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# Moving Forward, One Step at a Time

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We thank John Duffield for raising important research design issues regarding the Rational Design of Institutions Project.<sup>1</sup> In particular, he raises important issues regarding strategies for empirical research. Nonetheless, some of Duffield's criticisms are misguided. His call for an overly broad definition of "institution" and the inclusion of many additional independent variables are not consistent with the development of a theoretically tight and empirically testable project. Our reply is that a research project must go forward "one step at a time" by making careful and difficult choices regarding how to limit the scope of the analysis, including what theoretical arguments to consider and what variables to include and exclude. Duffield's critique provides a useful opportunity to review the choices we made in our first step and to consider appropriate criteria for future steps.

## Research Choices: Deliberately Narrow Versus Potentially Exhaustive

The Rational Design project developed a series of conjectures about the choice of five design features (MEMBERSHIP, SCOPE, CENTRALIZATION, CONTROL, and FLEXIBILITY) of international institutions depending on the different circumstances that states face in their various interactions (ENFORCEMENT problems, DISTRIBUTION problems, NUMBER of actors, and several types of UNCERTAINTY). For example, suppose there are potential gains from cooperation among states, but states are unsure of each other's preferences. Costly membership provisions can serve as a screening device, thereby revealing information about states' preferences that en-

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1. See Koremenos, Lipson, and Snidal 2001a, 2001b, and 2001c; and Duffield 2003.

ables cooperation. Or suppose that achieving significant gains from cooperation is complicated by potentially severe distributional obstacles over time. Flexibility provisions allow states to manage these distributional obstacles as they arise, allowing cooperation to proceed. These and other conjectures were then evaluated in a series of case studies of different areas of international politics.

Duffield's first two criticisms relate to the scope of the project. First, he asserts that the project is too narrow in its conception of "institutions" (the overarching dependent variable). He prefers a broader definition of institutions that would include tacit bargains, constitutive arrangements, and intersubjective beliefs. Second, Duffield contends that we should have included a wider set of independent variables, ranging from power through ideas. So Duffield accuses us of being "too narrow" all around. But systematic theory and falsifiable empirical work requires making commitments to narrow down the research. While others choices are still worth pursuing, we believe the results of the Rational Design project validate the particular choices that we made.

### *Conceptions of Institutions*

The Rational Design project seeks to explain why international institutions take the forms they do. Although there has been much work on international institutions in general, there has been remarkably little examination of the more detailed design principles (such as extent of CENTRALIZATION or FLEXIBILITY) underlying these institutions.<sup>2</sup> Explaining this variation in design is one of the central important issues for the study of international organization, and it has important theoretical and policy implications. Duffield is correct that we used a restricted definition of institution that focuses on explicit, negotiated arrangements. We pointed out that our definition is narrower than the traditional "regime" definition and leaves out other factors that are relevant to institutional design. We chose a tighter definition for two reasons.

"Regime" provided a valuable catchall concept in the 1980s when scholars were first theorizing and examining the general role of international institutional arrangements—and trying to escape the confining conception of formal international organizations prevalent in law scholarship and earlier international relations research.<sup>3</sup> However, a concept so broad as to include "implicit or explicit principles, norms, rules and decision-making procedures" also provided little specific guidance for theoretical or empirical work—it seemed that almost anything

2. Notable exceptions include Smith 2000; Koremenos 2001; and Martin 1992. As Duffield notes, the legalization literature is developing in a similar direction. See Abbott et al. 2000; and Abbott and Snidal 2000. We agree that exploring the similarities across literatures is a desirable goal. However, different inquiries might reasonably focus on separate concepts that do not relate simply. For example, precision in the definition of legalization does not map directly onto flexibility, because precision may either decrease flexibility by specifying required actions or increase flexibility by creating loopholes.

3. Krasner 1983, 2.

could be and was called a regime. Our circumscribed definition of institutions as “explicit arrangements, negotiated among international actors, that prescribe, proscribe and/or authorize behavior” (especially when coupled with our detailed conception of institutional design dimensions), introduces the greater specificity essential for tight theorizing and for rigorous empirical work. In addition, by emphasizing explicit arrangements, we avoided the difficult observational problems raised by tacit agreements, norms, and the like. Although these other institutional forms are important features of international politics, we chose to start with ones that seemed most amenable to empirical research.

Our definition of institution, and our choice of particular institutional features on which to focus, was also driven by theoretical considerations. At the general level, our analysis presumes that the design of institutions can be understood as the result of self-interested states interacting in a deliberative manner to solve specific problems. Most often, these interactions result in the explicit arrangements on which we focused, although cooperative arrangements might also be established and maintained by tacit understandings among states. Of course, Duffield is correct that our emphasis on explicit institutions means that Rational Design may not provide a satisfactory explanation for the emergence of such tacit institutions. Here, evolutionary, normative, or other arguments may provide better explanations. However, this provides an excellent example of the potential complementarity of explanations: While Rational Design may not explain the origin of all institutional arrangements, it may provide an explanation of why states transform tacit arrangements into explicit arrangements (as in the codification of customary international law), as well as insight into the circumstances under which tacit agreements are likely to emerge and whether they will be stable or break down without further institutionalization. Tacit understanding might enable states to achieve mutual reductions in tariffs or armaments, for example, but these understandings may be more vulnerable to exogenous shocks than are more formalized trade arrangements with escape clauses or security arrangements in which formalized institutions help resolve the Assurance problem.<sup>4</sup>

At the level of specific institutional design, we concentrated on features such as MEMBERSHIP and FLEXIBILITY because of their substantive importance and measurability, and because extant rational choice theory had something to say about them. Although Duffield suggests that many of these implications had been drawn out in earlier work (including some of our own), other implications clearly had not been drawn out. Moreover, an important function of the Rational Design project has been to bring together and systematize many of the earlier results in a way that is amenable to empirical testing.

Because an important emphasis of the Rational Design project is shifting attention away from general considerations of institutions toward more detailed analysis of specific institutional features, we appreciate Duffield’s focusing on a specific

4. See Milner and Rosendorff 2001; and Kydd 2001.

dimension—CENTRALIZATION—to argue his case.<sup>5</sup> Duffield makes a good point in stating that greater focus on delegation may provide a way to further refine the concept of CENTRALIZATION, because delegation and centralization are indeed closely related. Moreover, such work is already beginning to take form.<sup>6</sup> Nevertheless, our broad definition has the advantage of allowing centralization to be studied in common by a group of cases without prematurely foreclosing generalization through the imposition of a particular conception. We simply do not yet have sufficient theoretical or empirical understanding to guide us in limiting the analysis in this way.

Our open-ended approach allowed a number of case studies to engage related aspects of how centralization operates (or not) in the different cases. This provides useful insight into the diversity of “how” centralization occurs. In addition, as Duffield notes, we argued that “because our conception of centralization is very broad, an important avenue of inquiry will be to refine this concept into its different components.”<sup>7</sup> While such refinements may emerge from purely theoretical approaches, we believe that organizing a common set of cases around the broader concept provides necessary and valuable empirical grist for developing those refinements.

An example from our project concerns the relation between CENTRALIZATION and the closely allied concept of CONTROL. Oatley shows how CENTRALIZATION was used to solve enforcement problems in the European Payments Union (EPU) while institutional CONTROL arrangements were used to balance the goals of different states.<sup>8</sup> The majority vote requirement in the EPU reflected U.S. power and its desire to prevent individual states from blocking action, whereas the requirement that board decisions had to be adopted unanimously through the Organization for European Economic Cooperation protected European states from unforeseen circumstances. Similarly, although Richards’s findings on CENTRALIZATION in the aviation regime are negative, the reason is that CENTRALIZATION “was simply a function of logistics and efficiency because CONTROL did all of the heavy lifting in ensuring that outcomes were acceptable to all parties.”<sup>9</sup> Although we were able

5. Duffield notes that Martin 1992 makes many valuable and related points regarding CENTRALIZATION, and that we may have cited the wrong work. We apologize for this error. We certainly were aware of Martin’s work and have benefited from it considerably. The more general point is although some of our conjectures are novel, many of them pull together insights from the field (such as Martin’s), while others take insights developed in game theory and other areas of political science and translate them into the international relations realm.

6. There is a research program currently underway under the direction of Dan Nielson (BYU), Mike Tierney (College of William and Mary), David Lake (UCSD), and Lisa Martin (Harvard) that examines delegation to international institutions; Abbott and Snidal 2000 explain why states choose hard law (extensive delegation), soft law (usually with moderate delegation), or no legalization at all; and Koremenos 2000 models states’ choice between renegotiation provisions and delegation as a means to deal with persistent environmental shocks. These are all examples of theoretical developments that begin to address Duffield’s critique of CENTRALIZATION.

7. Koremenos, Lipson, and Snidal 2001c, 1060.

8. Oatley 2001.

9. Richards 2001, 996.

to theorize the need to look for interactions between such variables as CENTRALIZATION and CONTROL, only a combination of theoretical and empirical work can uncover how these relations actually work in practice and lead to the appropriate conceptual refinements down the road.

Here the use and limitations of the “regime” concept provide an instructive example. Beginning with a broad—and even vague—covering concept (regime) was a useful way to identify an important phenomenon (the vast range of formal and informal ways in which international politics is organized, as captured in the canonical regime definition) across a range of cases. Premature efforts to impose a narrow concept would only have made it harder to see the greater generality and would have led to definitional debates. As the phenomenon is better understood, however, the broad concept becomes less useful for more focused research and should be replaced by more detailed concepts. The Rational Design project pursues exactly that strategy by shifting the focus from broad overarching concepts such as regime (or institution) to more detailed and precise concepts like CONTROL, FLEXIBILITY, and CENTRALIZATION. In turn, we agree with Duffield that future research will seek to refine these concepts (particularly, CENTRALIZATION, but also other institutional design features) even further. But the process of conceptual refinement starts with the use of broad concepts that can encompass different cases in order to understand what refinements will be most fruitful for generalization.<sup>10</sup>

### *Variables Included*

Our tighter specification necessarily entails setting aside numerous considerations, including some that are likely important in their own right. Duffield enumerates a number of alternative dependent or independent variables that might be relevant to the study of institutions—including cognitive factors, behavioral norms, and ideas—which add to the list of factors that we identified as being set aside—notably power, domestic politics, preference change, and institutional effectiveness. While these are all potentially important considerations for any international relations problem, a coherent research project needs to focus on a manageable number of considerations. Parsimony is, after all, also desirable in social science theories.

10. Some of Duffield’s criticisms regarding our definition of institution are slightly misleading. For instance, Duffield claims that our conception ignores the constitutive aspects of institutions that “create actors, endow them with certain capabilities, and define categories of action.” But the Rational Design definition captures some of this, albeit in a perhaps narrower way than Duffield has in mind. The creation of a quasi-legislative body authorized to resolve disputes with less than unanimous agreement would be captured by two of our dependent variables: CENTRALIZATION and CONTROL. Similarly, MEMBERSHIP is a key constitutive rule of any institution, even as the institution determines roles and identities of the members.

We had a clear rationale guiding our choice of variables. On the one hand, we were informed by our substantive knowledge of international relations. Still more important was the question of whether the variables were ad hoc or theorized; we emphasized the latter. We drew on the powerful body of results available in the game-theoretic literature. Our task was to integrate the two to determine where the theory could help us most in explaining our empirical observations of institutional features.

Duffield is simply wrong in saying that we do not include “interests” in our analysis. Both ENFORCEMENT and DISTRIBUTION are interest-based independent variables. ENFORCEMENT “refers to the strength of individual actors’ incentives to cheat . . .”; while DISTRIBUTION “depends on how each actor compares its preferred alternative to other actors’ preferred alternatives.”<sup>11</sup> Duffield correctly notes that this is an indirect way to introduce interests because it focuses on “constellations of actor interests.”<sup>12</sup> But the decisive contribution of the game-theoretic approach is to show that outcomes cannot be understood from individual incentives alone, because actors’ choices depend on the strategic incentives created by constellations of interests. We use ENFORCEMENT and DISTRIBUTION as a way to represent variations in that constellation of interests across a wide variety of settings. And, of course, when one looks at constellations, one is also looking at the individual stars.

Moreover, our goal was to find ways of characterizing interests on an issue so that fruitful cross-case comparison could be made. While we started with the fairly standard prisoners’ dilemma-versus-coordination distinction that has been widely used in international relations theory, we concluded (with much help from our authors and discussants) that a more fruitful way to frame different constellations of interests was in terms of “enforcement” and “distribution” problems. This allowed our cases to be discussed in a common language without requiring them to be forced into the specific analytic containers of  $2 \times 2$  games.

Our specific definitions of ENFORCEMENT and DISTRIBUTION allowed us to separate out the effects not only of these two independent variables, but of different kinds of uncertainties as well. As we state in our concluding article, international relations scholarship has tended to clump together, under the rubric of an “enforcement” problem, many things that would be more precisely characterized as other problems.

Moreover, many of the concepts Duffield suggests that we missed, such as “beliefs” and “evolutionary” and “spontaneous” processes, are, in fact, discussed in either our introduction or conclusion. But the discussion is carefully circumscribed by our theoretical framework. For instance, we do capture two important facets of beliefs and knowledge through two independent variables, UNCERTAINTY ABOUT PREFERENCES and UNCERTAINTY ABOUT THE STATE OF THE WORLD. Contrary to Duffield, beliefs are an explicit part of our analytic framework, just as

11. Koremenos, Lipson, and Snidal 2001b, 775–76.

12. Duffield 2003, 417.

they are an explicit part of any game-theoretic framework. Are there other facets of beliefs we do not capture? Of course there are. But those that we chose to include are incorporated in a very precise, theoretically grounded way. That was our research design.

Our criteria for inclusion were our *ex ante* sense of the substantive importance of variables combined with our ability to develop game-theoretic arguments that provided theoretical purchase on them. Thus we considered “negotiated” rather than “spontaneous” institutions, because the latter are more directly connected to Rational Design. As we argue in the conclusion, while Rational Design also has something to say about the boundary possibilities of spontaneous institutions, this would have required further extension of our analysis. Similarly, while “imposed” or coercive regimes will be the object of Rational Design, we do not believe the general set of international institutions on which we focus are well described by this condition. Indeed, we did not emphasize “power,” even though we recognize its importance in some settings, because the theory does not present compelling results. This is undoubtedly a shortcoming of rational choice literature. But it is also a result of the “essentially contested” nature of power as a concept.<sup>13</sup> Of course, elements of differential power within negotiated regimes are reflected in our discussion of control.

Finally, we note that according to Duffield, we should have considered “path dependence.” Although he includes it in his discussion of omitted variables and describes it as a “causal factor,” we do not think this is a particularly useful formulation. While we agree that path dependence is an important consideration, it remains a more post hoc empirical fix than a useful, a priori theoretical construct. Our view is that path dependence is similar to the error term in a regression equation that captures what we do not know, and that our goal is to convert this explanation into something systematic and generalizable. Simply put, we need better theories of when states move from one institutional equilibrium to another. Duffield’s proposal of examining the role of “institutional assets” strikes us as a good place to begin developing an explanation of the persistent use of international organizations such as NATO.

## Empirical Evaluation

Duffield’s most valuable critique regards the empirical shortcomings of the Rational Design project. We agree with key elements of this critique, although his points go both too far and not far enough. Duffield goes too far in dismissing the value of case studies and especially the value of a set of cases that are well connected

13. As we argue in our conclusion, power is ill-defined in both the traditional and formal literatures. Koremenos, Lipson, and Snidal 2001b. In the formal literature, for example, patience is often used as a proxy for power, which we find unpersuasive substantively.

through a common set of theoretical conjectures. Put differently, there are indeed limitations to the technology of case studies; however, singling out our case studies is not particularly warranted. Duffield does not go far enough in addressing the problems raised by design interactions and in exploring the difficult issues raised by the operationalization of variables.

First, Duffield is correct in saying that the empirical results do not “prove” that the Rational Design approach is correct. Our claim is that “the results are generally positive, although in a few areas they are mixed or inconclusive.” In discussing conjectures on MEMBERSHIP, we “emphasize that such ‘findings’ need to be treated more in an exploratory mode than in a confirmatory mode.”<sup>14</sup> While the findings on SCOPE are reported as “strong,” we note that because they are based on one case, they “do not resolve questions about generalizability.”<sup>15</sup> In reporting our findings on CONTROL, we note that “though mainly positive, [they] are sparse, so we do not claim too much for them.”<sup>16</sup> By contrast, we find much empirical support across a number of cases for the conjectures on FLEXIBILITY and CENTRALIZATION, and say so. But even here, our concern is less with claiming that particular conjectures are verified than with pointing out important ways that our theoretical understanding can be improved. Finally, and most importantly, the overall pattern of support across all of the conjectures and all of the cases is quite strong. It certainly establishes a *prima facie* case that more systematic analysis of the sort Duffield proposes is worth pursuing.

On what basis, then, does Duffield criticize the Rational Design project for its overall lack of empirical support? He points out that “no canonical methodological criteria exist for making such judgments,” although he seems to have one in mind that does not take case study analysis seriously as constituting anything more than single data points.<sup>17</sup> The case studies in the IO volume were evaluated as stand-alone papers for purposes of acceptance by the reviewers. They each make serious efforts to evaluate the conjectures in their cases, and their findings, positive or negative, rise to the high standard of evidence that IO imposes on its case study articles. While case studies have limitations as evidence, they also have advantages in terms of the greater depth and texture they provide on an issue.

Beyond that, the Rational Design project has significant added value in making the joint contribution of the cases greater than the sum of their individual contributions in two ways. First, by collecting a set of cases that are joined by common conjectures—not every case on every conjecture but multiple cases on many—we find a broader array of findings emerge across substantially different contextual settings than can be provided by any case. This is particularly valuable for identifying independent and dependent variables that appear important across both cases

14. Koremenos, Lipson, and Snidal 2001c, 1057.

15. *Ibid.*, 1058.

16. *Ibid.*, 1060.

17. Duffield 2003, 426.



and conjectures. Second, because the conjectures are not ad hoc hypotheses, but derive from a common theoretical framework, this unity of findings provides for mutual reinforcement. Duffield is correct in noting that we should not overstate the extent to which we have “proven” anything, but nor should we understate the wide range of evidence offered to support the importance of Rational Design.

Nevertheless, we agree with Duffield that more cases and a wider variety of cases would be desirable. Our set of cases is too dominated by economic institutions. That was not by design—the three cases that dropped by the wayside in the course of an extended project were noneconomic ones involving security, health, and environment. The reasons were personal and idiosyncratic. The early drafts of these papers were supportive of the general findings, and we have no reason to believe that their absence is hidden evidence against the general Rational Design approach. Even if the ultimate set of cases in the volume is not as diverse as we would have liked, it nevertheless represent a diverse set of important international institutional arrangements. If Rational Design stopped there it would still be important—and its success there provides a good reason to see how far it generalizes.

Duffield further feels that three of our cases do not fit the Rational Design framework. This claim goes against his earlier stated preference for a broader interpretation of institutional design. Consider the three cases he cites. Pahre’s “clustering,” although not fitting our precise definition of institution, is a clearly observable phenomenon with close parallels to, although in some cases less formalized than, our centralization dimension. Indeed, the greatest difference between the concepts is that Pahre’s analysis recognizes clustering as an institutional form that sometimes arises as an “emergent property.” This goes directly to the issue of spontaneous regimes as raised by Duffield, and Pahre shows that he can explain this instance through Rational Design principles.<sup>18</sup> So the case not only fits within the Rational Design framework, but also helps demonstrate how Rational Design principles have the broader reach that Duffield calls for.

Duffield is correct in stating that Morrow’s prisoners of war treaties are driven partly by normative values, but there is nothing in rational choice that restricts it to material considerations.<sup>19</sup> The key fact is that the informal understandings were formalized in ways that made them clearly observable and explicable in Rational Design terms. Finally, the forum-shopping in Mattli’s analysis involves choices

18. Duffield quotes Pahre out of context to the effect that “clustering does not meet the Rational Design definition of an institution.” The full phrase is “*Even when* clustering does not meet the Rational Design definition of an institution, it meets the canonical definition of a regime. . . .” Pahre 2001, 861 (emphasis added). Pahre’s point is that clustering involves a broader version of our CENTRALIZATION variable and a broader range of international institutions. He states that his analysis “is consistent with Rational Design conjecture C3, CENTRALIZATION increases with NUMBER, though the causal mechanism differs somewhat.” Pahre 2001, 860.

19. Morrow 2001. For a discussion of the relation between values and interests in rational choice, see Abbott and Snidal 2002.

among alternative institutional designs that can be explained by Rational Design principles.<sup>20</sup> While we developed the conjectures in terms of how new institutions would be designed, Mattli shows that the same principles apply to choice among institutions. These are different routes to similar equilibria. In short, what Duffield presents as limits to our empirical analysis are better seen as evidence of the greater theoretical scope he actually calls for. Our case study authors have already begun to answer Duffield's call for broadening the analysis.

Duffield criticizes the Rational Design project because not every conjecture is tested in every case.<sup>21</sup> This criticism is misguided because not every conjecture may be relevant to every case. For example, if uncertainty is not a problem in an issue, then we would not expect institutional arrangements to be designed around that nonfact. Excluding such cases actually biases the results against our conjectures by excluding cases where low levels of the independent variables correctly predict the absence of the design feature. However, we believe it would be inappropriate to include such cases as evidence given the strong background "anarchy" hypothesis explaining the absence of international institutions and, therefore, design features.

But there is a deeper problem regarding the possibility of substitution effects, complementarities, or conflicts among the design features, which we originally discussed in the section on design interactions in the framework chapter.<sup>22</sup> Our bivariate conjectures do not capture these more complicated relations, and we identified this as a shortcoming of our general theoretical approach. We tried to address this problem by asking our case study scholars to look for such interactions and also to look hard for contrary evidence that might help to refute any conjectures. On this basis, we concluded that the "silences" when particular conjectures were not found relevant to a case do not reflect missing negative evidence. Nevertheless, we agree that the Rational Design project has only uncovered an issue of alternative design choice, and that we need more theoretical and especially empirical analysis of these choices.<sup>23</sup>

Duffield raises an interesting point about operationalization of the variables. In general, we agree that work in this area can be improved by more attention to operationalization of the variables across cases. (Interestingly, many of the "missing" variables Duffield calls attention to, such as cognitive factors and ideas, are far more difficult to operationalize than those we did choose to include!) However, conceptualization must come before operationalization, and the project operated more at the former level. We left operationalization to the individual cases;

20. Mattli 2001.

21. Duffield 2003.

22. Koremenos, Lipson, and Snidal 2001b, 795–96.

23. Koremenos and Verdier 2002 begin this process with their formal analysis of entry versus exit costs in institutional design. They elaborate the conditions under which these two design features are either inconsistent or redundant.

it would be a valuable step to revisit the individual cases and develop common and more systematic measurement strategies.

But testing does not always require cross-case operationalization, and there are important limitations to the possibility of common cross-case operationalization. First, cross-case operationalization of variables is not necessary as long as variables can be properly measured within cases and there is variation on them.<sup>24</sup> Operationalization across cases is desirable, of course, because it broadens the comparisons that can be made. Second, cross-case operationalization may be difficult because different contexts make comparison of measurement units problematic. Consider two examples of how treacherous this can be. Probably the simplest of our variables to operationalize would be the NUMBER of actors. But how do we count actors when states of different sizes or different types of actors (nonstate and state) are involved? Similarly, what is the metric for measuring uncertainty in an environmental area versus uncertainty in a trade agreement or a security area? And is the SCOPE of the trade issue area greater or smaller than that of ocean issues? These are difficult conceptual questions, and it would be a mistake to obscure them by fiat through operationalization. In some cases, comparison and operationalization within an issue may be more valuable and reliable than the best-intended comparisons across cases.<sup>25</sup> So while we agree that greater efforts at operationalization are important, conceptualization and attention to the context of the specific cases must come first.

More general operationalization would be valuable in opening up the possibility of large-*n* quantitative work.<sup>26</sup> The empirical analysis of international cooperation is severely hampered by the lack of large data sets of the sort available for security studies. This large-*n* analysis would provide an important complement to the case studies that have provided the typical tool for empirical investigation. While quantitative analyses have their own limits—including the external validity of operationalization of variables—they have distinct advantages over case studies in terms of such problems as selection of facts. We believe the Rational Design project advances the conceptualization and understanding of inter-

24. When we consider the papers independently, Mitchell and Keilbach 2001 go the furthest in meeting this criterion. Their research design captures changes in the independent variables—the essence of our comparative static approach. They elaborate four separate cases and achieve a reasonable level of consistency throughout their operationalization.

25. An example showing that even extreme operationalization problems need not frustrate research is that of interpersonal utility comparisons in economics. Theoretical and empirical work in economics was slowly being paralyzed by the inability to make such comparisons until the “ordinal revolution” showed how economic analysis could be based on weaker measurement without cross-individual comparisons. At the same time, economics paid a major price for this move away from stronger measurement, as its ability to analyze a host of welfare economics questions was handicapped. In our view, there is no right answer to the operationalization question—it depends on what one is able to measure and what questions one is asking.

26. See, for example, Koremenos 2000, which operationalizes FLEXIBILITY by measuring the explicit duration and renegotiation provisions of a random sample of 149 agreements.

national institutional design and provides a good foundation for this next necessary step.<sup>27</sup>

## Conclusion

According to Duffield, our definitions are too narrow, we leave out key concepts, and our analysis does not cover certain institutional arrangements. Such claims cannot be resolved in the abstract. In this sense, Duffield's comment reminds us of the all-too-common call in international relations for "three-cornered fights," whereby theories and hypotheses must be evaluated not just against null hypotheses but also against rival explanations.<sup>28</sup> This complaint is wrong on two counts. First, "good" (soundly argued) explanations should not be held hostage to hypothetical, possibly bad, ones. Second, explanations are often not rival but complementary.

In terms of institutional analysis, we believe that Rational Design is a big part of the story. The IO volume will be more successful if it stimulates others in the field to continue work in this direction; as we have noted in various footnotes, further work in the rational choice tradition, both at theoretical and empirical levels, is indeed currently underway. But not just anything goes. Good social scientific research, as with many valuable things in life, proceeds one step at a time. We believe that the Rational Design project provides a good foundation for the scientific development of a rational theory of international institutional design.

Still, we would never claim that other elements—norms and evolution, for example—do not provide important supplementary explanation. We hope that the project will stimulate researchers in competing traditions to engage the important institutional questions that arise from their perspectives. We expect these results will both complement and challenge our Rational Design perspective. Only the results of such research can properly adjudicate all of our claims.

Duffield questions "how much of an advance the special issue in fact represents."<sup>29</sup> We agree that much work remains to be done (and are excited by the prospect). Still, to gain perspective on Duffield's comment, it is enlightening to revisit the intellectual history of the study of institutions more generally. In 1980,

27. Indeed, one of us (Koremenos) is conducting research under a five-year National Science Foundation CAREER Award (SES-0094376) entitled, "Designing International Agreements: Theoretical Development, Data Collection, and Empirical Analysis." A major aspect of the program consists of collecting data on the characteristics of a large, random sample of international agreements drawn from the United Nations Treaty Series across four issue areas: economics, environment, human rights, and security. Among the provisions being coded are flexibility provisions, monitoring and compliance provisions, provisions regarding delegation, and voting rules. Great emphasis is being placed on issues such as consistent operationalization and intercoder reliability to enable testing to proceed in a confident manner.

28. Wendt 2001.

29. Duffield 2003.

William Riker essentially stated that institutions are unknowable. Based on his results regarding “the rarity and fragility of majority rule equilibria,” Riker went on to argue that “just what combination of institutions, tastes, and artistry will appear . . . is as unpredictable as poetry.”<sup>30</sup>

We have proposed that not only are international institutions more than temporary equilibria, but that their specific design features vary in systematic and consequential ways to make them stable equilibria. Putting forth an explanation of how those designs vary, and showing that it applies across a wide range of empirical cases, is perhaps more than a little step forward for international cooperation theory.

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