms. Today's global governance architecture is constituted by a range of formal and informal institutions with different sets of state and non-state participants (Abbott & Snidal, 2009; Lake, 2010, 2021; Westerwinter et al., 2021). These different institutional arrangements overlap in multiple ways with each other as well as with more conventional forms of international cooperation, such as IGOs and international agreements (Abbott, 2012; Abbott & Faude, 2022; Eilstrup-Sangiovanni & Westerwinter, 2021; Green & Auld, 2017). Recent studies have started to explore how design choices are shaped across institutional types (Reinsberg & Westerwinter, 2021). Building on these works, our measure of institutional overlap and our analysis of the consequences of overlap for the design of new IGOs may be fruitfully expanded to include a broader array of global governance institutions.

Taken together, these research directions promise to bring about a more systematic and nuanced understanding of how different types of global governance institutions are intersecting and specifically how existing institutions influence the design of subsequent ones. They can also inform theories of international cooperation more generally which often focus on individual IGOs in isolation. Importantly, this agenda can lay the groundwork for research that examines the consequences of the complex interdependencies among IGOs and between IGOs and other forms of international cooperation for the design of global governance institutions. Given the importance of institutional design for the distribution of the costs and benefits of cooperation as well as for the performance and legitimacy of individual institutions, such advances will benefit students of international cooperation and policymakers alike.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11558-023-09488-2.

Acknowledgements Funding from the Swiss Network for International Studies (SNIS) and the University of St. Gallen is gratefully acknowledged. Oliver Westerwinter is also grateful for the generous support of the Robert Schuman Centre for Advanced Studies and the Max Weber Programme at the European University Institute. We would like to thank the excellent research assistance of Christian Andres, Ruslan Aybazov, Lorenzo Furlani, Tino Good, Stefano Jud, Rosie Keller, Alexander Kohne-Godoy, Laura Leibundgut, Giulia Parini, Dominik Schneeberger, Johannes Schultz, and Keto Schumacher in preparing this paper. We thank Ken Abbott, Malte Brosig, Ricky Clark, Lorenzo Crippa, Hylke Dijkstra, Mette Eilstrup-Sangiovanni, Laura Gomez-Mera, Tammi Gutner, Yoram Haftel, Nikitas Konstantinidis, Barb Koremenos, Phillip Lipscy, Matias Margulis, Moritz Neubert, as well as the participants of the Geneva workshop on Informal Governance in World Politics, the political science research seminar at the University of St. Gallen, the 2021 annual meeting of the Swiss Political Science Association, the 2021 annual convention of the International Studies Association, and the ECPR Standing Group on International Relations virtual seminar series for valuable comments.

Data Availability Replication data will be made available through the *Review of International Organizations*' journal website.

Declarations

Conflict of Interest Statement The authors declare no conflict of interest.

References

Abbott, K. W. (2012). The Transnational Regime Complex for Climate Change. *Environment and Planning C: Government and Policy, 30*(4), 571–590.

Abbott, K. W., & Faude, B. (2022). Hybrid Institutional Complexes in Global Governance. *Review of International Organizations, 17*(2), 263–291.

Abbott, K. W., Green, J. F., & Keohane, R. O. (2016). Organizational Ecology and Institutional Change in Global Governance. *International Organization, 70*(02), 247–277.

Abbott, K. W., & Snidal, D. (1998). Why States Act through Formal International Organizations. *Journal of Conflict Resolution, 42*(1), 3–32.

Abbott, K. W., & Snidal, D. (2009). The Governance Triangle: Regulatory Standards Institutions and the Shadow of the State. *The Politics of Global Regulation,* 44–88.

Allee, T., & Elsig, M. (2019). Are the Contents of International Treaties Copied and Pasted? Evidence from Preferential Trade Agreements. *International Studies Quarterly, 63*(3), 603–613.

Alter, K. J., & Meunier, S. (2009). The Politics of International Regime Complexity. *Perspectives on Politics, 7*(01), 13–24.

Alter, K. J. (2012). The Global Spread of European Style International Courts. *West European Politics, 35*(1), 135–154.

Alter, K. J., & Raustiala, K. (2018). The Rise of International Regime Complexity. *Annual Review of Law and Social Science, 14*, 329–349.

Andonova, Liliana B. 2017. *Governance Entrepreneurs. International Organizations and the Rise of Global Public-Private Partnerships*. Cambridge: Cambridge University Press.

Avant, D. D., Finnemore, M., & Sell, S. K. (2010). *Who Governs the Globe?* Cambridge University Press.

Baccini, L., Dür, A., & Haftel, Y. Z. (2015). Imitation and Innovation in International Governance: The Diffusion of Trade Agreement Design. In A. Dür & M. Elsig (Eds.), *Trade Cooperation: The Purpose, Design and Effects of Preferential Trade Agreements* (pp. 167–194). Cambridge University Press.

Bailey, M. A., Strezhnev, A., & Voeten, E. (2015). Estimating Dynamic State Preferences from United Nations Voting Data. *Journal of Conflict Resolution, 61*(2), 430–456.

Betts, A. (2013). Regime Complexity and International Organizations: UNHCR as a Challenged Institution. *Global Governance: A Review of Multilateralism and International Organizations, 19*(1), 69–81.

Biermann, R. (2008). Towards a Theory of Inter-Organizational Networking. The Euro-Atlantic Security Institutions Interacting. *Review of International Organizations, 3*(2), 151–177.

Biermann, R., & Koops, J. A. (2017). *The Palgrave Handbook of Inter-Organizational Relations in World Politics*. Palgrave Macmillan.

Blake, D. J., & Payton, A. L. (2015). Balancing Design Objectives: Analyzing New Data on Voting Rules in Intergovernmental Organizations. *Review of International Organizations, 10*(3), 377–402.

Boehmer, C., Gartzke, E., & Nordstrom, T. (2004). Do Intergovernmental Organizations Promote Peace? *World Politics, 57*, 1–38.

Boli, J., & Thomas, G. M. (1997). World Culture in the World Polity: A Century of International Non-Governmental Organization. *American Sociological Review, 62*(1), 171–190.

Börzel, T. A., & Risse, T. (2012). From Europeanization to Diffusion: Introduction. *West European Politics, 35*(1), 1–19.

von Borzyskowski, I., & Vabulas, F. (2022). When Is Withdrawal from International Organizations Deadly? In *APSA 2022 Annual Meeting*, Montreal.

Brosig, M. (2011). Overlap and Interplay between International Organizations: Theories and Approaches. *South African Journal of International Affairs, 18*(2), 147–167.

De Búrca, G., Keohane, R. O., & Sabel, C. (2014). Global Experimentalist Governance. *British Journal of Political Science, 44*(03), 477–86.

Clark, R. (2021). Pool or Duel? Cooperation and Competition among International Organizations. *International Organization, 75*(4), 1133–1153.

Clark, R., & Pratt, T. (2022). *Treaty Design, Plagiarism, and Legitimacy in Global Governance*. New Haven.

Copelovitch, M. S., & Putnam, T. L. (2014). Design in Context: Existing International Agreements and New Cooperation. *International Organization, 68*(2), 471–493.

Dai, X. (2002). Information Systems in Treaty Regimes. *World Politics, 54*(4), 405–436.

Davis, C. L. (2009). Overlapping Institutions in Trade Policy. *Perspectives on Politics, 7*(1), 25–31.

Debre, M., & Dijkstra, H. (2021). Institutional Design for a Post-Liberal Order: Why Some International Organizations Live Longer than Others. *European Journal of International Relations, 27*(1), 311–339.

DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review, 48*(2), 147–160.

Dingwerth, K., & Pattberg, P. (2009). World Politics and Organizational Fields: The Case of Transnational Sustainability Governance. *European Journal of International Relations, 15*(4), 707–743.

Dorussen, H., & Ward, H. (2008). Intergovernmental Organizations and the Kantian Peace: A Network Perspective. *Journal of Conflict Resolution, 52*(2), 189–212.

Downs, G. W., Rocke, D. M., & Barsoom, P. N. (1996). Is the Good News about Compliance Good News about Cooperation? *International Organization, 50*(03), 379–406.

Duffield, J. S. (2003). The Limits of "Rational Design&quot. *International Organization, 57*(2), 411–430.

Eilstrup-Sangiovanni, M. (2020). Death of International Organizations. The Organizational Ecology of Intergovernmental Organizations, 1815–2015. *Review of International Organizations, 15*(2), 339–370.

Eilstrup-Sangiovanni, M. (2022). Ordering Global Governance Complexes: The Evolution of the Governance Complex for International Civil Aviation. *Review of International Organizations, 17*(2), 293–322.

Eilstrup-Sangiovanni, M., & Westerwinter, O. (2021). The Global Governance Complexity Cube: Varieties of Institutional Complexity in Global Governance. *Review of International Organizations*. https://doi.org/10.1007/s11558-021-09449-7

Ella, D. (2021). Balancing Effectiveness with Geo-Economic Interests in Multilateral Development Banks: The Design of the AIIB, ADB and the World Bank in a Comparative Perspective. *Pacific Review, 34*(6), 1022–1053.

Fioretos, O. (2021). *Reconciling with Complexity: Lessons from the Failure to Limit International Institutional Proliferation*. Temple University.

Freeman, J. R., & Hannan, M. T. (1977). *Organizational Ecology*. Harvard University Press.

Gehring, T., & Oberthür, S. (2009). The Causal Mechanisms of Interaction between International Institutions. *European Journal of International Relations, 15*(1), 125–156.

Gehring, T., & Faude, B. (2014). A Theory of Emerging Order within Institutional Complexes: How Competition among Regulatory International Institutions Leads to Institutional Adaptation and Division of Labor. *Review of International Organizations, 9*(4), 471–498.

Gomez-Mera, L. (2015). International Regime Complexity and Regional Governance: Evidence from the Americas. *Global Governance, 21*(1), 19–42.

Gray, J. (2018). Life, Death, or Zombie? The Vitality of International Organizations. *International Studies Quarterly, 62*(1), 1–13.

Green, J. F., & Auld, G. (2017). Unbundling the Regime Complex: The Effects of Private Authority. *Transnational Environmental Law, 6*(2), 259–284.

Greenhill, B., & Lupu, Y. (2017). Clubs of Clubs: Fragmentation in the Network of Intergovernmental Organizations. *International Studies Quarterly, 61*(1), 181–195.

Grigorescu, A. (2010). The Spread of Bureaucratic Oversight Mechanisms across Intergovernmental Organizations. *International Studies Quarterly, 54*(3), 871–886.

Gutner, T., & Thompson, A. (2010). The Politics of IO Performance: A Framework. *Review of International Organizations, 5*(3), 227–248.

Hafner-Burton, E. M., Kahler, M., & Montgomery, A. H. (2009). Network Analysis for International Relations. *International Organization, 63*(3), 559–592.

Haftel, Y. Z., & Thompson, A. (2006). The independence of international organizations: concept and applications. *Journal of Conflict Resolution, 50*(2), 253–275. https://www.jstor.org/stable/27638486.

Haftel, Y. Z., & Hofmann, S. C. (2019). Rivalry and Overlap: Why Regional Economic Organizations Encroach on Security Organizations. *Journal of Conflict Resolution, 63*(9), 2180–2206.

Haftel, Y. Z., & Lenz, T. (2022). Measuring Institutional Overlap in Global Governance. *Review of International Organizations, 17*(2), 323–347.

Hale, T., Held, D., & Young, K. (2013). Gridlock: From Self-Reinforcing Interdependence to Second-Order Cooperation Problems. *Global Policy, 4*(3), 223–235.

Helfer, L. R. (2004). Regime Shifting: The TRIPS Agreement and New Dynamics of International Intellectual Property Lawmaking. *The Yale Journal of International Law, 29*(1), 1–83.

Henning, C. R. (2017). *Tangled Governance: International Regime Complexity, the Troika, and the Euro Crisis*. Cambridge University Press.

Henning, C. R., & Tyler, P. (2022). *Hierarchy and Differentiation in International Regime Complexes: A Theoretical Framework for Comparative Research*. Washington D.C.

Hofmann, S. C. (2009). Overlapping Institutions in the Realm of International Security: The Case of NATO and ESDP. *Perspectives on Politics, 7*(1), 45–52.

Hofmann, S. C. (2011). Why Institutional Overlap Matters: CSDP in the European Security Architecture. *Journal of Common Market Studies, 49*(1), 101–120.

Hofmann, S. C. (2019). The Politics of Overlapping Organizations: Hostage-Taking, Forum-Shopping and Brokering. *Journal of European Public Policy, 26*(6), 883–905.

Honaker, J., King, G., & Blackwel, M. (2011). AMELIA II: a program for missing data. *Journal of Statistical Software, 45*(7), 1–54. https://gking.harvard.edu/amelia/.

Hooghe, L., & Marks, G. (2015). Delegation and Pooling in International Organizations. *Review of International Organizations, 10*(3), 305–328.

Ingram, P., & Torfason, M. T. (2010). Organizing the In-between: The Population Dynamics of Network-Weaving Organizations in the Global Interstate Network. *Administrative Science Quarterly, 55*, 577–605.

Jervis, R. (1997). *System Effects. Complexity in Political and Social Life*. Princeton: Princeton University Press.

Jetschke, A., Münch, S., & Cardozo-Silva, A. R. (2021). Patterns of (Dis)Similarity in the Design of Regional Organizations: The Regional Organizations Similarity Index (ROSI). *International Studies Perspectives, 22*(2), 181–200.

Johnson, T., & Urpelainen, J. (2014). International Bureaucrats and the Formation of Intergovernmental Organizations: Institutional Design Discretion Sweetens the Pot. *International Organization, 68*(1), 177–209.

Johnston, A. I. (2008). *Social States: China in International Institutions, 1980–2000*. Princeton University Press.

Jud, S., Westerwinter, O., & Wright, J. A. (2022). *Measurement Error and Bias in the Study of Intergovernmental Organizations*. Emory University.

Jupille, J., Mattli, W., & Snidal, D. (2013). International Institutional Choice: Cooperation, Alternatives, and Strategies. *Institutional Choice and Global Commerce* (pp. 19–52). Cambridge University Press.

Kahler, M. (2021). *The Arc of Complex Global Governance: From Organization to Coalition*.

Kalyanpur, N., & Newman, A. (2017). Form over Function in Finance: International Institutional Design by Bricolage. *Review of International Political Economy, 24*(3), 363–392.

Kelley, J. (2009). The More the Merrier? The Effects of Having Multiple International Election Monitoring Organizations. *Perspectives on Politics, 7*(1), 59–64.

Keohane, R. O., & Victor, D. G. (2011). The Regime Complex for Climate Change. *Perspectives on Politics, 9*(1), 7–23.

Koremenos, B., & Timm, B. (2013). The Design of Dispute Settlement Procedures in International Agreements." *Interdisciplinary Perspectives on International Law and International Relations: The State of the Art*: 371–93.

Koremenos, B., Lipson, C., & Snidal, D. (2001). The Rational Design of International Institutions. *International Organization, 55*(4), 761–799.

Lake, D. A. (2010). Rightful Rules: Authority, Order, and the Foundations of Global Governance. *International Studies Quarterly, 54*(3), 587–613.

Lake, D. A. (2021). The Organizational Ecology of Global Governance. *European Journal of International Relations, 27*(2), 345–368.

Lall, R. (2016). How Multiple Imputation Makes a Difference. *Political Analysis, 24*(4), 414–433.

Lall, R. (2017). Beyond Institutional Design: Explaining the Performance of International Organizations. *International Organization, 71*(2), 245–280.

Lipscy, P. Y. (2017). *Renegotiating the World Order: Institutional Change in International Relations*. Cambridge University Press.

Margulis, M. E. (2013). The Regime Complex for Food Security: Implications for Global Hunger Challenge. *Global Governance, 19*, 53–67.

Morin, J. F. (2020). Concentration despite Competition: The Organizational Ecology of Technical Assistance Providers. *Review of International Organizations, 15*(1), 75–107.

Oberthür, S. (2001). Linkages between the Montreal and Kyoto Protocols-Enhancing Synergies between Protecting the Ozone Layer and the Global Climate. *International Environmental Agreements, 1*(3), 357–377.

Oberthür, S., & Stokke, O. S. (2011). *Managing Institutional Complexity: Regime Interplay and Global Environmental Change*. MIT Press.

Orsini, A., et al. (2020). Forum: Complex Systems and International Governance. *International Studies Review, 22*(4), 1008–1038.

Orsini, A., Morin, J.-F., & Young, O. (2013). Regime Complexes: A Buzz, a Boom, or a Boost for Global Governance? *Global Governance: A Review of Multilateralism and International Organizations, 19*(1), 27–39.

Ovodenko, A., & Keohane, R. O. (2012). Institutional Diffusion in International Environmental Affairs. *International Affairs, 88*(3), 523–541.

Pevehouse, J. C., Nordstrom, T., McManus, R., & Jamison, A. S. (2021). Tracking Organizations in the World: The Correlates of War IGO Version 3.0 Datasets. *Journal of Peace Research, 57*(3), 492–503.

Raustiala, K., & Victor, D. G. (2004). The Regime Complex for Plant Genetic Resources. *International Organization, 58*(2), 277–309.

Reinsberg, B., & Westerwinter, O. (2021). The Global Governance of International Development: Documenting the Rise of Informal Organizations and Identifying Underlying Theoretical Explanations. *Review of International Organizations, 16*(1), 59–94.

Rosendal, G. K. (2001). Impacts of Overlapping International Regimes: The Case of Biodiversity. *Global Governance: A Review of Multilateralism and International Organizations, 7*(1), 95–117.

Simmons, B. A., & Elkins, Z. (2004). The Globalization of Liberalization: Policy Diffusion in the International Political Economy. *American Political Science Review, 98*(1), 171–190.

Slaughter, A.-M. (2004). *A New World Order: Government Networks and the Disaggregated State*. Princeton University Press.

Smith, J. M. (2000). The Politics of Dispute Settlement Design: Explaining Legalism in Regional Trade Pacts. *International Organization, 54*(1), 137–180.

Sommerer, T., & Tallberg, J. (2019). Diffusion Across International Organizations: Connectivity and Convergence. *International Organization, 73*(02), 399–433.

Tallberg, J., Sommerer, T., Squatrito, T., & Lundgren, M. (2016). The Performance of International Organizations: A Policy Output Approach. *Journal of European Public Policy, 23*(7), 1077–1096.

Urpelainen, J., & Van de Graaf, T. (2015). The International Renewable Energy Agency: A Success Story in Institutional Innovation? *International Environmental Agreements: Politics, Law and Economics, 15*(2), 159–177.

Vabulas, F., & Snidal, D. (2013). Organization without Delegation: Informal Intergovernmental Organizations (IIGOs) and the Spectrum of Intergovernmental Arrangements. *Review of International Organizations, 8*(2), 193–220.

Westerwinter, O. (2021). Transnational Public-Private Governance Initiatives in World Politics: Introducing a New Dataset. *Review of International Organizations, 16*(1), 137–174.

Westerwinter, O. (2022). *Contextual Design: Existing International Institutions and New Transnational Governance*. St. Gallen.

Westerwinter, O., Abbott, K. W., & Biersteker, T. J. (2021). Informal Governance in World Politics. *Review of International Organizations, 16*(1), 1–27.

Young, O. R. (1996). Institutional Linkages in International Society: Polar Perspectives. *Global Governance, 2*(1), 1–24.