

A bird in the hand: Temporal focal points and change in international institutions

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Abstract This article develops a theoretical explanation for the timing of change in international institutions. It provides a rational choice response to key insights of historical institutionalist scholarship. Many existing theories—such as rational choice and sociological institutionalisms—explain the timing of change mainly by listing its causes. An analysis of the timing of change in many realms of institutional activity, however, demonstrates that incentives to alter institutions frequently accumulate, unaddressed for extended periods of time. The result is persistent institutional suboptimality, punctuated intermittently by phases of transformation. To account for divergence from the expectations of existing theories, I test two hypotheses concerning the role of transaction costs and temporal coordination dilemmas in hindering change. Introducing the concept of Temporal Focal Points, the article explains why temporal landmarks, such as international crises and prominent anniversaries, are frequently associated with non-linear, transformative change. To assess the explanatory potential of this framework, I analyze the record of change in United Nations environmental institutions. The case study supports the hypotheses advanced, leading to the conclusion that the when of institutional change can tell us a lot about the why of change.

Keywords International institutions · Institutional change · Global governance · Global environmental politics · Rational choice institutionalism · Historical institutionalism

Analysts have had a deep fascination with moments of rapid change and discontinuity in political affairs. Studies of “critical junctures,” “policy windows,” “inflection

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points,” “trigger events,” and “punctuated equilibria” have occupied a prominent place in assessments of policy and institutional change.¹ These phenomena are important because their legacies can have far-reaching consequences for international cooperation. Rare instances of dramatic change can rapidly break down the entrenched, inertial quality of institutions, ushering in new patterns of cooperation.² Change during these junctures is rarely restricted to narrow spheres of institutional activity, regularly generating a clustered pattern of reform that reaches adjacent institutional settings. In the United Nations environmental context, for example, more than a third of environmental conventions of global scope were concluded within two 2-year phases of institutional hyperactivity.³ These periods—in the early 1970s and the early 1990s—also saw the creation of the UN Environment Programme (UNEP), the Commission on Sustainable Development, and major reform to the Global Environment Facility. The clustering of agreements, which would seem to be driven by factors other than the sudden worsening of international problems across multiple domains, raises important questions for existing explanations of institutional change.

This pattern is made more puzzling by the fact that significant change is frequently associated with dates of purely symbolic importance to the maintenance of cooperative equilibria. In the 2000s, for example, states coordinated around the approaching 60-year anniversary of the creation of the United Nations to institutionalize the Responsibility to Protect doctrine (Evans 2008: 43–50). Establishing a set of Millennium Development Goals for the year 2000 helped create a sense of exceptionality in the promotion of international development. In 2012, states convened the United Nations Summit on Sustainable Development in Rio, Brazil. The location, as well as the event’s colloquial name, “Rio + 20,” were used to recall the consequential decisions taken at the 1992 Earth Summit and to add urgency to conference bargaining. Even violent challenges to the political status quo have been associated with symbolic junctures. Prominent religious dates have, for example, been disproportionately likely to see the initiation of violent conflict (Hassner 2011).

This pattern of change is inconsistent with the expectation that rational states evaluate the need for institutional change more or less continuously, making decisions in response to changes in international conditions. Persistent suboptimality, note Joseph Jupille et al. (2013: 214), has little place in Rational Choice institutionalism. If, save for rare cases of massive cross-sectoral transfigurations, the timing of exogenous change is basically random and states’ ability to establish self-enforcing equilibria reasonably rapid, then we would expect a similarly random distribution of change along the temporal continuum. This does not match the record of change discussed above. This phenomenon remains puzzling even when one steps away from the assumption of pure

¹ See: Capoccia and Kelemen 2007; Collier and Collier 2002; Desai 2010; Jones and Baumgartner 2005; Kingdon 2003; Welch 2005

² The following investigation will focus on large discontinuous change, rather than the more incremental adjustments highlighted by Oran Young, James Mahoney, and Kathleen Thelen. See: Mahoney and Thelen 2010. Young 2010. Rixen and Viola (2016: 18–20) define the nature of institutional development through an analysis of the speed, scope, and depth of change. This useful differentiation will be employed in the empirical section of this article.

³ The list of environmental treaties used here is derived from the UN’s “InforMEA” page on Multilateral Environmental Agreements: <https://www.informe.org/treaties#Global> Last Accessed: 13 October 2016. Many of the multilateral environmental agreements forged in this period, notes Ken Conca (2015: 62–63), had a global, regulatory focus.

synoptic rationality. If one takes into account equilibrium-preserving cushions, such as path dependency and reluctance to incur transaction costs, one would not anticipate the type of clustering of significant change described above.

By conceptualizing the role of temporal factors in institutional affairs, this article explains why some periods in time are more likely than others to emerge as moments of institutional change. In seeking to realize new cooperative possibilities, states face important temporal coordination problems that derive from the risks of pursuing institutional change. Divergent expectations concerning bargaining timelines hinder the achievement of beneficial change because actors are reluctant to incur increased transaction costs for uncertain returns. This situation can change rapidly following the emergence of prominent temporal signposts. Temporal Focal Points—conspicuous phases along the temporal continuum—facilitate a convergence of expectations *in time* that increases the probability of agreement. The result is an intermittent, clustered pattern of institutional change, often associated with conspicuous dates of no direct relevance to the maintenance of institutional equilibria.

This article proceeds in the following manner. First, I discuss the coordination dilemma facing states in seeking to institute changes to cooperative structures. Section two sets out the theoretical approach of the article, defining Temporal Focal Points and outlining their impact on institutional equilibria. Third, I assess the explanatory potential of the framework, analyzing the record of change in United Nations environmental institutions. I conclude with a discussion of theoretical implications.

1 Institutional change and temporal coordination problems

The intermittent, clustered pattern of change described above brings to light questions about the relationship between shifts in underlying conditions and institutional change. A wide literature has emerged noting the disjoint and seemingly inefficient nature of change processes. The timing of clustered change that reaches into multiple institutional spheres seems to have an arbitrary, even haphazard, quality. Rather than responding to changes in the international environment in a rapid manner, the incentives that form the basis for future modes of cooperation seem to accumulate, unexploited for long stretches of time. Although new possibilities for mutually beneficial agreement are opened up by shifts in underlying conditions, states are slow to grasp them. There is therefore often a temporal dissociation between the ultimate and the proximate causes of regime transformations. Because the ability of states to institute measures to fit changed conditions in a timely manner is limited, we must conclude that new cooperative opportunities remain unexpressed, accumulating over time. These accumulated opportunities are often dealt with by states in an intermittent manner, subject to sudden bursts of activity at certain points in time. Something enables states to realize the accumulated cooperative possibilities available to them by past changes in international conditions. Belatedly, states are thus able to enact measures to bring regimes into closer alignment with the altered international landscape.⁴

⁴ This matches the findings of Baumgartner et al. (2009) in the policy realm, who note a lack of proportion between social change and policy responses.

In part, institutional adaptation is punctuated because exogenous change comes in two forms: exogenous shocks and exogenous shifts. While shocks emerge suddenly and are often accompanied by a crisis, exogenous shifts may accumulate over time, unaccounted for in institutional designs.⁵ Cumulative shifts contribute to a widening gap between institutional design and the international reality. This pattern has also been noted in the policy realm by Punctuated Equilibrium Theorists, who have examined the punctuated quality of policy change (Jones and Baumgartner 2005). The buildup of unexpressed cooperative potentialities provides a partial explanation for the clustering of institutional change at certain moments in time. Although Pareto-improving solutions are available, states remain mired in inferior equilibria. The common frustration voiced by governments with the status of institutional arrangements suggests that states are frequently aware of the poor fit between the problem setting and existing cooperative arrangements. Still, they are unable to negotiate a move to superior equilibria. One explanation that has not been widely explored in the literature is that states face important coordination problems. Although alternative arrangements are more appealing, there are risks associated with the pursuit of reform. These risks hinder states in their desire to move to superior cooperative equilibria.

Many existing accounts take the coordination of institutional change as a relatively straightforward proposition in the presence of unrealized material, normative, or ideational incentives. Yet, as the ensuing analysis will show, this type of coordination—often involving hundreds of relevant international actors, all with distinct objectives—is far from straightforward. Indeed, as Orfeo Fioretos (2017) has shown, the densely layered nature of the international state system makes it especially prone to long periods of institutional stasis. The danger of coordination failure is significant. What is required is often nothing short of massive decentralized coordination. As power has become increasingly diffuse within the international system (Naím 2013; Nye Jr 2011), moreover, these problems may become more severe. With an explosion in the number of relevant players in institutional life, the uncertainty associated with realizing change has increased. The informational and analytical demands of coming to reliable estimations of possible institutional bargains have increased accordingly.

To coordinate institutional change, states must invest heavy analytical resources into reform processes, heightening transaction costs. Indeed, according to Robert Keohane (1984), these transaction costs help to explain the persistence of cooperation “after hegemony.” New bureaucratic units are established, studies undertaken, and the scarce attention of harried decision-makers demanded.⁶ Information on the bargaining positions of other relevant actors and the state of the world must be amassed. Non-state and sub-state actors may be consulted and their buy-in obtained. In resource-scarce government contexts, the opportunity costs of such investments are important. Other organizational units are deprived of resources they would otherwise enjoy. Certain initiatives are not pursued. Coordination failure can, furthermore, damage the prestige of actors and failed reform efforts can be embarrassing. The disruption of normal institutional processes diminishes gains achieved from existing arrangements and can erode the legitimacy of the institutional status quo. Voice opportunities employed in

⁵ For a discussion of gradual parametric change, see Grief and Laitin 2004.

⁶ For similar findings in the policy realm, see Baumgartner et al. 2009.

advancing reform are expended. Far from cheap-talk, these costs are real and significant for governments.

The opportunity costs of failed coordination efforts are high and the payoffs prospects uncertain. Since coordination requires simultaneous movement by many relevant domestic and international actors, there are great risks involved. When a player chooses to pursue institutional change, they run the risk that others will choose not to. Players who choose not to coordinate run no such risk, since their payoff does not depend on others' choice of action. Those that do not engage in change processes do, however, forego the potential payoff of swift reform that brings institutions into closer alignment with changed conditions. Here, as Brian Skryms (2001) notes, "rational players are pulled in one direction by considerations of mutual benefit and in the other by considerations of personal risk." It is this dilemma that allows the payoff-dominant equilibrium to remain unrealized in favor of the "risk-dominant equilibrium." The best response of each is to choose the action that they expect others to choose: if all relevant actors do not elect to enter into serious negotiations to alter institutional arrangements, none should.⁷

Coordination problems are an implication of uncertainty. With greater certainty, states would more readily assume heightened transaction costs in pursuit of available joint gains. Although international organizations can reduce uncertainty, including through limiting informational asymmetries and independently monitoring compliance (Abbott and Snidal 1998), international organizations are limited in their capacity to produce such policy-relevant information. Priorities have to be established in the production of information, often following the current preoccupations of member states. While well-functioning and well-resourced international organizations can contribute to reducing uncertainty, therefore, their capacity to respond efficiently to emerging social problems is limited. In addition, despite the contribution of international organizations to easing collective decision-making, their size, decision rules, and the heterogeneity of preferences among members can hinder smooth adaptation to changing conditions (Lundgren et al. 2017).

2 Temporal focal points

In his *Strategy of Conflict*, Thomas Schelling (1960) provides a memorable example of a tacit coordination problem, asking his readers how they might hope to meet someone in New York City if they could not communicate with them. The majority of his respondents were able to concert their expectations on Grand Central Station's information booth at noon. According to Schelling, Grand Central Station served as a coordination point because of its conspicuousness and exceptionality relative to other

⁷ This does not mean that *all* actors must be onside. It does, however, mean that actors' decision-making depends on a certain threshold number of actors engaging in cooperative behavior simultaneously. This is conceptually similar to Schelling's concept of "k-groups." See: Schelling 1973. As has been observed by Capocchia (2016) and others, furthermore, existing structures can influence the dynamics of coalition building in support or opposition to change. Relative sequencing may, furthermore, create powerful regulatory capabilities in specific countries that shape institutional development (Newman 2017). These actors may be particularly relevant to the formation of k-groups.

possibilities. These traits made the station a point of focus for his respondents, enabling a convergence of expectations.

Schelling's analogy has gained wide attention in the literature. Most of that interest has, correctly, focused on his main idea: in settings characterized by multiple equilibria, conspicuous focal points have great coordinative power. One aspect of the story that is often overlooked, however, is that Schelling's respondents were coordinating on two dimensions: space and time. They met at Grand Central Station *at noon*. A further dimension remains implicit in Schelling's discussion: the *date* of coordination. While coordination on multiple dimensions may be unimportant in certain settings, many social contexts involve just this challenge. Even if actors can concert their expectations on one dimension, divergent expectations on a second or third dimension can lead to coordination failure.

Could the rise of conspicuous events—such as high-profile anniversaries or international crises—serve as a coordination mechanism for states in a manner analogous to Schelling's concept of focal points? In the context of multiple equilibria, Schelling discusses “the intrinsic magnetism of particular outcomes, especially those that enjoy prominence, uniqueness, simplicity, precedent, or some rationale that makes them qualitatively differentiable from the continuum of possible alternatives” (Schelling 1960: 70). Just as political actors face a continuum of qualitatively undifferentiable bargaining solutions, they also face a temporal continuum of qualitatively undifferentiable bargaining timelines along which they must coordinate their behavioral expectations.

Temporal Focal Points (TFPs) are defined by three main features. First, their arrival is exogenous to cooperation processes. Whether it is an international crisis, a prominent anniversary, or some other temporal focus, TFPs find states (not the reverse). Endogenously-driven coordination points should not, therefore, be regarded as TFPs. Second, TFPs are unique or uncommon. There is something exceptional or unusual about their arrival. If they were common or states could easily produce them, TFPs would not have the coordinative power that they do. Finally, TFPs are conspicuous. To facilitate massive decentralized coordination, focal points must be noticeable to all relevant actors within a given institutional setting. As noted above, international coordination can involve hundreds of players. TFPs must provide an “obvious” coordination point for many diverse actors.

Given the preceding analysis on the role of exogenous shifts and the importance of coordination points in institutional life, this assessment suggests also that crises commonly touted, *ex post*, as exogenous shocks could often be fueled by long-standing institutional deficiencies. Even when crises appear to cause the breakdown of cooperative equilibria, the real work has often been done by accumulated exogenous shifts and the arrival of a temporal point of focus. While apparently abrupt changes highlight that past behavior is no longer an equilibrium, triggering events may not themselves cause transformations. An equally likely possibility is that a conspicuous event, such as a crisis, provided a coordination mechanism for actors to realize new cooperative possibilities thus overcoming persistent institutional deficiencies.

While TFPs originate exogenously, they can be crystallized by strategic players. The chief means through which international actors bring about this crystallization is through enhancing the conspicuousness of focal points. This observation is not altogether dissimilar from that of Wesley Widmaier et al. (2007), who argue that the impact

of exogenously generated events is enhanced greatly by actors seeking to advance their own agendas. Where the TFP framework differs from this assessment is that it maintains that the coordinative power of focal points derives heavily from their exogenous origins. These events are not, therefore, “endogenous constructions” and actors do not *create* TFPs. They amplify what is already there. At the same time, it is not uncommon to see entrepreneurial actors implicated heavily in change associated with TFPs.⁸

2.1 Why temporal focal points matter

States face coordination problems in moving collectively from an existing, less appealing institutional equilibrium to an alternative one. Since the costs of significant political and analytical investments are high, actors are reluctant to make such investments until they believe that others will also do so. Although Temporal Focal Points do not eliminate coordination dilemmas altogether, they can ease the process of reaching a convergence of expectations among actors on a common juncture. They offer a unique, conspicuous timeframe that serves as a focus for all. Once negotiations begin, states may adopt a wide variety of measures because joint analytical investments can uncover opportunities that were less evident before. Transaction costs incurred in one domain may lead to lowered transaction costs in another.

The matrix below illustrates the choice situation facing players in the wake of a TFP. The emergence of a focal timeframe provides a means through which actors can coordinate their behavioral expectations on a definite point in time. The temporal alternative that they face is an undefined, indeterminate point in the future. All can benefit from acting in concert along the focal timeframe, if they are able to coordinate. Outcome *A* and *W* is the best for each, since all players receive their highest payoff. However, the risk each player encounters is that, should they act cooperatively and others do not, they will end up with their worst outcome (*B* or *Y*). The less risky choice for each player is to select the existing, risk-dominant equilibrium. By putting off negotiations to some undefined point in the future, they receive their next to best option (*C*, *D* or *X*, *Z*). The scenario described above is classically labeled a stag hunt.

		Side 2	
		T_{TFP}	T_{∞}
Side 1	T_{TFP}	A, W	B, X
	T_{∞}	C, Y	D, Z

Here, the following relations hold:

Side 1: $A > C \geq D > B$

Side 2: $W > X \geq Z > Y$

The stag hunt game assumes the existence of a uniquely efficient solution to the temporal coordination dilemma described above. This is because, in the presence of

⁸ For an approach to analyzing the interests of agents interacting with institutional structures, see: Büthe 2016.

available joint gains, states receive their maximum possible payoff by moving immediately to introduce alternative institutional arrangements.⁹ Lingering at payoff-dominated equilibria is, from this perspective, irrational and sub-optimal. The payoffs listed in the matrix above do not, therefore, correspond to the payoffs associated with different agreement possibilities, as is conventionally the case in a game theoretic set-up. Instead, they refer to the payoffs associated with enjoying the benefits of a Pareto-superior alternative equilibrium sooner (i.e. holding the agreement alternative constant). States receive their largest payoff from moving immediately to alter institutions.

In this game, actors therefore have a fixed, Pareto-superior institutional alternative that can be enjoyed immediately if they are able to coordinate.¹⁰ The higher the degree of uncertainty associated with the behavior of other relevant players, however, the more attractive the existing Pareto-inferior, risk-dominant equilibrium will be. The expected utility of cooperative behavior rests heavily on expectations about the probability (p) of other actors coordinating. Thus, the expected utility of cooperative behavior for Side 1 is $pA + (1-p)B$, compared to the uncooperative alternative $pC + (1-p)D$. The greater the risk of coordination failure, the greater the reluctance of actors to pursue change, and the larger the *basin of attraction* of the institutional status quo. As the number of relevant actors climbs, all things being equal, the more difficult coordination will be. This is why the diffusion of power within the international system is of such great consequence to the current global institutional reform agenda.

The riskiness of pursuing change and the reluctance of actors to incur heightened transaction costs provides a plausible explanation for the disjoint, episodic pattern of change observed by, among others, Punctuated Equilibrium Theorists (Jones and Baumgartner 2005). The TFP framework builds on these findings, however, adding a temporal dimension that opens the door to a set of expectations concerning when states might overcome institutional “friction.” In particular, the possibility that states’ willingness to accept high decision and transaction costs may vary with their expectations concerning available gains and as uncertainty about the probable actions of other leading players is reduced, is pertinent to Punctuated Equilibrium Theory. In addition, the presence of a temporal point of focus provides a plausible means through which boundedly rational actors could be roused into an active evaluation of institutional alternatives.

Some analysts, such as Samuel Bowles, have highlighted the role of convention in helping to resolve repeated assurance games, including the stag hunt. Bowles (2009: 50) notes that conspicuous precedents provide vital clues to increasing each actors’ assessment of the probability of successful coordination. TFPs can serve a similar function. By increasing the assessed probability of coordination from 30% to 50%, for

⁹ For a discussion, see Calvert 1995: 76.

¹⁰ The distinction between institutional bargaining and institutional change is not developed in the framework. The TFP model conflates the decision to launch negotiations with the decision to alter institutional arrangements. It does so for two reasons. First, I adopt the rationalist baseline assumption that, when joint gains are on the table, states will act to realize them. This choice allows us to foreground analytically coordination issues, rather than bargaining issues. Second, the model recognizes that timing is also at the core of institutional bargaining problems. The “negotiator’s dilemma,” the fundamental problem of determining whether to negotiate in an *integrative* manner, has an important, if implicit, temporal dimension. Thus, the line between purposeful institutional bargaining and institutional change may be starker in theory than in reality. Indeed, bargaining issues related to temporal coordination feature prominently in the case studies developed in this article.

instance, the expected utility of cooperative behavior can come to exceed that of the risk-dominant status quo. Empirically, analysts have noted the coordinative power of prominent temporal landmarks. Gersick (1988, 1989) research on the power of prominent temporal signposts, such as midpoints in fixed-deadline task completion, is suggestive. Ron Hassner (2011) work on “sacred time” finds that military leaders often time conflict initiation to coincide with prominent dates on the religious calendar as a means of coordinating “force multiplying” support for their objectives.

It is important to note that TFPs do not themselves *solve* coordination issues. By easing coordination problems, TFPs increase the likelihood that states will realize bargaining possibilities opened up by previous shifts in underlying conditions. This, in turn, increases the likelihood of institutional change. TFPs do not only arise when there is a bargaining range between actors, however. Focal junctures may occur when there is no common ground available to facilitate agreement. As in Schelling’s conception, therefore, focal points are not a necessary or a sufficient condition for reaching a settlement. While the arrival of significant institutional change in the absence of a TFP would not impugn the theory, the finding that a large majority of cases of non-incremental change occurred without the benefit of a TFP would. The presence of Temporal Focal Points in many cases would suggest that they explain a sizable portion of the variation in the timing of institutional change.

The preceding discussion, it should be emphasized, does not imply that the presence of incentives to alter institutions is a secondary factor in explaining change. Indeed, the expected utility of change rests heavily on the strength of the institutional alternative compared to the status quo. At the same time, it suggests that, even in the presence of such incentives, states may have difficulty coordinating to realize beneficial change. To focus attention on the question of why the timing of change does not seem to correspond closely to the emergence of possibilities for joint gains, the TFP framework presumes that superior agreement possibilities are available. Given the frequent lags between exogenous shifts and institutional change, this presumption is not an unreasonable one. The accumulation of cooperative potentialities is a common feature of institutional life and is a necessary condition for temporal coordination problems to matter.

2.2 Alternative Explanations of Change

Before proceeding to the empirical investigation, a brief discussion of how the proposed approach fits into the broader literature is in order. Since International Relations theory lacks a full conceptualization of temporal factors, it is unsurprising that leading theoretical treatments of institutional change leave the question of timing largely implicit. The timing of change is explained principally by its causes. These strands of institutional theory stand to benefit from an increased focus on the implications of temporal factors and risk-dominance for the coordination of institutional change. In pure rationalist accounts, change swiftly follows shifting international conditions. Delay is irrational, akin to opting for Pareto-inferior institutional arrangements. Even when one takes into account the role of transaction costs in preserving institutional stability, thus assuming that exogenous transformations must be of a somewhat greater magnitude than when one assumes pure rationality, the timing of change is still driven

principally by shifts in external parameters (Keohane 1984). Institutionalists who emphasize the role of transaction costs in preserving institutional stability do not take into account the possibility that actors' willingness to assume transaction costs varies over time. If, however, one supplements rationalist insights with the approach proposed above, a set of predictions can be made about how the prospect of convergent temporal expectations might affect states' willingness to incur heightened transaction costs.

Historical Institutionalists have noted the gaps associated with a purely rationalist approach to explaining change, assessing the implications of path dependence and "lock-in" (Pierson 2004; Fioretos 2011, 2017; Ikenberry 2000). Capoccia and Kelemen (2007: 341) note that long phases of path dependent institutional stability are "punctuated occasionally by brief phases of institutional flux referred to as critical junctures—during which more dramatic change is possible." Collier and Collier (2002: 29) define a critical juncture as "a period of significant change...which is hypothesized to produce distinct legacies." Critical junctures open a rare window to the efforts of powerful and able actors to redesign or adjust institutions (Capoccia and Kelemen 2007: 360–361). More recently, Capoccia (2016) has analyzed the impact of constructed cultural categories and the concentration of control over the timing of reform efforts on the likelihood that an institution will resist bottom-up endogenous change. Hillel David Soifer (2012) has parsed the logic of critical junctures to identify permissive and productive conditions for change. Though these analysts have made an important contribution to documenting and understanding major alterations to institutions, critical junctures remain largely a descriptive insight. Most accounts use the term to denote a phase that *was* of significance. There is thus no clear means of judging whether a juncture is critical except through historical assessments. Leading treatments lack an obvious method of operationalizing the concept as an explanatory factor in studies of institutional change and do not specify a clear way of ascertaining *why* these phases produce such significant change.

An emphasis on temporal coordination dilemmas and transaction costs complements research on critical junctures, helping to explain institutional lock-in and change. Temporal Focal Points can account for *why* and *how* certain junctures become critical over the life of an institution, bringing together key insights from the Rational Choice and Historical Institutional traditions. A reconsideration of the role of temporal factors in institutional affairs, moreover, contributes to broader Historical Institutional and Rational Choice research agendas. The approach proposed in this article would entail the detailed, empirically-rich analysis called for by Historical Institutionalists, effectively situating "politics in time." It shares with historical institutionalism a deep interest in how structure and agency interact to produce continuity and change in institutions. Its emphasis on how micro-motives influence macro-behavior builds on agent-centric variants of Historical Institutionalism. Rational choice institutionalism also stands to benefit. By analyzing how states' willingness to assume transaction costs varies over time, the TFP framework provides a plausible rationalist explanation for institutional lock-in and stickiness.

Accounts of a sociological bent would also benefit from an analysis of the timing of institutional change. In theories of norm dynamics, for instance, change immediately precedes or follows norm cascades brought about by growing support for emergent norms (Finnemore and Sikkink 1998). The timing of institutional change is determined, therefore, by the success of norm entrepreneurs in persuading relevant players to

support their normative enterprise. Few predictions are made concerning when the demand for such norms might be highest. Where institutional change follows a reassessment of actor identities, interests, or cognitive frames, no insight is provided into when this reassessment might occur (March and Olsen 1989; Wendt 1992). A focus on timing can sharpen the predictions of sociological accounts. Rather than norms and new ideas ebbing and flowing along their own timelines, the development of new norms and ideas may be stimulated by the prospect of convergent expectations. If norm entrepreneurs time their efforts in response to certain temporal stimuli, then a fuller analysis of the relationship between entrepreneurship and the demand for such entrepreneurship would seem to be in order. If states are more receptive to new norms or more prone to adopting alternative cognitive frames at certain junctures, than this phenomenon would have important implications and should be explored. A potential market for new norms and ideas provided by the increased likelihood of successful coordination might, therefore, make the adoption and institutionalization of emergent norms more likely.

Approach	Timing of Institutional Change
Rational Choice Institutionalism	Following parametric change, taking into account a stability-preserving transaction cost cushion
Sociological Institutionalism	Preceding or following the buildup of a critical mass of support, or following a reassessment of actor identities, interests, or cognitive scripts
Historical Institutionalism	Following the arrival of critical junctures, or following more gradual patterns of endogenous change

While the preceding analysis has focused on large, discontinuous change, it has implications for more gradual forms of change.¹¹ Coordination problems are also present when actors contemplate less transformative change, particularly in large multilateral contexts. Indeed, when the potential gains from reform are more modest, as is often the case when change is incremental, the basin of attraction of the stag-stag scenario is smaller, providing less incentive to incur heightened transaction costs. This is the case even if the transaction costs and disruptions associated with incremental changes are smaller. This can result in a widened gap between changes in the international environment and institutional arrangements.

2.3 Hypotheses

The preceding analysis suggests two hypotheses. First, even after shifts in international conditions give rise to incentives to alter institutions, temporal coordination problems slow the realization of institutional change (**H1**). Coordination dilemmas help explain delays in realizing beneficial change, following shifts in underlying conditions. In the face of an uncertain return, actors are reluctant to make substantial political and analytical investments in change processes. Actors pursuing institutional change must take the opportunity costs of such investments into account. This problem can be traced to a divergence of expectations concerning negotiation timeframes and the existence of

¹¹ On graduate change, see: Mahoney and Thelen 2010. Young 2010.

a risk-dominant equilibrium. Observable implications of temporal coordination dilemmas include the presence of bottlenecks in the initiation of change processes, resulting in stunted negotiation processes. Though negative externalities provide incentives to realize change, the institutional status quo persists.

By precipitating a temporal convergence of expectations, Temporal Focal Points influence the timing of institutional change processes (**H2**). As a focal timeframe emerges, actors are willing to incur increased transaction costs, including information, search, and bargaining costs. New ideas and norms may enter the negotiation process. The impact of TFPs may also be observed through evidence of temporal pacing, such as increases in the frequency of meetings, the establishment of new working groups, or the production of new institutional diagnostics.¹² In bargaining, the effect of TFPs can be seen in the initiation or acceleration of talks. As the focal timeframe nears, actors sequence concessions and explore possibilities for joint gains. If incentives exist to alter institutional norms, rules, and procedures, states are more likely to realize them.

The case study was selected for two main reasons. First, the case is a *least-likely* one for the TFP framework. As observed by other analysts (Lundgren et al. 2017: 6), issue areas of a technical nature are less prone to punctuated patterns of institutional development than those of a more general nature. Though certain environmental issues, such as climate change, were highly political, many subjects examined in the ensuing section were highly technical and therefore more likely to experience swift adaptation in response to shifting global conditions. In technical fields, coordination problems are less severe and, therefore, TFPs are less likely to play a central role in realizing change. In addition, although the large and diverse composition of UN bodies complicated coordination, TFPs are less prone to arise in these contexts. The number of shared political, philosophical, cultural, historical, or precedential temporal foci are, all things being equal, fewer when the composition of institutions is heterogeneous.

Second, the case study can be understood as a *most-likely* one for alternative theoretical appreciations. In the years under study, it had become clear that existing institutional arrangements were incapable of arresting the world's mounting environmental problems. The period featured several prominent environmental disasters that could be regarded as shocks. If changes in international conditions served as the primary determinant of the timing of institutional change, therefore, the case study selected should demonstrate this. For analysts who emphasize the role of ideational factors in institutional change, the period was a dynamic one that saw conceptual and scientific progress in environmental ideas. Policy communities devised new environmental management concepts that had the potential to displace or delegitimize current practices.

In testing the TFP framework, two independent variables are crucial: (i) exogenous change that opens up incentives for institutional change and (ii) the availability of a TFP. In the absence of available material gains, TFPs cannot bring about change. Thus, any test of the TFP framework should be done when exogenous change has created the material incentives to realize change. The presence of these incentives therefore provides the scope conditions in which TFPs can precipitate the outcome of interest. To avoid confirmation bias and issues of equifinality, furthermore, empirical

¹² Gersick's experiments on the pace of task completion provide some clues for how temporal pacing can be measured in a lab setting (Gersick 1988, 1989).

investigations of TFPs must collect information in a manner that gives equal weight to alternative explanations. Indeed, as TFPs are not a theory in themselves, but rather an analytical insight complementary to existing theories, any assessment of institutional change demands significant attention to potential material or ideational drivers that motivate change in the presence of a TFP. In addition, case study investigations should be as attentive to extended periods of institutional continuity as to periods of punctuated change. This further guards against the dangers of confirmation bias.

3 Empirical assessment: United Nations environmental institutions

This article started with the consideration of a puzzling feature of the record of change in many spheres of institutional activity. It then outlined a temporal extension of Thomas Schelling's focal point hypothesis. It now remains to bring these two discussions together to determine if the emergence of Temporal Focal Points provides a persuasive explanation for the timing of institutional change. Below, I assess the explanatory potential of the theoretical framework through an examination of the record of change in United Nations environmental institutions from 1962 to 1992.

3.1 The 1960s and early 1970s

By the early 1960s, environmental degradation on a global scale was becoming increasingly evident. Coupled with growing domestic efforts to tackle environmental problems in many countries, campaigns to generate a concerted global response were becoming more prominent.¹³ In September 1963, U.S. President John F. Kennedy called for greater international cooperation on environmental issues (Kennedy 1963). U.S. efforts continued through the mid-1960s, as President Lyndon Johnson decried the despoiling of the earth's atmosphere with pollutants (Johnson 1965). Global environmental concern in this period focused heavily on two areas: the conservation of wildlife and wild spaces and the spread of pollutants of broad international significance.

On the conservation front, the International Union for the Conservation of Nature and Natural Resources (IUCN) played a particularly active role. This largely scientific body endeavored to raise consciousness of critical conservation issues. Through the 1960s, IUCN sponsored the drafting of international conventions on the conservation of wetlands, trade in endangered species, protection of natural spaces, and the setting aside of islands for scientific research. Urgent efforts to preserve the world's wetlands were backed by IUCN, with strong leadership from the International Wetland Research Bureau (IWRB). The campaign to promote an international wetlands convention began in 1962. With non-governmental collaboration, the first draft of a convention was prepared by the Netherlands in 1966. This draft was considered and debated at a series of meetings under the auspices of the IUCN, the IWRB, and the International Union for Game Biologists (Matthews 1993). Though governments were present at these meetings, the convention remained a low-profile endeavor through the 1960s and no concerted action was taken.

¹³ For an account of pre-1960s UN environmental cooperation, see Conca (2015): 33–53.

The need for an international convention concerning the trade in endangered species was acknowledged by IUCN at its 1963 General Assembly. Among other topics, the proceedings considered the trade in rhinoceros horns, leopard skins, and the plumage of birds of paradise. Accounts were also given of the trafficking of orangutans to Europe and North America, via Singapore, from Borneo and Sumatra. Efforts to address this transnational problem, IUCN maintained, required broad international cooperation (IUCN 1963). A draft convention was prepared by IUCN's legal bureau and circulated to 90 governments in 1966. Though the problem was regarded as pressing, serious intergovernmental consideration was slow to materialize. There was broad acknowledgement that this problem required global cooperation, but no international meetings were called to tackle the issue.

The concept of an international effort to protect spaces of outstanding significance to world heritage was first proposed at a White House Conference on International Cooperation in 1965. The scheme, quickly endorsed by IUCN, targeted the conservation of a limited number of natural spaces of outstanding interest and value to humanity. The conservation rationale for the convention derived from a recognition that so little of the earth's wild spaces had been set aside for protection (Ward and Dubos 1972: 113). The preservation of sites of historical or cultural significance quickly became associated with the campaign. Yet, as with the proposed processes described above, the World Heritage proposal lacked momentum and intergovernmental impetus. According to one of the proposal's architects, the matter simply "lay for several years" (Train 2003: 142). The institutional status quo that regarded the protection of wild places and endangered species as a national concern, therefore, persisted.

The problem of marine pollution was regarded as pressing through the 1960s. In addition to other effluents, it was estimated that 2.1 million metric tonnes of oil was being introduced into the world's waters annually (The Ecologist 1972: 90). By the early 1970s, the problem was so severe the French oceanographer Jacques-Yves Cousteau reported that one-third of the world's marine biota had been killed-off by ocean pollution within the last twenty-years (Rowland 1973: 113). Although marine pollution had been on the international agenda since the 1920s, the international response had been desultory. The 1954 International Convention for the Prevention of Oil Pollution was in force, but was widely regarded as ineffectual (Chasek 2001: 62). The discharge of other pollutants, including heavy metals, radioactive wastes, and toxic chemicals, at sea was another serious problem (Ward and Dubos 1972: 202–203). Though few environmental issues had such a high profile, action on marine pollution was consistently underwhelming. The institutional status quo persisted despite recognition that the existing regime was fragmentary and ineffectual.

Other global pollution issues included climate change and stratospheric ozone depletion. In the 1970s, however, scientific knowledge of these issues was limited. There were, for instance, major uncertainties concerning the role of living organisms in the carbon cycle, the interaction of the carbon cycle with other biogeochemical cycles, and the regional climatic impacts of increased carbon dioxide (Holdgate et al. 1982: 62). These uncertainties would persist for more than a decade. Though Scandinavian countries were concerned about the impact of supersonic jets on ozone, knowledge of ozone depletion remained basic in this period. Other problems, such as long-range transboundary pollution and acid precipitation, were regarded as predominantly regional—rather than global—in character.

Thus, as the 1960s progressed, a number of conservation and pollution issues confronted the international community. In a number of cases, draft conventions had been circulated to governments for consideration. Rather than being hampered by substantive objections, intergovernmental negotiations either did not occur or were not sustained. Change was hindered by the widespread unwillingness of governments to invest in the information, analysis, or interdepartmental bargaining processes necessary to realize change. Few governments, especially in the developing world, had forged formal linkages with their leading environmental scientists (Engfeldt 1973: 403).

This situation changed dramatically as momentum built toward the 1972 United Nations Conference on the Human Environment (UNCHE). Because it became a landmark event, it is easy to forget that the “Stockholm conference” was initially envisioned as a modest affair. Although concern about conservation and pollution problems provided a backdrop for the conference, UNCHE was not organized to act on these issues. Upon proposing the conference, Sweden maintained that no new institutional machinery would be necessary (Engfeldt 2009: 68). The first head of the conference secretariat, Jean Mussard, was given the prosaic title of Director of Studies. As preparations advanced, however, the conference picked up steam. Stockholm soon became an explicitly “action oriented” affair, embracing a broad global agenda that included institutional change. In late 1969, Maurice Strong, a Canadian bureaucrat known for his political acumen, supplanted Mussard as conference “secretary-general.” The change in title and the choice of Strong reflected a shift in the conference’s level of ambition.

UNCHE became an increasingly conspicuous and unique moment along the temporal continuum. Environmental disasters, such as a highly-publicized blaze on the Cuyahoga River, brought an increased focus on environmental questions. Public concern generated media attention and non-governmental activism. Strong, furthermore, proved adept at increasing UNCHE’s profile, helping to crystallize the focal point. The secretary-general travelled indefatigably, giving interviews and public presentations. The conference became an outlet for popular alarm about global environmental problems.

Powerful states were not, furthermore, responsible for the action orientation of UNCHE. Many Western European governments took a restrictive line toward the conference. While the U.S. sponsored several important initiatives, there was a level of ambivalence in its approach. The U.S. and some Western European governments met secretly during UNCHE preparations in an attempt to exercise control over conference outcomes (Hamer 2002). The Soviet Union and the Eastern bloc countries boycotted UNCHE. No major state actor or coalition was responsible for making Stockholm a landmark event. The convergence of expectation that helped make the Stockholm conference a significant gathering was, therefore, achieved in a decentralized manner. As one participant recalled, the more “people [felt] that Stockholm was important and valuable”:

the more Stockholm did become important and valuable. This is not to imply that it was any sort of confidence trick. It was a process perhaps comparable to the Law, in that the legal system only works if everyone—well, almost everyone—believes in it (Stone 1973: 66-67).

Convergent expectations around Stockholm’s significance were crucial to explaining the willingness of states to stomach dramatically increased transaction costs.

UNCHE triggered an “unprecedented” proliferation of environmental diagnostics and analyses (Caldwell 1990: 52–53). These analyses proved crucial to enabling institutional change in the early 1970s (McCormick 1989: 95). Stockholm also increased the bureaucratic standing of environmental analysts at the national level, sowing the seeds for the mushrooming of environment ministries after UNCHE (Engfeldt 1973: 403). By building environmental relationships and linkages, such as interdepartmental committees and consultative processes, governments accepted a significant increase in transaction costs. Investments in political and analytical resources were not restricted to governments. In the words of one observer, the impending conference created a “rush for influence” among scientific bodies, such as IUCN and the International Congress of Scientific Unions (ICSU) (Bazell 1971: 390–391). Following a February 1969 invitation to contribute to the UNCHE preparatory process, IUCN invested heavily in its Environmental Law Centre and enhanced its capacity to promote the conservation conventions it had sponsored through the 1960s (Adam 2014: 89–90).

As conference preparations gained momentum, the longstanding environmental problems associated with the institutional status quo came into sharper focus. At the second UNCHE preparatory committee meeting, working groups were established on conservation and marine pollution issues. The conservation working group focused heavily on the conventions sponsored by IUCN. Aiming to open the conventions on the trade in endangered species and on the preservation of world heritage for signature at UNCHE, governments conducted extensive national and international conservation reviews. In the case of the endangered species convention, these discussions brought to light important Kenyan and Japanese concerns with elements of the IUCN draft. Kenya and the U.S., moreover, proposed alternative drafts. Despite the fact that the concept had been in circulation since 1965, consideration of the draft World Heritage convention was marred by confusion. A similar proposal, focused on sites of historical significance, was being developed under the auspices of the UN Educational, Scientific and Cultural Organization (UNESCO).¹⁴ These two processes, many believed, needed to be de-conflicted.

Negotiations on the two conservation conventions, which had been at a standstill for the better part of a decade, accelerated to meet the focal timeline presented by the conference. In an effort to ensure that the convention would be agreed upon in time, IUCN and the conference secretariat rapidly redrafted and recirculated draft conventions in November 1971. Comments on the new drafts were requested by January 1972 in order to facilitate signature at the June conference. Preparations advanced until spring 1972, when it was determined that UNCHE would not be a plenipotentiary conference. Stockholm would simply highlight the conventions, allowing talks to conclude in other fora. Accelerated greatly by the Stockholm process, negotiations on the two conventions were concluded within six months of UNCHE. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was opened for signature in Washington in early 1973 and agreement on the Convention Concerning the Protection of World Cultural and Natural Heritage was reached at a UNESCO General Conference in autumn 1972.

¹⁴ IUCN’s “islands for science” proposal was regarded as complementary to the World Heritage concept and was in part subsumed by it.

The draft wetlands convention also benefitted greatly from the coordinative impetus of Stockholm (Holdgate 1999: 113). While the negotiations, hosted by Iran in early 1971, were separate from the UNCHE preparatory process, wetland talks were viewed in the context of the broader institutional transformation unfolding in preparation for Stockholm. Efforts to advance agreement on the wetlands convention were part of IUCN's wider strategy to exercise influence on the conference. UNCHE working group on conservation raised the profile of the "Ramsar convention" and stimulated analysis of its provisions.

Negotiations on a pair of marine pollution conventions were also advanced considerably by convergent expectations around UNCHE. Talks focused on "ocean dumping" and ship-borne pollution conventions. While the problem posed by the dumping of toxic substances at sea had been longstanding, the increased diagnostics did much to stimulate states' engagement with this issue. The Nixon administration, which sought to ensure that U.S.-flagged vessels were not disadvantaged *vis-à-vis* their international competitors, introduced a draft convention at the first marine pollution working group session. While there was support for the U.S. proposal, increased study of the problem led Spain and Sweden to circulate drafts at the second working group meeting. Canada, seeking to mobilize states with significant coastal interests, introduced draft articles (Manulak 2015; Chasek 2001: 57–60). To facilitate agreement at UNCHE, Iceland hosted an intergovernmental meeting in early 1972.

In this context, the International Maritime Consultative Organization (IMCO) Assembly adopted a resolution in 1969 calling for action on pollution from ships. While the issue had been on the international agenda since the 1920s, institutional dysfunction had been persistent (Caldwell 1990: 295). Those involved saw the focus on environmental questions triggered by Stockholm to be critical to realizing institutional change in the maritime field (Nauke and Holland 1992: 76). Negotiations sought to address the limitations of the 1954 International Convention for the Prevention of Oil Pollution and tackle the discharge of a wider array of polluting substances. States with significant coastal interests and small marine shipping industries pushed for tough new restrictions. States with significant national shipping interests sought less onerous requirements (Brenton 1994: 93–94).

As with the other conventions, negotiations on the marine pollution conventions were concluded outside of UNCHE. In both cases, the Stockholm action plan highlighted the negotiation processes. The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter was signed in autumn 1972 and the International Convention for the Prevention of Pollution from Ships (MARPOL) was signed in early 1973. Both agreements on persistent problems owed their agenda standing to UNCHE's coordinative impetus. In addition, UNCHE left its mark on the terms of both treaties, including through bargaining over the marine pollution principles included in the UNCHE action plan.

Prior to Stockholm, institutional problems and cooperative incentives had accumulated, particularly in the conservation and marine pollution fields, but were unaddressed. The underlying conditions that gave rise to the bargaining openings realized at Stockholm had existed through much of the 1960s. Yet institutional dysfunction persisted. In most instances, states failed even to organize meetings to realize the cooperative incentives that would form the basis for agreement in the early 1970s. This record of inaction changed rapidly with the emergence of a Temporal Focal Point:

the 1972 Stockholm conference. UNCHE became a focus for institutional change because it provided a TFP for states to coordinate their activities and analyses. Heightened investments in analytical resources highlighted important negative externalities. The five conventions discussed above, all realized within a span of two years, constituted a dramatic transformation in global environmental governance. These were changes of great scope and magnitude.¹⁵ In none of these cases does a sudden worsening of the problem or the emergence of new technical knowledge explain the timing of change in these related—yet distinct—realms of institutional activity. The preceding process-tracing analysis demonstrates that the timing of change is best explained by convergent expectations triggered by a TFP.

3.2 The 1970s to the 1990s

The post-UNCHE period saw a significant increase in environment awareness. Many governments established environment ministries and, combined with the maturation of the environmental sciences, new bureaucracy contributed to a more complete analysis of planetary problems. Though knowledge had increased, the development of environmental cooperation was frustratingly slow to many observers. The new UN Environment Programme (UNEP), launched following UNCHE, faced great difficulties in fulfilling its coordinative and catalytic functions (Ivanova 2012: 576–580). Although UNEP enjoyed important successes, such as the Regional Seas programme and the Ozone Accords, it had been unable to spur effective action on key issues.

On climate change, UNCHE had stimulated some of the world's first reports on the impact of increased concentrations of greenhouse gases on climatic systems (SMIC 1971). Research through the 1970s and early 1980s led to calls for a global climate convention. The 1985 UNEP/World Meteorological Organization (WMO) meeting in Villach, Austria, became a turning point, underlining the urgency of the issue and the need for a global convention. In the words of one analyst, by 1985 climate research was “solid” and “the pot was boiling” (Torrance 2006: 34). Though the pot was boiling and a series of meetings, including the watershed 1988 Toronto Conference, pointed to the need for a global response, inaction persisted. Instead of initiating negotiations, the Intergovernmental Panel on Climate Change (IPCC) was created in 1988 to further study the issue.

Progress on halting the decline of global biological diversity (or biodiversity) was similarly frustrating. The need for an overarching “umbrella” convention to address the duplication, overlap, and governance gaps that had emerged after UNCHE was clear. IUCN began work on draft articles for such a convention in 1984. Calls for a convention were endorsed in 1987 by the Brundtland Commission and by the U.S. (McConnell 1996: 4–5). Despite this, progress on a biodiversity convention in the late 1980s was slow, ad hoc, and largely restricted to technical examinations. The loss of biological diversity was linked intimately with two other issues: deforestation and the management of genetic diversity. Though tropical forests covered only 6% of the earth's land surface, they contained at least half of the earth's biodiversity. The annual loss of 7.6 to 10 million hectares of tropical forests, therefore, contributed greatly to the global loss of biological diversity (WCED 1987: 150–152). This issue also had

¹⁵ For an assessment of types of institutional change, see: Rixen and Viola 2016, 18–20.

important implications for pools of genetic resources. For developing countries, which held a disproportionate share of the world's genetic diversity but lacked the capacity to exploit this resource, there was a need to ensure that the economic benefits of biotechnology were widely shared. In 1981, IUCN began to study potential institutional bases for action to conserve and ensure accessibility to genetic resources (IUCN 1981).

Desertification, or the widespread loss of soil fertility due to human overexploitation of drylands, affected one-quarter of the world's land cover and one-sixth of the global population. Following draught in the Sahel in the early 1970s, the issue of desertification landed on UNEP's agenda. In 1977, UNEP convened the UN Conference on Desertification (UNCOD). Though UNCOD produced a Plan of Action to Combat Desertification (PACD), little progress was made on its implementation. A deficient institutional status quo persisted into the mid-1980s, when the effects of desertification were again on prominent display during the Sahelian famine of 1984–1986 (McCormick 1989: 117). Action on desertification made economic sense. Though efforts to combat desertification would cost approximately US\$4.5 billion annually, productivity losses due to declining soil fertility were estimated to cost US\$26 billion per year (UN 1980). Yet, as with many environmental issues in this period, serious intergovernmental negotiations did not occur.

Marine issues also featured in this period. Fisheries discussions focused largely on the management of fish stocks that straddled international waters and the fishing grounds of coastal states. Ambiguity concerning the rights, responsibilities, and duties of coastal states vis-à-vis high-seas fishing fleets were pertinent to the management of marine ecosystems (Burke 1993). Land-based sources of pollution—arising from water-borne inputs, atmospheric transport, or direct coastal dumping—became an increased concern for the ocean science community in the 1980s. The limitations of existing marine institutions, such as those of the UN Conference on the Law of the Sea and the marine pollution conventions of the 1970s, gave rise to unrealized incentives for institutional change.

While calls for enhanced environmental cooperation became more prominent, states lacked sufficient coordinative impetus to act. This pattern changed with the arrival of a Temporal Focal Point: the 1992 United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, Brazil. In many ways, the significance of UNCED snuck up on states in a manner reminiscent of UNCHE. As with Stockholm, a series of environmental disasters, such as those in Bhopal, Basel, and Chernobyl, as well as the Exxon Valdez oil spill, led to a popular sense of environmental crisis (Brenton 1994: 125–126). While Rio was promoted as a summit meeting, environmental activism greatly amplified its conspicuousness and perceived importance. These developments may also have increased turnout at UNCED among heads of government. In addition, Maurice Strong, UNCED's secretary-general, did much to crystallize Rio as a focal moment. Most importantly, the arrival of the twentieth anniversary of the landmark Stockholm conference, a date of considerable symbolic importance in UN environmental circles, triggered reflection on the state of global environmental governance. The anniversary of those halcyon days in Sweden provided a conspicuous temporal landmark that facilitated a convergence of expectations.

In a decentralized fashion, the Rio TFP facilitated coordination of informational, analytical, and bargaining investments. In the lead-up to Rio, there was a proliferation of literature on the global environment (Chasek 1994). UNEP and its enterprising

Executive Director, Mostafa Tolba, produced publications aimed at shaping policy debates at Rio. Many UN agencies, such as the Food and Agriculture Organization (FAO), UNESCO, and the UN Commission on Trade and Development, produced publications. The Organisation for Economic Co-operation and Development (OECD) and the World Bank also weighed in. Not to be outdone, non-governmental organizations and think-tanks, such as Friends of the Earth and the World Resource Institute, added to the literature surrounding UNCED. Conferences on institutional questions were hosted by the Aspen Institute and UNEP convened workshops on environment and natural resource accounting, and on environment and economics. The World Health Organization (WHO) held panels and commissioned reports on Health and Environment, Urbanization, Food and Agriculture, and Energy. The U.S. Senate Committee on Governmental Affairs held hearings on developing an energy efficient world. Canada gathered "Stockholm veterans" for a December 1991 seminar to inform policy at UNCED (DEA 1991). These seminars and events illuminated the world environmental agenda. In the lead-up to Rio, environment was everywhere.

The conference also became a focus for the coordination of bargaining efforts and initiatives among governments. The negotiation of conventions on climate change and biodiversity followed parallel timelines, both targeting agreement in time to open the conventions for signature in Rio. International Negotiating Committees (INC) began work on the conventions in early 1991. This left negotiators with less than eighteen months to reach a settlement on issues of great complexity. The frenzied pace of talks, including all-night bargaining and intersessional meetings, were a product of highly compressed negotiating timelines and are illustrative of a sudden government willingness to incur heightened transaction costs. According to some observers, furthermore, compressed timeline may have resulted in conventions with shortcomings that could have been addressed had negotiations not occurred under such restrictive timelines.¹⁶

The rush to reach agreement at UNCED is puzzling for existing theories of institutional change, since the June 1992 deadline was not directly related to exogenous change or the emergence of new technical knowledge. UNCED presented a completely artificial deadline for agreement (Susskind 1994: 223). Yet, the approaching anniversary of UNCHE provided a powerful impetus in spurring bargaining on the climate change and biodiversity conventions. The reason for this peculiar pattern lies in the recognized difficulty of achieving a similar level of domestic and international coordination following UNCED. On the climate change negotiations, participants feared that, if agreement was not reached in time for Rio, intergovernmental bargaining could drag on for another decade (Mintzer and Leonard 1994: 322). It is likely that the biodiversity talks, which had a lower profile than the climate negotiations, would have faced a similar situation. In addition to potentially losing the negotiating impetus, the engagement of heads of government in the UNCED process ensured that the conventions would benefit from high national bureaucratic coordination. Recognizing the difficulty of replicating such high levels of domestic and international coordination, states took the agreements that they could get in 1992.

Agreement on the biodiversity and climate conventions were aided by significant analytical investments by international organizations and non-state actors targeting the focal timeframe. While action on climate change entailed significant economic

¹⁶ Brenton 1994: 203. Susskind 1994: 223. Tolba 2008: 95–96.

uncertainties, the degree of uncertainty was reduced by reports produced by UNEP, WHO, the OECD, and others. Questions concerning the institutional and financial follow-up on the Rio action items were tackled at a set of informal meetings hosted by the Aspen Institute in 1991 (Aspen 1991). These meetings, for instance, gave rise to the proposed creation of a UN Commission on Sustainable Development and facilitated debate on the future role of the Global Environment Facility. Similarly, biodiversity negotiations benefitted greatly from the heavy investment of IUCN in supporting UNEP (Lausche 2008: 315–316).

On desertification, talks gained momentum during the final stages of the UNCED preparatory process, forming the basis for the third of the “Rio conventions.” Seeing an opening to act on a longstanding problem, more than forty African ministers gathered in Cote d’Ivoire in November 1991 and called for a global desertification convention. African governments had allies within the UNCED secretariat. Secretary-general Maurice Strong, who as UNEP’s first Executive Director had aimed to tackle the problem in the mid-1970s, endeavored to promote action (Johnson 2012: 149). The Swedish chair of preparatory committee working group I, Bo Kjellén, visited the worst-affected regions and used his agenda-setting powers as chair to promote action during the final UNCED preparatory meeting (Kjellen 2008: 70–71). Talks intensified ahead of the conference, benefitting from sustained intergovernmental attention. Draft language endorsing a desertification convention, contained in chapter 12 of the UNCED action plan, was debated in Rio until consensus built in support of a proposed convention negotiation process, leading to agreement in 1994 on the UN Convention to Combat Desertification (UNCCD).¹⁷

Efforts to promote a forest convention were sponsored chiefly by industrialized countries. While the need to arrest the destruction of forests was not new, support for a convention grew in the run-up to UNCED. The U.S. took the lead in this area (Hopgood 1998: 177). The proposal was endorsed in 1990 by the G7 and the FAO Council. During the UNCED preparatory process, however, these proposals encountered strong opposition from leading developing countries, such as Malaysia and India, which saw the proposal as a scheme to interfere with their domestic economic development. These states advocated the maintenance of an institutional status quo in which forest management remained a largely national concern. In view of the sometimes vociferous opposition to a convention, negotiations at the fourth UNCED preparatory committee meeting centered on a non-legally binding authoritative statement on the management, conservation, and sustainable development of all types of forests. Though disappointing to advocates of a convention, the “forest principles” constituted “the first global consensus on forests,” a “significant breakthrough” that established a basis for future negotiations to promote a global convention (Engfeldt 2009: 184).

Action on land-based sources of marine pollution and straddling fish stocks also received attention at UNCED. On land-based pollution, there was a recognized need to update the 1985 Montréal Guidelines for the Protection of the Marine Environment Against Pollution from Land-based Sources. Some governments and non-governmental organizations argued strongly for a global convention. Canada and UNEP hosted meetings in 1991 to develop a global strategy on land-based marine pollution sources. UNEP produced recommendations concerning the updating of the Montréal Guidelines and

¹⁷ For a summary of early bargaining, see Chasek et al. 2012, 154–159.

background papers targeting substantive agreement at UNCED (Dahl 1993: 564). On straddling fish stocks, several coastal states took aim at “predatory” fishing fleets. Numerous declarations and proposals were made during the UNCED process concerning the implementation of UNCLOS in respect of marine ecosystems (Burke 1993: 522–523).

While UNCED stimulated new analyses of these longstanding problems and generated proposals for institutional change, the density of existing arrangements in the marine sphere left little room for legal action in Rio. On land-based sources of pollution, states agreed on the need to update the Montréal Guidelines and to address the issue through regional fora. On straddling fish stocks, debates and cooperative initiatives taken in the context of UNCED led to the convening of a UN Conference on Straddling and Highly Migratory Fish Stocks. Conference debates, including the many national proposals stimulated by the highly visible UNCED process, were central to agreement in 1995 on a set of principles to manage the issue. Thus, while UNCED action on marine issues was restricted, analytical investments made in the context of Rio, particularly by Canada and UNEP, led to significant institutional developments.

With three “Rio conventions,” the Forest principles, and developments in the maritime sphere, the early 1990s represent a phase of clustered institutional change.¹⁸ The prospect of action on persistent institutional problems, predicated on convergent expectations, generated a proliferation of environmental analyses and institutional initiatives. Though negotiation on many of these issues had been stalled through the 1980s, states were willing to accept heightened transaction costs because they expected others to do the same. Many of these analytical investments helped to highlight agreement possibilities that were less apparent before the UNCED process gained steam. While planetary problems motivated these investments, a sudden deterioration of environmental conditions does not explain the timing of change in 1992. New ideas were critical to agreement at UNCED, but the key technical breakthroughs had been made well before the UNCED process was launched. Purposeful state or hegemonic leadership, moreover, does not explain the prominence attached to Rio. While some Western European states sought to play a lead part at the conference, the success of UNCED cannot be attributed to their vision. The U.S. and Russia, which were, respectively, in the throes of an election campaign and managing the dismemberment of the Soviet empire, were preoccupied through much of the process. While the end of the Cold War produced optimism, it would be incorrect to assume that this represented an exogenous shock that opened up cooperative possibilities in the UN environment sphere. The most salient cleavage on environmental questions had always been North-South, not East-West, and environmental issues had traditionally been an avenue for the furtherance of détente.

4 Conclusion and Discussion

By developing a temporal extension of Thomas Schelling’s focal point hypothesis, this article has examined a puzzling feature of the record of change in many spheres of

¹⁸ While these three conventions developed at a similar *speed*, they do vary in magnitude. The *depth* and *scope* of climate, biodiversity, and desertification conventions was greater than the agreements reached on forests and marine pollution.

institutional activity. The frequency of change instances following crises or long-scheduled conferences is explained by actors' propensity to use conspicuous temporal signposts to coordinate their activities and expectations. I assess the explanatory potential of this framework by exploring the influence of TFPs on the intermittent, clustered pattern of change in United Nations environmental institutions. The empirical analysis demonstrates that coordination issues hindered greatly efforts to change United Nations environmental institutions (H1 supported). Despite incentives to address global environmental degradation and clear institutional dysfunction, states were slow to coordinate. In each case, remarkably limited analytical and political investments were made in institutional change processes. Reluctant to incur heightened transaction costs, the risk-dominant institutional status quo persisted for longer than would be predicted by pure rationalist approaches. The flood of institutional information and analysis that followed the arrival of focal timeframes suggests that the potential for such analysis had been held back by the risk-dominant equilibrium.

The coordination dilemmas facing actors were eased by the arrival of Temporal Focal Points (H2 supported). These dates had great coordinative power because they provided a unique, definite moment in time for states to address mounting planetary problems. Though the Stockholm conference was originally intended to be a modest affair, it rapidly became a conspicuous outlet for global environmental concern. UNCED's temporal rationale owed to the anniversary of the landmark Stockholm conference. The Swedish conference had great coordinative power within UN environmental affairs because of its conspicuousness. By giving rise to a sense of urgency and focus, the TFPs precipitated a decentralized convergence of expectations. Since all sides believed that the likelihood of coordinated action by others had increased significantly, they were willing to accept the risks associated with initiating institutional change processes. Actors engaged heavily in negotiations, moving to Pareto-superior equilibria. There was abundant evidence, for example, of temporal pacing in the negotiations.

Alternative theoretical accounts provide an incomplete explanation for the timing of institutional change. Rational Choice institutionalism emphasizes the role of alterations to international conditions in motivating change. By the early 1960s, it was clear that the existing institutional order could not address mounting pollution and conservation problems. It was this recognition that led President Kennedy to advocate environmental cooperation in 1963. The environmental problems that helped produce change in 1992 had also been in existence for more than a decade. Yet, in both cases institutional change did not follow quickly from the emergence of incentives to alter patterns of international cooperation. Institutional sub-optimality was persistent. Hence, there appears to be an indirect relationship between shifts in exogenous conditions and the timing of institutional change in the early 1970s and 1990s. Both cases highlight also that actors' appetite for incurring heightened transaction costs was limited greatly by expectations about others' behavior. Their willingness to make the necessary investments in information, analysis, and bargaining processes was much higher in the face of convergent expectations.

Accounts emphasizing the role of social factors are no better placed to explain the timing of change in UN environmental institutions. Although the decade leading up to UNCHE was a dynamic one in the development of environmental norms and ideas, there is little evidence to support the view that shifts in ecological ideas precipitated change in 1972 (Bernstein 2001: 139–141). While expert ideas, such as those developed

by IUCN were highly consequential, it was the heightened investment of analytical and bargaining resources prompted by the presence of a Temporal Focal Point that facilitated agreement on the conservation conventions of the 1970s and 1990s. It is, therefore, difficult to conclude that new norms cascaded in 1972 or 1992, producing change.

The article contributes to existing literature on the importance of punctuated institutional change in recasting patterns of international cooperation. By problematizing temporal factors, it answers a ubiquitous question of international life: “why now?” The preceding analysis shows why certain moments in time are more likely to emerge as moments of institutional change than others. The ability of players to coordinate their activities and analyses at certain points along the temporal continuum is vital to the collective decision to move from risk-dominant to payoff-dominant equilibria. This insight adds to the work of Historical Institutionalists on large, discontinuous change.

The temporal coordination dilemmas analyzed in this article are particularly relevant to comprehending patterns of cooperation in world politics. The importance of timing—an overlooked, yet fundamental, factor—must be analyzed in a more comprehensive manner given the large number of actors that can influence institutional change at the international level. The importance of temporal coordination issues may, furthermore, be increasing. Technological change has heightened the need for large international multi-stakeholder consultations that include heavy participation by non-state and sub-state actors. The ability of relevant parties to reach convergent expectations may become an increasingly important factor in refreshing global institutions.

Further research is required, however. Temporal Focal Points are only a starting point for explanations of the timing of institutional change. Though the TFP concept explains why some junctures are more likely than others to emerge as moments of institutional change, they do not explain *all* instances of change. Further qualitative and quantitative analysis is required to gain a more complete appreciation of the factors that influence coordination across time. One such factor is the role of agency in achieving coordination. Analyses of temporal factors could be complemented by agent-centric accounts, such as those provided by Tim Büthe (2016) and Abraham Newman (2017). One important factor in explaining the ways that institutional structures shape the activities and preferences of actors may be developing a theory of how institutional membership attributes impact the ability of actors to coordinate temporally. By understanding the ways that membership configurations influence the adaptability of institutions, we are able to draw conclusions of theoretical and practical relevance for the analysis of institutional change.

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