Value differentiation, policy change, and cooperation in international regime complexes

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Abstract

In many issue areas in international political economy, interstate cooperation is governed by a dense network of distinct but overlapping international institutions. Whether this environment of 'regime complexity' strengthens or undermines cooperation is a subject of intense debate. Some argue that overlapping institutions enhance legitimacy and flexibility, while others claim that opportunistic forum shopping enables states to escape compliance with rigorous rules. This paper reconciles this debate, demonstrating that regime complexity has contrasting effects depending on the degree of *value differentiation* among institutions. In issue areas where undifferentiated institutions function as substitutes, forum shopping will reduce the regime's ability to discipline state behavior. However, in issue areas where institutions are differentiated by value—i.e., the benefits they provide increase as rules become more rigorous—institutional overlap can increase policy change among states. I demonstrate these dynamics formally and provide empirical evidence in a comparative analysis of the regime complexes for election observation and forest-related carbon offsets.

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1 Introduction

Rapid growth in the number and scope of multilateral institutions since World War II has transformed the structure of global governance in many issue areas. Instead of a single unified regime, states frequently confront a regime complex: A set of international institutions that operate in a common issue area and the (formal and informal) mechanisms that coordinate them.[1] Regime complexes are characterized by a dense network of institutions that exercise authority over the same issue area. This environment gives rise to strategic behavior by states, which select among institutions when crafting new rules or seeking judgments about compliance.

Recent scholarship illuminates how regime complexity shapes interstate bargaining and power relations among states (Alter & Meunier, 2009; Jupille et al., 2013; Morse & Keohane, 2014; Henning, 2017; Pratt, 2021). However, existing work provides inconsistent answers to a fundamental question: How do regime complexes affect the quality of interstate cooperation? Many scholars argue that regime complexes harm cooperation by fomenting ambiguity, encouraging rule conflict, and undermining compliance (Raustiala & Victor, 2004; Alter & Meunier, 2009; Struett et al., 2013). Others contend they facilitate more effective cooperation via increased flexibility (Keohane & Victor, 2011), legitimacy (Kelley, 2009), and expertise (Lesage & Van de Graaf, 2013). The debate is consequential given that regime complexes govern many important policy issues in international political economy (IPE).

These contrasting findings motivate the framework paper for this special issue, which outlines a conditional theory of regime complexity that explains variation across issue areas. The framework identifies two moderating variables, authority relations and institutional differentiation, that shape substantive outcomes in international regime complexes. This paper contributes to this theoretical endeavor by explaining how one specific form of institutional differentiation – what I call *value differentiation* – moderates the effect of regime complexes on state behavior. International institutions are value-differentiated when more rigorous rules automatically generate greater rewards for member states. When institutions overlap in function, high value differentiation facilitates more cooperation.

The paper undertakes three tasks. First, I propose a criterion for assessing interstate cooperation in regime complexes: Depth of policy adjustment by states. Behavioral adjustment by states and other actors is a key outcome variable emphasized in Henning & Pratt (2023) because it is a practical and widely applicable measure of regime complex effectiveness. It is consistent with the fundamental goal of international regimes, as articulated by functional theory (Keohane, 1984), and its broad applicability facilitates comparisons across regime complexes.

Second, I develop a theory of value-differentiated institutions that explains why some regime complexes generate deeper policy adjustment. The theory describes how policy adjustment shifts when new, functionally overlapping institutions emerge. In some issue areas—those where international institutions offer exchangeable benefits to member states—the proliferation of institutions will decrease policy adjustment. As states gain the ability to forum shop (Busch, 2007), they opportunistically select into institutions with weaker standards and thereby reduce the need for policy change. Because states can obtain similar benefits from an array of sources, they gravitate toward institutions where policy conditions are lenient. Forum shopping in these regime complexes weakens the ability of institutions to demand policy reforms.

In other cases, however, regime complexity has the opposite effect. The presence of overlapping institutions deepens policy adjustment if institutions are *value-differentiated*: The benefits they provide increase as institutional rules become more rigorous. One example is election monitoring bodies, where institutions with strict standards send a stronger signal about election quality. On these issues, states face more complicated tradeoffs when forum shopping. Selecting a more lenient election observer lowers the standards a government must meet to have its election certified. But it simultaneously reduces the benefit of compliance: Clearing a lowered bar sends a less favorable message to domestic and international audiences. In these value-differentiated regime complexes, some states will select into *more* rigorous institutions in order to extract a greater benefit. If differentiation is sufficiently high, a regime complex can generate more policy adjustment than a unified regime.

The paper first describes the sources of value differentiation and then demonstrates its effects on state behavior. The degree of value differentiation in a regime complex is determined by the incentive structure that international institutions use to encourage compliance. States that commit to international rules are often tempted to violate them to capture the payoffs from defection or satisfy short-term political interests. As a result, international institutions frequently include design characteristics that reward compliance and penalize violations.

The degree of value differentiation depends on the types of incentives institutions in a regime complex provide. Institutions that use *signaling* (publicizing information about a government's behavior) and *reciprocity* (granting access to mutual policy adjustment by other states) to encourage compliance feature high levels of value differentiation. These incentives are inextricably linked to the depth of institutional standards; as standards become more rigorous, the signaling and reciprocity incentives automatically generate greater rewards. On the other hand, institutions that encourage compliance using *private benefits* (e.g., aid or technical assistance) have lower levels of value differentiation. These compliance rewards are not intrinsically linked to institutional standards, creating the possibility for opportunistic forum-shopping. Most international institutions provide a mix of these incentive structures. The degree of value differentiation in an issue area is determined by the relative importance of each in motivating compliance.

I explain the effect of value differentiation with a simple model of state compliance with international institutions. The model envisions states as consumers in a market for compliance rewards. The emergence of a regime complex is akin to transitioning from a monopolistic market (one institution) to an oligopoly (multiple institutions). As states gain additional options, their willingness to comply with each body's rules depends on the relative costs and benefits of compliance. The model predicts significant differences in state behavior depending on the differentiation of international institutions. If institutions in the issue area are undifferentiated, the emergence of a regime complex decreases policy change among states. If institutions are value-differentiated, however, regime complexes can increase policy

adjustment.

The concept of value differentiation explains why overlapping institutions degrade cooperation in some issue areas and enhance it in others. Consider development finance and trade, two economic policy domains that have experienced institutional proliferation in recent years. The appearance of new development aid providers – which have low value differentiation since they offer similar private benefits to recipient countries – has generated concern over donor competition and the erosion of conditionality (Annen & Kosempel, 2009; Bueno de Mesquita & Smith, 2016; Brazys et al., 2017; Gehring et al., 2017). By contrast, the proliferation of preferential trade agreements (PTAs) is believed to enhance liberalization and increase trade between countries (Baier & Bergstrand, 2007; Mansfield & Reinhardt, 2008; Baccini, 2019). This is consistent with the high levels of value differentiation observed in the trade regime complex. Because trade agreements are based on reciprocal access to other states' markets, deeper rules create greater rewards.

Empirically, I test the expectations of the model by comparing overlapping institutions in election monitoring and forest-related carbon offsets. Carbon offset verification bodies offer a private benefit (access to carbon offset markets) to actors that develop emission reduction projects. This regime complex features low levels of value differentiation: There is no natural constraint that prevents actors from selecting the least rigorous verification body. Election monitoring organizations, by contrast, reward compliance by issuing a public signal about the quality of an election. The signaling function creates value differentiation: Governments cannot forum shop to a weaker institution without reducing the rewards they receive from compliance.

In each issue area, I leverage dynamic change in the institutional environment to estimate how the addition of overlapping institutions shapes national policies. I find support for the theory in a pair of statistical tests. Consistent with the model, the emergence of overlapping institutions is associated with deeper policy adjustment in the election monitoring regime complex. In the forest-related carbon offset complex, however, institutional overlap has no robust effect on policy adjustment.

The theory and findings complement the theoretical framework that motivates this special issue. I identify a new and important form of differentiation that exists alongside the functional and geographic specialization emphasized in the framework article. I also expand the evidentiary base of regime complex architecture by performing a novel, comparative test of value differentiation across two regime complexes. These contributions both support the intuition of the theoretical framework and help extend it into new theoretical and empirical terrain.

2 Cooperation in regime complexes

Much existing scholarship on regime complexity emphasizes the challenges it poses for effective cooperation. Scholars highlight the duplication and coordination problems that arise when multiple institutions share jurisdiction. Raustiala & Victor (2004), for example, note the tendency for institutions governing plant genetic resources to adopt competing or contradictory rules. Struett et al. (2013) finds similar conflict in the maritime piracy regime complex. Hofmann (2009) argues that regime complexes create inefficiencies due to duplication of effort.

Alter & Meunier (2009) note that regime complexity permits states to use 'cross institutional political strategies' that may undermine the goals of the regime. A common strategy is forum shopping, where states selectively engage with particular institutions that favor their policy preferences (Busch, 2007). Forum shopping enables regulatory arbitrage as states avoid costly rules, empower the weakest institutions, and encourage a race to the bottom (Pratt, 2018). These behaviors have the potential to undermine compliance and increase conflict within a regime complex.

Others contend that regime complexity brings distinct advantages over unified regimes. Kelley (2009) argues that the presence of overlapping election monitoring organizations can enhance legitimacy and facilitate cooperation. Keohane & Victor (2011) assert that the climate change regime complex is more flexible and adaptable than a unified institution. Lesage & Van de Graaf (2013) suggest that institutional overlap in energy and tax governance

reinforces the comparative advantage of individual institutions.

What accounts for these competing perspectives? One possibility is that overlapping institutions have heterogeneous effects. In some issue areas, the introduction of multiple institutions encourages disorder and non-compliance. In other domains, regime complexity may result in a more flexible and complementary governance system. Recent scholarship acknowledges the divergent trajectories of regime complexes (Orsini et al., 2013; Gehring & Faude, 2014; Abbott et al., 2015). But this work has largely focused on describing and conceptualizing disparate outcomes, rather than explaining their emergence. I build on these efforts by demonstrating how the proliferation of institutions damages cooperation in some issue areas and improves it in others.

A second factor that has stymied progress is the lack of a common standard for assessing cooperation. Scholars disagree about the effect of overlapping institutions, in part, because of the abundance of outcome measures that studies employ. These include the degree of rule conflict (Raustiala & Victor, 2004), competition among actors (Struett et al., 2013), level of institutional coordination (Gehring & Faude, 2014; Pratt, 2018), adaptability (Keohane & Victor, 2011), and strength of norms (Kelley, 2009). The examination of different outcomes makes it difficult to draw inferences across cases. The next section identifies a reasonable metric for assessing cooperation in regime complexes that can be applied across issue areas.

3 Depth of policy adjustment

I argue that cooperation in a regime complex should be assessed based on the depth of policy adjustment that the complex induces in member states. There are three reasons to privilege policy adjustment as an outcome. First, it corresponds closely with the classic definition of intergovernmental cooperation as 'a process of policy coordination' (Keohane, 1984). International institutions are designed to help states achieve gains through mutual policy adjustment. This often means committing states to policies that produce greater long-term benefits, even if they are costly in the short- or medium-term. Trade agreements, for example, commit states to lowering trade barriers in order to capture the efficiency gains

of increased economic exchange. Similarly, defense pacts might commit states to maintain a certain level of military spending to increase the collective security of all members. Development and crisis finance institutions often require members to undertake costly economic reforms to ensure long-term economic stability. In each case, member states have short-term incentives to violate these commitments – an essential feature of the model described in Section 5. The purpose of international institutions is to encourage states to adjust their behavior in ways that maximize long-term payoffs. Their success in facilitating policy adjustment is thus a natural measure of their efficacy.

Second, policy adjustment is widely used to judge the effectiveness of individual institutions. Scholars routinely estimate the change in state behavior caused by participation in single institutions. This treatment effect is difficult to identify, given the strategic behavior of states and non-random assignment of institutional membership.[2] The fact that scholars persist in the face of these identification challenges underscores the importance of policy adjustment as a measure of cooperation.

Third, as the framework paper emphasizes, depth of policy adjustment is a generalizable measure that can apply to almost all issue areas. While institutions in different issue areas are designed to resolve distinct cooperation problems, the underlying goal is to shift state behavior in pursuit of a mutually beneficial outcome. An important question for analysts of international cooperation is whether—and under what circumstances—regime complexes support or impede this goal.

I define depth of policy adjustment as the aggregate change in states' national policies induced by a set of international institutions in a particular issue area. In other words, it is the causal effect of an international regime (consisting of one or more international institutions) on state policies. To formalize this quantity, we can conceptualize state policy as a continuum ranging from completely shallow to completely deep. In a trade regime, for example, the continuum might range from a fully protectionist to completely liberal trade posture. In the climate change regime, it might represent the reduction in carbon emissions from an established baseline. Depth of policy adjustment among N states is then defined

as:

$$\text{DPA} = \sum_{i=1}^{N} [\text{Policy}_i | \text{Regime} - \text{Policy}_i | \text{No Regime}]$$

Depth of policy adjustment in the trade regime, for example, can be calculated by aggregating the change in all national tariff levels caused by the World Trade Organization (WTO) and other preferential trade agreements. The counterfactual is a world with no international trade agreements.

This definition is similar to the concept of 'depth of cooperation,' defined by Downs et al. (1996) as the 'extent to which [a treaty] requires states to depart from what they would have done in its absence' (p. 383). The primary difference is that Downs et al. focus on the degree of policy adjustment *required* to be compliant with an institution or treaty, while the above quantity emphasizes *realized* policy adjustment.

The proposed measure refines the general question posed above—is regime complexity good or bad for cooperation?—to a more tractable form: Does regime complexity increase or decrease depth of policy adjustment, compared to a unified regime? Before turning directly to this question in Section 5, the next section defines value differentiation and explains its application to international regime complexes.

4   Value-differentiated institutions

Institutional differentiation describes the extent to which institutions in a regime complex vary in the functions they perform (Henning & Pratt, 2023). Value differentiation is a special type of this general phenomena that arises when more rigorous rules are intrinsically linked to greater benefits for member states.

The concept is analogous to product differentiation among economic goods. Products in an industry may be homogeneous or differentiated. When they are homogeneous, consumers shop solely on the basis of price. As a result, firms must lower prices to avoid losing market share. The ability of consumers to select among multiple producers disciplines the behavior

of firms, rendering them incapable of extracting excess profit from consumers. Those concerned about the effect of regime complexity worry that the same dynamic constrains the power of international institutions. When states can forum shop among multiple institutions, institutions lose the ability to extract policy adjustment from states (Abbott, 2012).

The balance of power changes in differentiated industries, where consumers shop for goods of heterogenous value. They are no longer willing to substitute one product for another solely on the basis of price. This reduces the pressure on firms, which no longer have to engage in pure price competition. The central argument of this paper is that international institutions, like products, sometimes provide differentiated value to member states. Scholarship on forum shopping often assumes an environment akin to an undifferentiated market, where states freely substitute one institution for another. In many cases, however, institutions are imperfect substitutes. Differentiation allows international institutions to mitigate the competitive pressures that would otherwise weaken their power. As a result, differentiated regime complexes are able to demand more policy adjustment from states than undifferentiated complexes.

I focus on a particular type of differentiation in which the value an institution provides to members is inseparably tied to the rigor of its rules—a pattern I call value differentiation. To be value-differentiated, a set of international institutions must have two properties. First, the institutions must vary in the policy demands they place on member states. Trade institutions, for example, vary in the degree of liberalization that they call on states to undertake. Second, these differences in rigor must directly translate into disparate benefits for states. In the trade example, deeper agreements offer members a greater reward in the form of expanded access to other member states' markets. As a result, trade institutions feature relatively high levels of value differentiation.

Defense pacts are another example of value-differentiated institutions. Like trade agreements, these institutions offer member states a reward (the promise of military support) in return for a set of policy demands (e.g., maintaining a certain level of military spending). Defense pacts may differ in the obligations they place on potential members, generating

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disparate membership 'costs.' The rewards of membership also vary, and they do so in ways that are inextricably linked to costs. Deeper defense pacts—those that demand more in terms of state commitment and military readiness—provide a greater reward in terms of military protection. There is an inherent relationship between the value of the institution and the depth of its rules.

Value differentiation is one of many ways in which distinctions emerge among overlapping institutions in a regime complex. Institutions can be functionally or geographically specialized; they may also vary in breadth of membership. I emphasize value differentiation for two reasons. First, as I argue in the next section, it is a recurring feature of global governance in many issue areas. Second and more importantly, it has significant implications for policy adjustment in regime complexes.

4.1 *The determinants of value differentiation*

Value differentiation is a continuum, ranging from perfectly substitutable to completely value-differentiated institutions. A regime complex's placement on the continuum is determined by the incentive structure that institutions use to incentivize compliance. Because these incentives differ systematically across issue areas, we can generate expectations about the degree of value differentiation in regime complexes governing different policy domains.

Most international institutions lack enforcement power. To encourage member states to comply, they include provisions to reward compliant behavior and punish non-compliance. These inducements are often distinct from the long-term benefits that accrue from adherence to international commitments, like gains from trade or the successful resolution of collective problems. Instead, they are short-term rewards that are meant to tip the scales toward compliance when member states weigh the costs and benefits of various policy choices.

The simplest way to assess whether an institution is value-differentiated is to ask the following question: Is it possible to weaken the institution's rules while delivering the same rewards to compliant member states? If an institution could provide identical rewards with lower policy standards, institutions are undifferentiated. Development banks, which provide

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low-income countries with loans or grants in exchange for policy concessions, are one example. It is easy to imagine a new development bank that offers similar rewards (financial assistance) with fewer policy conditions.[3] In other issue areas, the thought experiment reveals a different logic. Election monitoring bodies incentivize compliance by publicly certifying that an election was conducted in accordance with national and international standards. From the member state's perspective, these bodies can provide a valuable signal to domestic and international audiences. Notably, it is not possible for the election monitoring institution to weaken its standards without simultaneously reducing the signaling benefit of certification; a low-standard election observer can only indicate that an election has surpassed a lower bar. Unlike development banks, election monitors are value-differentiated because they provide rewards that are intrinsically tied to their underlying standards.

As this discussion highlights, value differentiation is linked to the incentive structures embedded in international institutions. Common incentives can be grouped into three broad categories: Private goods, reciprocity, and signaling. Institutions that provide *private goods* incentivize compliance via the transfer of excludable, material rewards. Development banks are one example. Institutions that offer aid, technical assistance, or access to technology to member states in good standing also rely on inducement via private goods. These institutions exhibit low levels of value differentiation. The value of private goods does not automatically change as institutional rules become more stringent. As a result, states have more freedom to substitute one institution for another.

Institutions that engage in *reciprocity* reward compliance by granting access to mutual policy adjustment by other member states. Trade agreements embody this reward structure: Members that comply with the rules of a PTA gain access to export markets in other member states. In reciprocity institutions, more rigorous rules naturally provide greater benefits. This relationship holds because the primary benefit of compliance, from a member state's perspective, is obtaining reciprocal policy adjustment by other states. More stringent rules increase the level of policy adjustment demanded of all members, thereby increasing the rewards of membership. As a result, institutions that use reciprocity exhibit high levels of
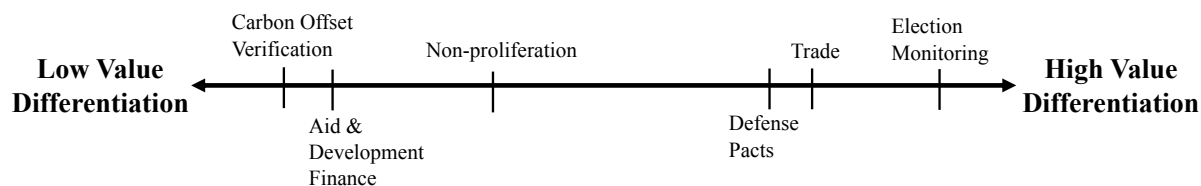
Figure 1. *Continuum of value differentiation*: Several issue areas are plotted on a continuum of value differentiation.

value differentiation.

Finally, institutions that engage in *signaling* reward compliance by certifying and publicizing information about state behavior. These institutions rely on reputational mechanisms to incentivize compliance. Signaling provides value by affirming that a state has met some standard of behavior. The more rigorous the standard, the stronger the value of the signal. Examples include human rights bodies and institutions that engage in "scorecard diplomacy" (Kelley, 2017) to reveal information about states' domestic policies. Signaling bodies feature high levels of value differentiation. States cannot forum shop to weaker institutions without simultaneously reducing the rewards of compliance.

Many institutions perform a mix of these activities, though the relative importance varies by issue area. Issue areas represent distinct strategic settings that shape the basic design and operation of international institutions (Martin, 1992). If international institutions in a policy domain rely primarily on reciprocity or signaling to encourage compliance, they are likely to be value-differentiated. If, instead, they primarily distribute material rewards like financial assistance or technical capacity, they are undifferentiated.

Figure **??** situates several regime complexes on a continuum of value differentiation. Institutions that perform carbon offset validation and verification lie on the low end, since they offer a private goods benefit that is largely exchangeable. Many carbon offset schemes – including the Kyoto Protocol's Clean Development Mechanism – allow governments to meet emissions targets by funding emissions-reducing projects in other countries. To gain access to the carbon offset market, projects must be certified by a validation and verification body (VVB). A proliferation of VVBs emerged in recent years to serve this function, providing

states with a multitude of institutions that provide the same benefit (Green, 2013). As a result, the regime complex features low levels of value differentiation.

Aid and development institutions also feature low value differentiation, since they rely on private goods to incentivize compliance with loan conditions. States seeking funds for development projects can approach an array of development banks. In return for loans, development banks require states to meet economic, environmental, and social standards. While the severity of these conditions varies across development banks, the private benefit of compliance—i.e., the funds a state receives after fulfilling the conditions—do not change in value as conditions become more rigorous. A \$20 million loan finances the same project whether it comes from the World Bank, the Inter-American Development Bank, or the New Development Bank. Development banks are not completely lacking in value differentiation, however, because institutions may also provide a signaling mechanism. Loans from rigorous institutions like the World Bank, for example, may send a broader signal about a government's commitment to reform and future economic performance.

Non-proliferation institutions exhibit moderate differentiation. A major function of these institutions is to signal that states are not developing nuclear weapons. They do so via intrusive monitoring procedures, which are often codified in bilateral safeguards agreements between states and the International Atomic Energy Agency. As in all signaling regimes, more stringent rules (e.g., 'Additional Protocol' agreements) have the potential to send more credible messages about the government's behavior. However, the non-proliferation regime also relies heavily on private goods to encourage compliance. The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) encourages the sharing of peaceful nuclear energy technology with NPT-compliant non-nuclear weapons states. This private benefit is independent of the stringency of NPT rules, reducing the degree of value differentiation in the regime.

Trade and defense pacts are primarily reciprocity institutions, allowing member states in good standing to gain access to favorable policy adjustment by others. Deeper trade agreements offer member states greater market access, creating the potential for value dif-

ferentiation. Similarly, more demanding defense pacts enhance the collective strength of the alliance and thus offer greater military protection to each member state. These regimes are located toward the higher end of the value differentiation continuum.

Finally, election monitoring bodies approximate the ideal type of highly value-differentiated institutions. The benefit they provide is a signal to domestic and international actors that an election was free and fair. Election monitoring institutions with high standards for compliance, such as the Organization for Security and Cooperation in Europe (OSCE), can provide a stronger signal than institutions with weaker standards, like the Southern African Development Community (SADC). The value of complying with OSCE election standards should therefore be greater than the SADC, making the regime complex value-differentiated.

As these examples illustrate, value differentiation occurs when the incentives for compliance are *automatically* conditioned on the rigor of institutional rules. Undifferentiated institutions lack an intrinsic link between rules and rewards, which permits new bodies to emerge that undercut existing standards while promising similar rewards. In some contexts, undifferentiated institutions or their principles may resist this competition by *strategically* conditioning incentives on the depth of rules or engaging in inter-institutional collaboration. This would allow undifferentiated institutions to mitigate opportunistic forum shopping by states – a point I return to in section 5.3.

5   Forum shopping and depth of policy adjustment

To illustrate the effect of value differentiation, I construct a model of state behavior in response to an international regime. The model develops the analogy between institutions and products with varying levels of differentiation. Each setting features strategic actors making cost/benefit tradeoffs as they choose among a set of potentially differentiated goods. Like consumers, states must decide whether to 'purchase' the rewards associated with an institution by moving their policies into compliance.

The model envisions a voluntary reward-for-compliance exchange between states and international institutions. Institutions make policy demands from states in the form of

compliance standards. They provide a reward to states that comply and withhold it from those that do not. Given this environment, the model explores how individual member states decide whether compliance is in their self-interest – and how that decision shifts with the addition of overlapping institutions. In unified regimes, states face a single monopoly 'producer.' They choose whether to adjust their behavior to gain the benefits of compliance with a single institution. In regime complexes, states gain the ability to forum shop among multiple institutions. As I demonstrate below, the consequences of this environment depend on the degree of value differentiation among institutions.

The model relies on four assumptions. First, each state has an ideal policy level that it would adopt in the absence of an international regime. The ideal point could represent a state's preferred tariff level, the quantity of strategic weapons it produces, or the fairness of its elections. These preferred policy levels are distributed on a spectrum from 0 (lowest possible level) to 1 (highest level) according to a continuous density function, $f()$. This assumption does not suppose that international institutions only regulate a single issue, but it simplifies the analysis by decomposing states' multifaceted interests into specific preferences over individual policy domains.

Second, international institutions determine compliance by setting a floor for states' national policies. States with policies above this standard are deemed compliant with the institution and may receive associated benefits. States with policies below this level are non-compliant and gain no reward. Empirically, there are a wide range of benefits states derive from compliance with international institutions. These include direct rewards, such as financial aid, technical assistance, or market access, as well as more diffuse reputational benefits. Avoiding penalties imposed on non-compliant states can also be viewed as a benefit of compliance.

Third, states find it costly to adjust their policies away from their ideal points, with costs increasing in the size of the policy adjustment. For example, a state that prefers high tariffs finds it more costly to comply with WTO rules than a state that generally favors low tariffs.

Fourth, when states confront a regime complex with multiple institutions, these insti-

tutions are *functionally* overlapping – they perform the same roles and activities, making them potentially substitutable. In other words, states have the ability to forum shop among multiple institutions for the same governance function. This is an important scope condition for the model, which explains the incentives for forum-shopping behavior.

These assumptions allow us to analyze state behavior in a range of institutionalized environments. I first consider a scenario where state policies are regulated by a single international institution, and then examine how depth of policy adjustment shifts as states are subject to overlapping institutions with different levels of value differentiation.

5.1 *Unified regime*

In the unified regime scenario, states confront a solitary institution with an exogenously determined standard for compliance, s.[4] States obtain a reward $(\alpha + \theta)$ if they comply with the institution by adopting a policy level that meets or exceeds the compliance standard $(\geq s)$.[5] This reward represents the incentive for compliance offered by the international institution (or alternatively, the avoidance of non-compliance penalties).

Each state has an ideal policy level, p_i, and decides whether to adjust its policies to gain the compliance reward. In this environment, states are akin to consumers in a monopoly market for institutionalized cooperation. They can 'purchase' the benefits of compliance by raising their policy to the institutional standard. Notably, states pay heterogeneous costs for this benefit since their ideal policy levels differ. Some states require no costly policy adjustment because their ideal point is above the institutional standard. Others must raise their policy level to s or forfeit the compliance reward.

State payoffs depend on their decision to comply and the size of the required policy adjustment. State i receives:

- **0** if it chooses not to comply with the institution (*non-compliance*)

- $\boldsymbol{\alpha + \theta}$ if it complies and its ideal point is above the institutional standard $(p_i \geq s)$ (*compliance with no adjustment*)

Unified Regime

1 ───┐
        ┤ A. Comply with no
        │   policy adjustment

IO 1 ───┤
        ┤ B. Comply with
        │   policy adjustment

        ┤ C. Fail to comply with
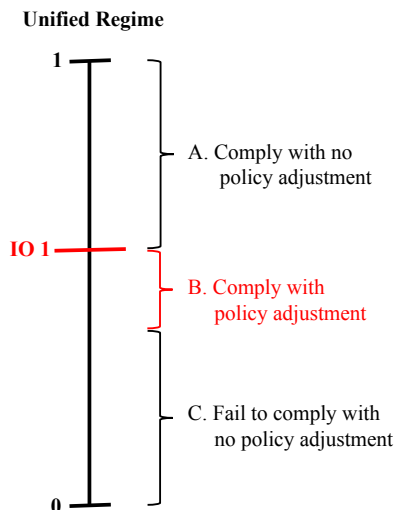   │   no policy adjustment

0 ───┘

Figure 2. *Unified regime*: States arrayed on a continuum of ideal policy levels choose whether to comply with a standard set by a single international institution.

- $(\alpha + \theta) - (s - p_i)$ if it complies and its ideal point is below the institutional standard $(p_i < s)$ (*compliance with adjustment*)

Figure **??** visualizes the unified regime scenario. The vertical line represents the continuum of potential policy levels, ranging from 0 to 1. States' ideal points are distributed on this continuum by the density function $f(p)$. States choose whether to adopt a realized policy level high enough to be compliant with a single international institution (*IO 1*). Each state makes a simple cost-benefit calculation. If the compliance reward is greater than the costs of policy adjustment, states comply; otherwise they do not. This process sorts states into three categories. One set has ideal points that are above the compliance threshold. These states (set A in Figure 2) do not adjust their national policy but are nonetheless compliant with the institution. A second set (B) has ideal points that are below the compliance threshold, but close enough that the costs of policy adjustment are lower than the compliance reward. These states choose to move their policies into compliance. Finally, the third set (C) deems the costs of policy adjustment to be too high, and chooses noncompliance with no policy adjustment. The institution only induces policy adjustment among those in set B.

5.2 Regime complex

How is cooperation affected once we introduce multiple institutions? Consider an environment where two new institutions are added to the issue area, creating a regime complex.[6] For illustrative purposes, suppose one of the new bodies (*IO 2*) sets a compliance threshold higher than the existing institution, while the other (*IO 3*) has a lower standard for compliance.

We can now examine how state behavior changes as they gain the ability to select among multiple institutions. In this scenario, states can forum shop to any institution when seeking compliance rewards. For example, a state confronting an array of election monitoring organizations can select which body will be invited to judge the quality of a domestic election.[7] In practice, states can and often do invite multiple institutions to monitor an election. Though the discussion here portrays states as choosing a single institution, the treatment is consistent with a scenario where states select multiple institutions and receive a compliance benefit from the most rigorous (highest standard) body. The important effect of overlapping institutions is that states can strategically make selective claims of compliance with particular institutions, whether they are election monitoring bodies, trade agreements, or development banks.

As before, states must adopt a policy level that meets or exceeds a particular institutional standard in order to obtain the benefits of compliance with that institution. If a state adopts a policy level that differs from its ideal point, it pays a cost commensurate with the size of the policy adjustment.

5.2.1 Undifferentiated regime complex

We first examine the case where institutions provide undifferentiated benefits to compliant states. Each institution offers an identical benefit, $\alpha + \theta$, to states that meet its compliance standard. This makes institutions homogeneous goods from the perspective of states: They choose among institutions only on the basis of their relative cost, represented here by the degree of policy adjustment required to comply with each institution.
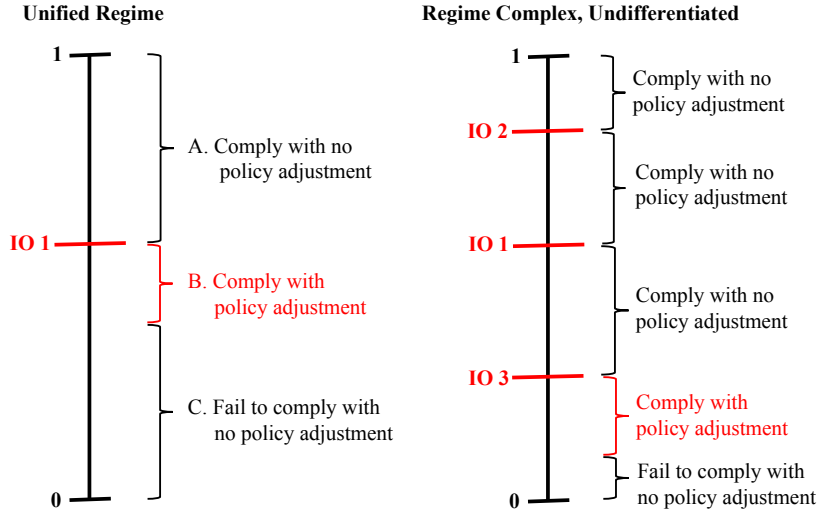
Figure 3. *Regime complex with undifferentiated institutions*: States arrayed on a continuum of ideal policy levels choose whether to comply with a standard set by a single international institution (left panel) or a set of undifferentiated institutions (right panel).

Figure **??** shows how states adjust their behavior in the undifferentiated regime complex scenario (right panel). As before, states are arranged according to their ideal points, from 0 to 1. States select among the original institution (*IO 1*), as well as an institution with deeper (*IO 2*) and shallower (*IO 3*) standards. The unified regime is reproduced (left panel) to demonstrate how policy adjustment changes in the presence of the new institutions.

Policy adjustment in this regime complex reflects regulatory arbitrage, as states forum shop to institutions with weaker compliance standards. The only states willing to comply with *IO 1* and *IO 2* are those with ideal points that are already above the standards set by these institutions. Those with lower ideal points can obtain a higher payoff by forum shopping to the weakest institution. As a result, the ability of *IO 1* and *IO 2* to induce policy adjustment among states has been nullified by the presence of *IO 3*. Only the lowest-standard institution, *IO 3*, can induce meaningful policy adjustment among states.

Compared to a unified regime, the undifferentiated regime complex changes both *who adjusts* and *how much adjustment* occurs. States that previously adjusted their behavior to comply with *IO 1* will now forum shop to *IO 3*, obtaining the same rewards at lower cost. They no longer undertake any policy adjustment. Notably, a set of new states that were

previously unwilling to bear the policy adjustment costs of *IO 1* are now willing to pay the lower costs of complying with *IO 3*. This suggests more broadly that in undifferentiated regime complexes, institutional proliferation redistributes policy adjustment toward states with the 'weakest' preferences.

How does depth of policy adjustment in the undifferentiated regime complex compare to a unified regime? In general, the ability to forum shop results in less policy adjustment by member states (Proposition 1). This result is proven formally in the appendix, but the intuition is apparent from Figure **??**. Policy change in the undifferentiated regime complex only occurs among states with ideal policies below the weakest institutional standard (*IO 3*). The 'best case' scenario for the undifferentiated regime complex is to deliver the same policy adjustment as the unified regime.[8] This would occur if, for example, ideal points were uniformly distributed and *IO 3* set a compliance standard at $\alpha + \theta$ or greater. If any IO sets a lower standard, the set of states motivated to adjust their policies will be lower than in the unified regime.

Proposition 1: *Depth of Policy Adjustment is weakly lower in an undifferentiated regime complex, compared to a unified regime.*

This result means that the emergence of additional undifferentiated institutions cannot increase policy adjustment among states; it can only decrease policy change or leave it unaffected. In these regime complexes, the growing density of institutions creates strong incentives for states to evade rigorous standards via forum shopping.

5.2.2   *Value-differentiated regime complex*

How does policy adjustment shift if a regime complex is value-differentiated? Among these institutions, the benefits of compliance are tied to the strictness of institutional standards. To incorporate this feature into the model, compliance rewards become a function of the institutional standard: $\alpha + \theta(s_j)$ for institution j. The reward now features two distinct terms: A constant term (α) representing similar benefits across institutions, and a variable term ($\theta(s_j)$) that captures differentiation among institutions, with $\theta(s_j)$ increasing in (s_j).
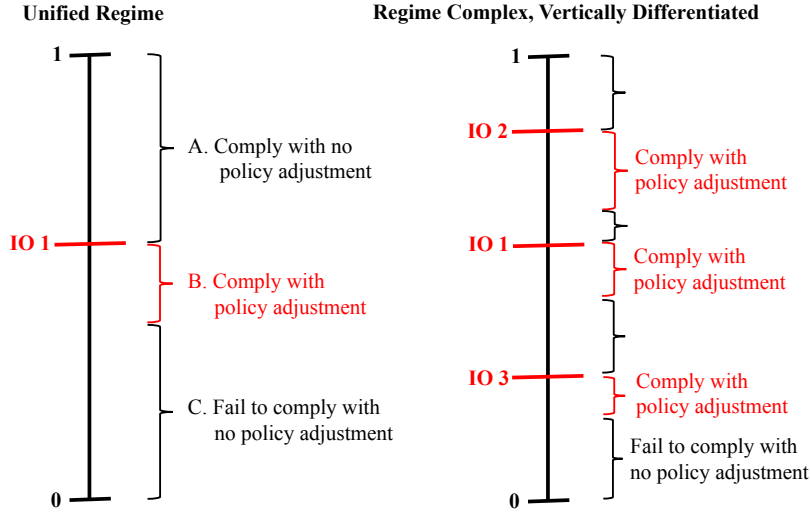
Unified Regime

1

IO 1

A. Comply with no policy adjustment

B. Comply with policy adjustment

C. Fail to comply with no policy adjustment

0

Regime Complex, Vertically Differentiated

1

IO 2

Comply with policy adjustment

IO 1

Comply with policy adjustment

IO 3

Comply with policy adjustment

Fail to comply with no policy adjustment

0

Figure 4. *Regime complex with value-differentiated institutions*: States arrayed on a continuum of ideal policy levels choose whether to comply with a standard set by a single international institution (left panel) or a set of institutions with varying benefits (right panel).

Figure **??** visualizes state behavior in a value-differentiated regime complex (right panel). In this context, states do not necessarily forum shop to the weakest institution. Because institutions with higher compliance standards (e.g., *IO 2*) offer a unique level of rewards, many states now choose to move their policies into compliance with this institution. Just as a market with differentiated products can sustain different price levels, the regime complex can sustain policy adjustment across multiple institutions with different standards.

The willingness of states to forum shop 'upwards' suggests the possibility that more states can be induced to adjust their policies. A direct comparison of expected state behavior in the value-differentiated and undifferentiated regimes requires additional assumptions about the distribution of states' preferred policy levels. If we assume a well-behaved distribution (e.g., p_i is distributed uniformly), depth of policy adjustment is always higher in a value-differentiated regime complex (Proposition 2). See the appendix for details.

Proposition 2: *Depth of Policy Adjustment is strictly higher in a value-differentiated regime complex, compared to an undifferentiated regime complex.*

Proposition 2 establishes that regime complexes are more effective at driving policy change when institutions are value-differentiated. This leaves unanswered the question of whether value-differentiated regime complexes can improve upon unified regimes. The transition from a single institution to multiple, differentiated institutions creates two cross-cutting effects. It allows states to forum shop, giving them the ability to secure compliance rewards at lower cost. But it simultaneously creates incentives to select into more rigorous institutions which provide greater rewards.

As Proposition 3 states, the addition of new institutions will increase depth of policy adjustment if the new institutions are sufficiently differentiated. Specifically, depth of policy change increases when the difference in compliance rewards from the weakest to the strongest institution is greater than a constant determined by α and $\theta(s_1)$. Details are provided in the appendix.

Proposition 3: *When institutions are sufficiently value-differentiated ($\theta(s_3) - \theta(s_2) > \alpha + \theta(s_1)$), Depth of Policy Adjustment is greater in a regime complex than in a unified regime.*

5.3 Discussion

The model provides three important insights into state behavior in the context of overlapping institutions. First, undifferentiated regime complexes generate arbitrage among states, weakly decreasing depth of policy adjustment in the issue area. In these regime complexes, only the lowest-standard institution can motivate states to change their policies. Second, value-differentiated regime complexes outperform their undifferentiated counterparts in motivating policy adjustment. When high-standard institutions can offer benefits that low-standard institutions cannot, some states will 'race to the top.' Finally, the creation of overlapping institutions can increase depth of policy adjustment compared to a unified regime, *if* the new institutions are sufficiently differentiated.

The model suggests the emergence of regime complexes will generate heterogeneous effects on international cooperation, consistent with competing findings in the existing literature.

These heterogeneous effects emerge naturally from rational states responding to different strategic environments. Value differentiation among institutions is the key variable that shapes when regime complexity will yield more or less policy adjustment by states.

A final question not directly addressed above regards the strategic adaptation of institutions as the dynamics of the model play out. In the undifferentiated regime complex, we observed that many high-standard institutions were rendered incapable of motivating policy adjustment among member states. How do these institutions respond to their new environment? While it is reasonable to think of institutions as fixed in the short term, what happens in the long term if institutions can endogenously adapt?

The optimal strategic response depends on the 'preferences' of institutions in the regime complex, which may vary based on the interests and power of institutional principles and bureaucrats. The framework presented here suggests several possible outcomes. First, cooperation may deteriorate as competitive pressures marginalize the more rigorous institutions. This can occur if institutions seek to maximize participation. High-standard institutions risk losing 'market share' as states flock to lower-standard bodies. Eventually, these institutions may lower their standards in an attempt to regain the engagement of a larger number of states. This is the classic 'race to the bottom' scenario where regulatory competition leads to the deterioration of standards.

A second possibility is that institutions strategically differentiate themselves from their peers. Although value differentiation is initially fixed by the issue area, institutions may have some capacity for endogenous value differentiation. If institutions can incorporate signaling or reciprocity as a key component of their activities, they may survive (and even thrive) in the presence of lower-standard institutions. This would allow value differentiation to emerge endogenously from the strategic incentives faced by overlapping institutions.

Finally, undifferentiated institutions may coordinate rules or standards to prevent opportunistic forum-shopping. Like a cartel of producers engaged in price-fixing, the coordination of standards would allow institutions to keep demanding rigorous policy adjustment from states. Co-financing schemes among development banks and patterns of institutional cooper-

ation among financial institutions (Clark, 2022) are examples of this behavior. Accreditation procedures like the Kyoto Protocol's 'designated operational entities' have a similar effect, preventing institutions from lowering standards below a particular level.

6   Empirical tests

To test the predictions of the model, I compare depth of policy adjustment in two regime complexes: Forest-related carbon offsets and election monitoring. These approximate the ideal-types of an undifferentiated and value-differentiated regime complex. The complex for forest-related carbon offsets features low levels of value differentiation because certification bodies are exchangeable: As long as an emission-reduction project is certified by one accredited body, it can participate in the carbon offset market. In contrast, the election monitoring complex exhibits high value differentiation. More rigorous election observers send a more credible signal, and thus provide a greater reward, than lower-standard institutions.

Despite this key difference, the two regime complexes are similar on other dimensions. Each is linked to a specific policy domain where states are required to maintain certain standards to qualify for institutional rewards. Both regime complexes are voluntary: States have no obligation to invite election observers or to participate in the carbon offset market. If they participate, they can select among a diverse set of certifying institutions with varying levels of rigor. Both issue areas also have clear spillovers for economic development: Deforestation is inextricably linked to growth in agriculture, logging, and mining, while election monitoring shapes patterns of foreign aid from donors.

The theory predicts different trajectories for policy adjustment across the two issue areas. As actors select among the set of forest-related VVBs, they should forum shop to bodies with the weakest compliance standards, reducing the need for policy adjustment. I therefore expect a null or negative effect of institutional overlap on policy adjustment in this regime complex. The proliferation of election monitors, on the other hand, should generate an increase in policy adjustment as some states select into more rigorous institutions. Below, I describe the structure and operation of the two regime complexes and then introduce the

empirical strategy used to assess the theory.

6.1 Background

6.1.1 *Forest-related carbon offset certification*

The regime complex for forest-related carbon offset certification is a relatively new domain of global governance. Its function is to facilitate the implementation of carbon offset projects involving afforestation or avoided deforestation. Carbon offsets enable actors to fund emissions-reducing projects in other countries in lieu of directly reducing their own emissions. Demand for offset projects has increased in recent years as states pledge reductions in emissions of greenhouse gases. They typically involve a developed country government or firm funding a project to reduce emissions in a developing country. These offsets can be used to meet legally-binding emissions targets, such as the Kyoto Protocol, or voluntary environmental goals such as corporate pledges.

Carbon offset projects include a variety of activities, from improved energy efficiency to methane collection. I focus on the subset of institutions that govern forest-related offsets. These projects leverage the role of forests as natural carbon sinks that sequester and store atmospheric carbon. They commonly involve afforestation, reforestation, and avoided deforestation initiatives.The regime complex for forest-related carbon offset certification sits at the intersection of climate change and forestry governance (Glück et al., 2010), and its salience has grown in recent years as states increasingly recognize the link between forest loss and greenhouse gas emissions (McDermott et al., 2010).

To qualify as a carbon offset, projects must be vetted by validation and verification bodies (VVBs). VVBs are the auditors of carbon offset projects that certify their estimated emissions reduction. Green (2013) describes how the Kyoto Protocol leveraged private actors as the 'atmospheric police' in its offset market, the Clean Development Mechanism (CDM). This generated a proliferation of third-party VVBs that states can select from to certify proposed offsets. The number of VVBs permitted to certify forest-related projects in the CDM increased from one in 2005 to twenty in 2020. Appendix Table A1 lists the full set of

VVBs and their dates of entry.

Notably, VVBs are exchangeable in the CDM *by design* — states outsource certification to third-party institutions, each of which can deliver the same benefit (access to the offset market) to member states. Each must be accredited by the United Nations Framework Convention on Climate Change (UNFCC) in order to certify offsets in the CDM. However, participants in the industry argue that some VVBs are substantially more rigorous than others in their monitoring and verification procedures.[9] Because these institutions can vary in rigor while offering the same reward, they feature low levels of value differentiation.

6.1.2 *Election monitoring*

The regime complex for election monitoring developed in the 1980s as governments sought to strengthen the quality of democratic elections. Institutions in this complex include both intergovernmental and non-governmental organizations. They operate by sending observer missions into countries to assess the quality of domestic elections.

The United Nations was an early participant in the regime, observing elections in Timor-Leste, South Africa, and Cambodia in the 1980s. It subsequently receded as preference divergence among member states reduced its scope for action. In its absence, dozens of other institutions began to perform election observation. Many were regional IGOs like the OSCE, which became the most active institution in the regime complex. Non-governmental bodies like the Carter Center and International Republican Institute are also prominent participants. By 2015, at least seventeen distinct election monitoring institutions were active in the regime complex.[10]

The different election monitoring institutions overlap in their core functions and design features. Each institution conducts structured electoral observation missions, and each must be invited by governments to observe an election. However, they feature significant variation in compliance standards and the robustness of monitoring procedures. Kelley (2012) describes how differences in practice among election monitoring institutions generate variance in certification behavior. Election monitors disagree frequently and vary significantly in

their willingness to highlight problems with elections. Because election observation missions require the consent of the host government, states have the freedom to invite institutions with low or high standards to observe their elections.

6.1.3 *Architecture of the regime complexes*

Henning & Pratt (2023) argue that regime complexes are usefully classified according to two architectural features: Authority relations and institutional differentiation. These features are hypothesized to jointly shape outcomes like behavioral adjustment and institutional strategies. This paper is more narrowly focused, providing a rigorous analysis of value differentiation and its effects on policy adjustment. Nonetheless, the broader framework points to a number of factors that should be held constant in an empirical comparison of regime complex performance.

In terms of authority relations, both the election monitoring and carbon offset regime complexes feature low to moderate levels of hierarchy. Institutions enjoy similar levels of authority, with few bodies subordinating their rules or judgments to peer institutions. A partial exception in both issue areas is the United Nations, which is not active as a monitoring body but articulates standards and norms that diffuse throughout the complexes. In election monitoring, the UN maintains a role in delivering technical assistance, setting norms, and legitimizing the regime. In the forest-related carbon offset regime, the UNFCC administers the premier compliance market, the Kyoto Protocol's Clean Development Mechanism, and accredits the VVBs to ensure they meet basic standards. Consistent with the framework paper's expectations, the centrality of the UN limits the severity of rule conflict in both regime complexes. The two regime complexes also score similarly on the dimensions of differentiation highlighted in the framework paper. Both feature a reasonably high degree of geographic differentiation, but very little functional differentiation.

In sum, the two regime complexes are similar on the dimensions emphasized in the framework paper. Unlike the forest-related carbon offset regime complex, however, election monitoring institutions are value-differentiated. I therefore expect states that become subject

to more overlapping election monitoring institutions to increase policy change in that domain. Additional forest-related VVBs, by contrast, should reduce policy change among states.

6.2 *Empirical strategy*

There are two primary threats to inference when estimating the effect of regime complexity on depth of policy adjustment. First, the outcome variable (depth of policy adjustment) requires knowledge of an unknown counterfactual. It is defined as the change in national policies that arise due to the presence of a regime, compared to what states would have done in the absence of a regime. In both election monitoring and forest-related carbon offsets, it is difficult to approximate what national policies would look like absent any multilateral institution.

Fortunately, the quantity of interest is not depth of policy adjustment itself, but the *change* in depth of policy adjustment as a system shifts from a unified regime to a regime complex. Using the definition of depth of policy adjustment provided in Section 3, the outcome of interest is the following:

$$\Delta \text{DPA} = \sum_{i=1}^{N}[\text{Policy}_i|\text{Regime Complex} - \text{Policy}_i|\text{No Regime}] -$$
$$\sum_{i=1}^{N}[\text{Policy}_i|\text{Unified Regime} - \text{Policy}_i|\text{No Regime}]$$

which simplifies to $\sum_{i=1}^{N}[\text{Policy}_i|\text{Regime Complex} - \text{Policy}_i|\text{Unified Regime}]$. In other words, we do not need to infer state behavior in the absence of a regime. Instead, we can focus on the difference in states' policies when they face a large set of institutional options compared to fewer options.

The second concern is the endogeneity of international institutions. States are strategic actors; they create overlapping institutions to serve political goals. Comparing states that are subject to a single institution's jurisdiction and those that are subject to multiple institutions could produce biased estimates if states strategically construct new governing bodies. I take

two steps to mitigate this problem. First, I conduct a difference-in-differences analysis that leverages dynamic shifts in institutional overlap. Specifically, I compare changes in the policy levels of states that remain under the jurisdiction of a fixed number of institutions to those that experience growth in the number of institutions with authority to regulate their behavior. This strategy allows for the possibility that states with more institutional options have systematically different policy levels than states with fewer options. The difference-in-differences approach instead relies on the parallel trends assumption. Second, I examine only the subset of weaker states that find it difficult to create new institutions on their own. The architecture of the regime complex is plausibly exogenous to their political preferences because they have limited ability to shape it. The results in Section 6.4 reflect this sample.

6.3 *Data*

For both analyses, the unit of analysis is the state-year. Dependent variables represent policy outcomes in the election monitoring and forest-related carbon offset regimes, respectively. For election monitoring, I use an annual measure of the quality of states' domestic elections. For forest-related offsets, I use a yearly index of tree cover in each country, derived from satellite imagery. While these outcomes may not directly track the specific conditions mandated by each institution on each member state, they do reflect the general policy outcomes that the regime complexes are designed to achieve. In both cases, the primary independent variable is the number of institutions that a particular state can select from in a given year.

Election monitoring

The dependent variable for the election monitoring analysis is the extent to which states hold national elections in a free, fair, and open manner. Data on the quality of elections comes from the 'executive recruitment' score in the Polity IV dataset. This variable measures the regularity, competitiveness, and openness of national elections (Marshall et al., 2016). It ranges from 1 (16.2% of observations) to 8 (31.6%), with scores increasing in the quality of a state's elections.

The independent variable is the number of election monitoring institutions from which a particular state can select. I use data from Kelley (2012) to identify election monitoring institutions and their dates of operation. I count the number of institutions each state could potentially invite to monitor its elections each year. The number of 'potential observers' ranges from 1 to 11. There is significant temporal and cross-sectional variation in this variable. Variation across countries occurs due to the different geographic scope of monitoring institutions. The entry of new institutions (e.g., the Commonwealth of Independent States in 2001) drives temporal variation. As a result, the number of monitoring institutions available to Jordan in the year 1986 is different from the number available to India in the same year, and is also different than the number available to Jordan in 1989. The data cover the period 1980-2015.

Forest-related carbon offsets

The dependent variable for the forest-related carbon offset regime complex is the extent of tree cover in each country. I draw on a measure of annual tree cover derived from satellite imagery (Hansen et al., 2013). The dataset measures estimated hectares of tree cover within each country's territorial borders from 2000-2020. To account for significant differences in states' initial endowment of tree cover, I transform the data to reflect the percentage of each country's tree cover in the year 2000. Brazil in the year 2005, for example, receives a score of 0.968 since it retains 96.8% of the tree cover it had in the year 2000. The average value across countries in the time period is 0.954.

As above, the independent variable is the number of institutions from which a state can select in a given year. To calculate this measure, I include all VVBs accredited to participate in the CDM. The CDM is the most prominent institutionalized carbon market and has the strongest standards for VVB accreditation. Other carbon offset markets have emerged in recent years, including private and voluntary markets, that perform similar roles. I focus on the CDM due to its centrality and because data on the universe of VVBs participating in all offset markets is not available.[11] Thirty-two VVBs have been accredited to audit forest-related offsets in the CDM. The number varies over time and across geographic regions. The

31

total number of 'potential VVBs' available to a given state ranges from 0 to 16.

6.4 *Results*

I use a difference-in-differences design to estimate the effect of overlapping institutions on these policy outcomes. Treatment represents the introduction of a new overlapping institution in the issue area. Control observations are those which did not experience an increase in the number of institutions from which they can select. Importantly, this approach does not require treated and control observations to have similar levels of outcomes. Instead, it assumes that without the introduction of a new institution, treated and control states would have similar trends in the relevant outcome over time. If this assumption holds, any observed differences in these trends can be attributed to the onset of new overlapping institutions.

To minimize systematic differences between treated and control units, I employ the matching approach proposed by Imai et al. (2021). For each treated observation (i.e., a state that gains an additional institutional option in a given year), I identify a matched set of control observations in the same year that are not treated but have an identical treatment history over the past three years. I further refine this matched set by selecting only the control observations that have similar covariate values.[12] Treated observations that have an empty matched set are removed from the dataset. This process is performed separately for the two issue areas, yielding a set of treated and control observations in each regime complex.

Figure 5 displays the 6-year trend in outcomes among treated and untreated observations in the two regime complexes. The blue points show the average outcome of treated states – those that gained at least one new overlapping institution in a given year. The vertical line denotes the year of treatment. The red points show the same quantity for states that do not gain a new institution.

The figure lends credibility to the parallel trends assumption, since control and treated units have similar pre-treatment trajectories in both regime complexes. However, we observe different patterns across the two panels in the post-treatment period. In the election monitoring complex (left panel), control countries maintain a stable executive recruitment
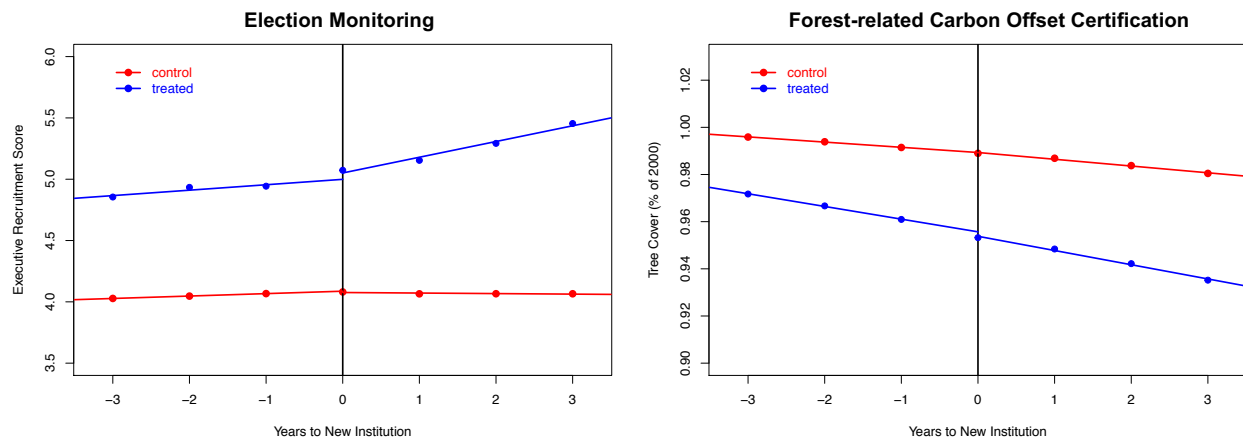
Figure 5. *Treatment vs. control outcome trends, election monitoring vs. forest-related carbon offset regime complexes*: Points represent means for every time period from t=-3 to t=3 years from the introduction of a new institution. Treated units, defined as states that became subject to a new international institution in t=0, are shown in blue. Control observations are red.

score over time. The treated countries, by contrast, experience an increase in election quality once they gain a new election monitoring body. These trends are consistent with the value-differentiated nature of election monitoring institutions: When states can forum shop among new institutions, they increase policy adjustment on average.

The forest-related carbon offset regime complex, depicted in the right panel, tells a different story. Both control and treated units experience a steady decline in tree cover in the pre-treatment period. In the post-treatment period, the decline largely continues unabated. There may even be a slight acceleration of tree cover loss among treated units. The figure suggests that states that gain the ability to forum shop among new VVBs may respond by reducing policy adjustment.

To examine whether these differences are statistically significant, Figure 6 visualizes the average treatment effect on treated units along with 95% confidence intervals. Estimates reflect the change in policy adjustment among treated units, compared to the matched control observations. Because the effect of new institutions may not be instantaneous, I present point estimates for up to three years after the treatment period.

The results are generally consistent with theoretical expectations, though not all esti-
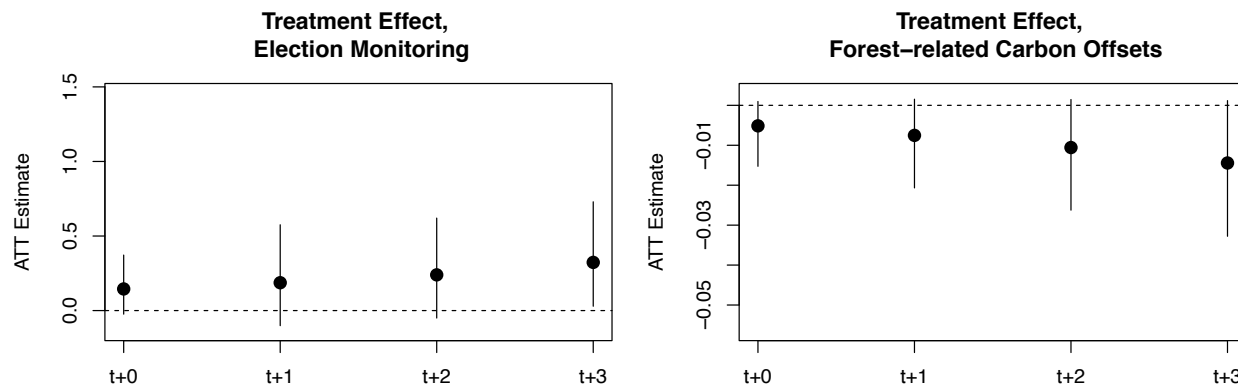
Figure 6. *Estimated treatment effects of new institutions*: The figure displays point estimates and 95% confidence intervals for the average treatment effect of new institutions in the election monitoring and forest-related carbon offset regime complexes. Results are estimated using a difference-in-difference analysis.

mates are statistically significant. In election monitoring, the ability to forum shop among more international institutions increases policy adjustment in the form of improved election quality. While the effect is positive in each of the three years following the creation of the new institution, it is only statistically significant in the third year. Substantively, these estimates suggest that each new election monitoring institution generates a 0.32 increase in the executive recruitment score of countries in its jurisdiction after three years of existence. While this is a relatively small effect, recall that at least 16 institutions have been created to monitor national elections.

The forest-related carbon offset regime complex exhibits a different pattern of response than election monitoring. The creation of new VVBs for forest-related offsets appears to be associated with less policy adjustment in the form of tree cover conservation, though the estimates are not statistically significant at conventional levels.

7 Conclusion

This paper resolves an important puzzle in IPE scholarship: Why does the proliferation of governing bodies improve cooperation in some issue areas, while harming it in others? I

provide a theory that highlights a consequential distinction between undifferentiated and value-differentiated regime complexes. In the former, states treat institutions like homogeneous goods, substituting one for another based solely on rigor of institutional standards. In the latter, institutions provide unique value to states. They are not easily substituted, so states will bear greater costs to comply with high-standard institutions.

I elucidate the role of value differentiation via a model of states in a 'market' for multilateral cooperation. The model demonstrates how the shift from a unified regime to a regime complex can have drastically different effects on state behavior. Undifferentiated regime complexes encourage arbitrage and limit the ability of institutions to shape national policies. Value-differentiated regimes, however, allow an array of institutions with different standards to have a meaningful impact on member states. A paired empirical analysis of the election monitoring and forest-related carbon offset regime complexes supports the intuition of the model.

Finally, the paper unpacks the sources of value differentiation, which stem from the basic compliance incentives that institutions offer member states. Future work can identify specific features and strategic adaptations that contribute to value differentiation among overlapping institutions. In addition to value differentiation, institutions can differentiate by appealing to specific constituencies or developing local expertise. They may also functionally differentiate by dividing labor among institutions.

The paper has important implications for scholarship on global economic governance. International economic institutions vary in the incentives they offer member states, and thus feature different levels of value differentiation. Trade institutions attract states by offering reciprocal market access, fostering value differentiation between deep and shallow agreements. Regulatory bodies that set standards in health, safety, and the environment provide a signaling function, which also strengthens value differentiation. In these issue areas, the proliferation of international institutions does not incite a race to the bottom and degradation of cooperation.[13] In fact, it may strengthen cooperation by inducing more policy adjustment among member states. Other institutions in IPE, such as development

finance providers and tax treaties (Qian, 2023), provide private benefits to states, generating low value differentiation and facilitating forum-shopping behavior by states. These latter issue areas risk the erosion of cooperative gains if rules are not harmonized or institutions do not strategically differentiate. Future work should examine these endogenous attempts to differentiate overlapping institutions.

Notes

[1] Henning & Pratt (2023).

[2] See Downs et al. (1996); Von Stein (2005); Davis & Pratt (2020).

[3] In fact, the proliferation of such bodies has generated concern about donor competition and forum shopping (Annen & Kosempel, 2009; Steinwand, 2015; Bueno de Mesquita & Smith, 2016; Brazys et al., 2017; Gehring et al., 2017).

[4] In practice, institutional standards are determined via state bargaining. Some models incorporate standard-setting via supermajority vote (Downs et al., 1998), imposition by a hegemon (Stone et al., 2008), or randomly assigned proposal power (Gilligan, 2004). Section 5.3 considers endogenous updating of institutional standards.

[5] $\alpha + \theta$ can be considered a single quantity in the context of a unified regime. In a regime complex, the α term is constant across institutions, representing the identical benefits of compliance that can be obtained from every institution. The θ term can depend on the standard for compliance (s_j) set by institution j.

[6] Results are consistent with any number of additional institutions. I assume that all states are potential members of all three institutions. In other words, I examine policy adjustment among those states that become subject to multiple, overlapping institutions. Those that are members of only one institution will behave as discussed in the previous section.

[7] This does not assume that each institution enjoys equal legitimacy or legal status. Indeed, the potential for differentiation among institutions is the key variable that shapes depth of policy adjustment in the model.

[8] Comparing these scenarios requires some further assumptions that the distribution of ideal points is unimodal and reaches its highest density at a policy level $\geq s_1$. This latter condition will be satisfied if the original institution was designed such that its compliance standard was at the mode of the ideal policy level distribution.

[9] A senior executive at a leading VVB described some bodies as substantially more 'flexible' and 'client-friendly' when auditing offset projects. Interview by author, May 12, 2021.

[10] See Appendix Table A2 for the complete list.

[11] While the presence of VVBs in the CDM likely mirrors the distribution of VVBs more generally, this proxy measure could add measurement error and contribute to attenuation bias.

[12] Using the 'Panel Match' package in R, I calculate the Mahalanobis distance measure between the treated observation and all control observations in the matched set, using information on states' economic power (GDP), income (GDP per capita), political system (Polity IV score), and a measure of foreign policy preferences based on UN voting (UN Ideal Point score).

[13] See Perlman (2020) for an empirical analysis of international regulatory standards.

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Appendix

A1. Model Details

A group of $i, ..., N$ states are endowed with an ideal policy level, p_i, distributed on by the density function $f(p)$. They are members of one or more international institutions which provide rewards if state policies are compliant with exogenously set institutional standards, denoted by s_j for institutions $j, ..., J$.

The game proceeds in two steps. First, states choose a policy level. If they adjust their policy away from the ideal level, they incur costs that are equivalent to the distance between their ideal and realized level. Second, states receive the rewards associated with compliance. If a state's chosen policy level is above an institution's compliance threshold (s_j), it receives a payoff of $\alpha + \theta(s_j)$. If a state's chosen policy level is below all institutional compliance thresholds, it receives no payoff.

Compliance thresholds are known by states before they choose a policy level. Depth of policy adjustment is calculated as the number of states that choose a policy higher greater their ideal policy level.

Proposition 1: unified regime vs. undifferentiated regime complex

In the unified regime scenario, N states choose a policy level when confronting a single international institution with compliance threshold s_1. State payoffs are:

- **0** if a state chooses not to comply with the institution (*non-compliance*)

- $\boldsymbol{\alpha + \theta(s_1)}$ if a state complies and its ideal policy level is higher than the institutional standard $(p_i \geq s)$ (*compliance with no adjustment*)

- $\boldsymbol{(\alpha + \theta) - (s - p_i)}$ if a state complies and its ideal policy level is lower than the institutional standard $(p_i < s)$ (*compliance with adjustment*)

A states will only choose non-compliance when its ideal policy level p_i is sufficiently low that the costs of adjustment $(s_1 - p_i)$ are greater than the benefits of compliance $(\alpha + \theta(s_1))$.

This occurs when $p_i < s - \alpha - \theta(s_1)$. The number of non-compliant states is therefore $N(F(s_1 - \alpha - \theta(s_1)))$, and the quantity of compliant states is $N(1 - F(s_1 - \alpha - \theta(s_1)))$.

The set of compliant states includes two types: 1) states that adjust their policies to become compliant, and 2) states that are compliant "by default" (i.e., their ideal policy level is above the single institution's compliance threshold). We subtract the latter from the total quantity of compliance to calculate depth of policy adjustment: $N(F(s_1) - F(s_1 - \alpha - \theta(s_1)))$.

In the undifferentiated regime complex, the same N states choose a policy level when confronting the original institution plus multiple new institutions with differing compliance thresholds. Because the new institutions are undifferentiated, they offer identical compliance rewards to the original institution $(\alpha + \theta(s_1))$.

First, consider the case where all "new" institutions have a higher compliance standard than the original institution. States can achieve equal payoffs from each institution, but policy adjustment is costly. No state is willing to bear the costs of policy adjustment in order to meet the higher standards of the new institutions. Since all states forum shop downward to the weakest institution, depth of policy adjustment is equal to the unified regime.

Now consider the case where at least one new institution has a lower compliance standard than the original institution. As before, no state will adjust its policy level to comply with anything but the weakest institutional standard (s_{low}). Policy adjustment will only occur among states with ideal policy levels that are 1) below the new, lowest compliance standard $(p_i < s_{low}$, and 2) above a cutoff where the magnitude of policy adjustment required to meet the lowest standard is equal to the benefits of compliance $(s_{low} - (\alpha + \theta(s_1))$. This establishes a range of ideal policy levels, just below s_{low} and of length $\alpha + \theta(s_1)$, in which states will be motivated to engage in policy adjustment. To compare total policy adjustment in this scenario and the unified regime, we add the additional assumptions that $f(p)$ is unimodal and reaches its highest density at $\geq s_1$. In that case, policy adjustment in the undifferentiated regime complex: $N(F(s_{low}) - F(s_{low} - \alpha - \theta(s_1)))$, is weakly less than policy adjustment in the unified regime: $N(F(s_1) - F(s_1 - \alpha - \theta(s_1)))$.

Proposition 2: undifferentiated vs. value-differentiated regime complex

The setting for the value-differentiated regime complex is identical to the undifferentiated regime complex, with the exception that the rewards of compliance vary across institutions: $\alpha + \theta(s_j)$. For a fair comparison between the undifferentiated and value-differentiated scenarios, I assume that the sum of benefits provided by multilateral institutions is identical in each regime complex. Otherwise, the difference in performance would arise by construction: if one type of regime complex has the advantage of offering a higher quantity of benefits to states, it can trivially induce more policy adjustment in those states.

In the undifferentiated regime complex, each institution offers an identical benefit of $\alpha + \theta(s_1)$ to compliant states (total benefits across J institutions $= J(\alpha + \theta(s_1))$). In the value-differentiated regime complex, each institution provides a unique benefit of $\alpha + \theta(s_j)$, totaling $J\alpha + \sum_{j=1}^{J} \theta(s_j)$. Setting these quantities to be equal implies that the constant $\theta(s_1)$ term in the undifferentiated regime complex is equivalent to the average of the $\theta(s_j)$ terms in the value-differentiated regime complex.

Depth of policy adjustment in the value-differentiated regime complex depends on the rate at which $\theta(s_j)$ increases in j. Consider first the simple case where $\theta(s_j)$ increases at greater than a 1:1 rate: $\theta(s_j) - \theta(s_{j-1}) > s_j - s_{j-1}$. Substantively, this means that the marginal gain from complying with institution j compared to institution $j-1$ is greater than the costs of adjusting policy from s_{j-1} to s_j. In this case, the highest-standard institution always generates more net benefits for states than other institutions. States either choose non-compliance or forum shop "upward" by moving policies into compliance with the top institution. Depth of policy adjustment in the regime complex is therefore equivalent to the policy adjustment induced by the highest-standard institution: $N(F(s_J) - F(s_J - \alpha - \theta(s_J)))$ where J indicates the most rigorous body.

We cannot make direct comparisons between policy adjustment across regime complexes without additional distributional assumptions regarding $F(p)$. If $F(p)$ is distributed uniformly, it is apparent that the value-differentiated regime complex generates more policy ad-

justment. The value-differentiated regime then induces policy adjustment among $N(\alpha + \theta(s_J))$ states while the undifferentiated regime complex motivates $N(\alpha + \theta(s_1))$ states. Since $\theta(s_j)$ is increasing in j and s_J represents the standard of the highest-standard institution, the value-differentiated regime complex produces greater policy adjustment.

Now consider the more complicated case where $\theta(s_j)$ increases at a slower rate: $\theta(s_j) - \theta(s_{j-1}) \leq s_j - s_{j-1}$. In this case, each institution in the value-differentiated regime complex produces some level of policy change. The lowest-standard institution induces adjustment equal to $N(F(s_{low}) - F(s_{low} - \alpha - \theta(s_{low})))$ as states with ideal policies below its compliance threshold choose between compliance or non-compliance. States with ideal policies above s_{low} must choose between forum shopping down to the next weakest institution and forum shopping up to the next strongest. For example, states with ideal policies in between institutions j and $j + 1$ choose to accept the rewards associated with institution j or seek the greater rewards and costs associated with moving their policy into compliance with institution $j+1$. Comparing the payoffs of each identifies a cutoff ideal point at which it is profitable to adjust policies upwards: state i will do so when $\alpha + \theta(s_{j+1}) - (s_{j+1} - p_i) \geq \alpha + \theta(s_j)$, or $p_i \geq s_{j+1} - (\theta(s_{j+1}) - \theta(s_j))$. Adopting the uniform distribution and summing across institutions yields aggregate policy adjustment of $N(\alpha + \theta(s_J))$, once again higher than the undifferentiated regime complex.

Proposition 3: unified regime vs. value-differentiated regime complex

The minimum possible depth of cooperation in the value-differentiated regime complex occurs when the weakest compliance standard (s_{low}) is 0, such that it requires no policy adjustment in order for any state to comply. In that case, depth of policy adjustment is in the value-differentiated regime complex ($N(\alpha + \theta(s_J))$) is reduced by the quantity of states that were previously motivated to comply with the weakest institution: $N(\alpha + \theta(s_J)) - N(\alpha + \theta(s_{low}))$. That quantity will be higher than the unified regime when $N(\alpha + \theta(s_J)) - N(\alpha + \theta(s_{low})) > N(\alpha + \theta_{(s_1)})$, or $\theta(s_J) - \theta(s_{low}) > \alpha + \theta_{(s_1)}$.

A2. Tables and Figures

VVB	Entry	Exit	Geographic Scope
PWC - South Africa	2005	2008	Africa
ICONTEC	2009	present	Latin America
RINA	2009	present	Global
KSA	2009	present	Asia
KECO	2009	2014	Africa
JQA	2009	present	Global
BVI	2009	present	India
E&Y France	2009	2015	Europe
JMA	2009	2017	Asia
SAQM	2009	2012	Global
TUV Rheinland	2009	2017	Asia
KPMG AZSA	2009	2012	Asia
DNV Climate Change	2009	2016	Global
JACO PCM	2009	2015	Asia
AENOR	2010	present	Latin America
TUV Nord	2010	present	Global
TUV Sud	2010	present	Global
KEA	2010	present	South Korea
Carbon Check	2011	present	Global
CEC China Environmental	2011	present	China
KBS	2011	present	Global
Indian Council on Forestry	2011	2014	India
CQC	2012	present	China
IBOPE	2012	2015	Brazil
EPIC Sustainability	2013	present	Global
Earthhood	2014	present	Global
BRTUV	2014	2014	Brazil
CCCI	2015	present	China
Schenzen CTI	2018	present	China
4KES	2019	present	Global
CTC China Building Material	2019	present	China
CCSC	2019	present	China

Table A1: *Accredited Validation and Verification Bodies (VVBs) for Forest-Related Offsets in the Clean Development Mechanism.* The table lists all VVBs accredited by the UNFCCC to certify projects in sectoral scope 14 (Afforestation and reforestation). It includes VVB's year of accreditation, year of withdrawal, and estimate of the VVB's geographic scope.

VVB	Entry	Geographic Scope
International Republic Institute	1986	Global
National Democratic Institute	1988	Global
Asian Network for Free Elections	1998	Asia
Council of Europe	1990	Member States
Int'l Foundation for Election Systems	1988	Global
Org. for Security & Co-operation in Europe	1991	Member States
European Parliament	1999	Non-EU countries
Norwegian Helsinki Center	1995	Europe, North America, Central Asia
United Nations	1989	Global
Commonwealth of Independent States	2001	Member States
Commonwealth Secretariat	1980	Member States
Carter Center	1990	Africa, Latin America, Asia
European Union	1994	Non-EU countries
Organization of American States	1989	Member States
South African Development Community	1999	Member States
Electoral Institute of South Africa	1998	Africa

Table A2: *Institutions in the Election Monitoring Regime Complex.* The table lists all election monitoring institutions included in data by Kelley (2012). It includes each institution's year of entry into the regime complex, year of exit, and the geographic scope of its election observation activities.