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BOOK MANUSCRIPT FILE**

Quantifying Cashore's 4PT Framework:

A Guide for Coding Qualitative Text Against the Four Problem Types

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A. Overview.¹

1. This purpose of this guide is to provide clarity about how to code Cashore's four problem types framework that was developed and applied with colleagues to distinguish competing ways scholars and practitioners conceive of, measure, analyse, and offer solutions for ameliorating a range of sustainability challenges (Cashore 2013, 2021, 2022; Cashore et al. 2019; Cashore and Bernstein 2022; Cashore et al. 2021; Visseren-Hamakers et al. 2023; Humphreys et al. 2017). The guide is being written to help coders understand, and classify, implicit and explicit framing behind a range of qualitative texts, including academic publications, program evaluations, research reports, course syllabi, media coverage and written policy decisions. This guide will also assist in coding policy tools and sustainability organizations and institutions.
2. The development of such a guide has been found useful in generating a systematic and common understanding among researchers about how to convert qualitative outcomes into quantitative measures. One of our goals is to achieve a Cohen's Kappa coefficient of .8 or above (Burla et al. 2008; Cheung and Tai 2023; MacPhail et al. 2016) for those cases in which manual coding is required. To accomplish this objective, this code book elaborates on macro level understandings of the framework, and micro-level decisions that coders will face in making these assessments. We also seek to use this guide to facilitate future data scraping, machine learning, and other kinds of coding methods.
3. This nuanced codebook will be drawn on to generate multi-year research projects on understanding, and rendering explicit, what are often inherent biases in the way sustainability problems are conceived of and managed. The data produced will be treated as both the "dependent variable" in which we will seek to explain variation in the prevalence of the four problem types, as well as the "independent variable" when assessing how the four problem types shape sustainability outcomes. When treating the four problem types as the "dependent variable" we will also identify a range of possible "independent" variables that can be assessed to explain variation in the prominence of, and changes over time, of the four types.
4. We proceed in the following steps (**WHICH WILL BE UPDATED FOLLOWING REVISIONS**). First, we review the iterative methods we applied to develop this guide. Second, we identify the concepts that all coders must be aware of, the articles and papers they must read, and the presentations they must watch. Third, we offer a decision tree protocol for coding qualitative text according to the four problem types. Fourth, we turn attention to other ways to code larger sets of text that are not well suited to manual coding. We focus especially on proxy "key words" that if present are more likely to reinforce one of the types, as well as machine learning/AI techniques. Fifth, we identify independent variables that can be collected to explore explanations for variation, including those that can be collected by coders of written material.

B. Methods

5. This codebook has been developed and refined through an iterative process including coding existing documents among two more researchers, and then revising the codebook to provide greater clarification where uncertainty exists. The origins of the four problem types began in 2013 (Cashore 2013) and was advanced and presented in a number of papers since 2017 (e.g. Humphreys et al. 2017; Cashore et al. 2019; Visseren-Hamakers et al. 2023; Cashore 2023; Cashore and Bernstein 2020; Cashore et al. 2023; Sun et al. 2024) including a flagship framing article (Cashore and Bernstein 2022). Cashore is currently writing a book on the framework (Cashore 2024) which will publish some of the initial evidence from this project.

批注 [A1]: Ontologically, it's implied that the problem type is a social construct rather than an objective reality independent of the scholars and practitioners who conceive of it? -HL

6. The efforts to develop a coding protocol began in Cashore's lab in the Spring of 2020 shortly after he moved from Yale's Environment School to the Lee Kuan Yew School of Public Policy. These efforts have continued with researchers and colleagues through the Summer of 2024. While updating and elaboration will continue in response to any future challenges facing coders, we expect a full and complete draft of the code book to be largely completed by the summer of 2024, after which we will devote most attention to coding of other relevant policy documents and reports in preparation for publications and grants. A hallmark deliverable from these efforts that will be used to framework future empirical work is Cashore's (2024) book manuscript in preparation

NOTE: MORE DISCUSSION SHOULD BE ADDED HERE EVENTUALLY ABOUT THE RESEARCHERS INVOLVED SINCE 2020.

C.Core Concepts

C.1Background readings and presentations

7. The first task of any coder is to make themselves highly familiar with Cashore "four types of sustainability" framework and its iterations over time. All coders should read, and be aware of, these key publications:
- 2023 Benjamin Cashore, **Part 3. The Four Faces of Sustainability (pp 6-10)**, in "[Chapter 8. The private sector engagement paradox: the proliferation of finance and market driven sustainability tools alongside the acceleration of environmental degradation](#)" in [The Role of Business in Global Sustainability Transformations](#), edited by D'Amato, D., Toppinen, A., Kozak, R. Routledge
 - 2022 Benjamin Cashore and Steven Bernstein. "[Bringing the Environment Back In: Overcoming the Tragedy of the Diffusion of Commons Metaphor](#)", [Perspectives on Politics](#) (Cambridge University Press).
 - Coders should also watch:** 2019 "[Policy Interventions for Type 4 Environmental Problems: Incorporating Power and Anticipatory Policy Design for Solving the Super Wicked Problem of Climate Change](#)", keynote to plenary Session 3, ICPP4, Climate Disorder and Public Policy: Governing in Turbulent Times, Concordia University, Montreal, PQ June 29th.
 - Constantly refer back to this** [bullet point overview of the types and schools](#)

C.2 Understanding and distinguishing the Four Types and their Reinforcing Schools

8. Coders must be able to understand, and distinguish, the four types from their reinforcing "schools of thought and practice". This is important. While the schools and the types are related to each other, they are distinct in several respects. First, the types are distinguished on two dimensions (approach to "the problem at hand" and expectations of "utility"), while the schools are more complex (the bullet points overview linked in 7(d) identifies seven: problem orientation; key features; solution orientation; dominant disciplines; dominant methodologies; theory building projects; and approach to whack-a-mole effects).
9. While the four schools are illustrative of dominant ways that shape sustainability policy and governance, there are other schools of thought within and outside of sustainability studies that influence problem conceptions as well. We have delineated these four schools because they do appear, based on Cashore's three decades of research, to be the most influential in the fields of sustainability policy and governance.

10. To be clear: coding will be undertaken on the four problem types, not the four schools of sustainability. For these reasons let us explore the types first, which paves the way for a discussion as to how each school tends to reinforce each type.

批注 [A2]: More explanations in the following sections? -HL

C.2.1 The Four Problem Types

11. The four types are distinguished on two dimensions: whether the analysis, conclusions, and theories are developed and applied based on their ability to generate insights for effectively managing a clearly specified “on the ground” problem (i.e. they are “problem contingent”); and whether the analysis, conclusions, and theories treat individuals, organizations and states as largely self-interested, satisfaction driven entities that seek to maximize some kind “utility” outcome?

- d. Type 1 (problem contingent / utility dominates)
- e. Type 2 (not problem contingent / utility dominates)
- f. Type 3 (not problem contingent / utility does not dominate)
- g. Type 4 (problem contingent / utility does not dominate)

批注 [A3]: Self-interested in long term or short term?

Altruism can be reciprocity-driven, where individuals help others because they feel obligated to return a favor or anticipate future benefits.

Indeed, evolutionary perspective suggests that altruism may have evolved alongside the impulse to condemn and even punish those who act solely in their own self-interests. -HL

Table 1: The Four Problem Types

		Utility dominates?	
		YES	NO
On the ground problem contingent?	YES	TYPE 1	TYPE 4
	NO	TYPE 2	TYPE 3

Source: Adapted from Cashore's original table, first published in Cashore and Bernstein (2022)

12. These four distinctions create a novel way to classify over 50 years of analytical frameworks and approaches that social scientists have developed, and applied, to understand a range of real world “on the ground” sustainability challenges from fisheries depletion, global warming, ozone depletion, deforestation, species extinctions, water pollution, forest fires, and cultural traditions of local peoples. What is unique about the application of these two distinctions is that they identify, as discussed below, schools of sustainability thought and practice that are influenced by disciplinary and sub-disciplinary biases, but do not map precisely on to them.

13. So what do these two distinctions mean? How would coders know how to classify complex written documents on these two dimensions? We first help coders by discussing these two dimensions (problem contingent and utility) here. Then we review four schools to give details and move from abstract to specific cases. We then offer a series of distinctions that will allow coders to know where to place these documents in these four categories.

C.2.1.1 Problem contingent

14. The first thing the coder needs to be aware of when determining whether an approach is "problem contingent" or not, is to assess whether the analysis is directing its attention to understanding about how to better manage, or solve, a clearly specified, empirically measurable sustainability outcome. This could be something as straightforward as seeking to limit climate emissions no more than 2 degrees above pre-industrial levels, or seeking a long-term supply of a particular species of fish by limiting harvesting to levels lower than the biological reproduction rate, limiting pollutants causing acid rain to levels that project not to destroy ecological systems, or ensuring that an endangered species is not rendered extinct. **The key issue here is that the "on the ground" issue, and desired outcome, is clearly specified.**

15. What the coder must recognize is that to code an article as "problem contingent" it is not enough for an article to identify a particular sustainability challenge. Indeed, the entire exercise we are engaged on is to classify different approaches to 50 years of sustainability policy and governance that emerged to address and think about "on the ground" sustainability challenges – most recently articulated under the UN's "sustainable development goals" (SDGs). **If an article does not mention a sustainability challenge, then it fits outside the scope of our universe.**

16. This begs the question: how do we then determine whether an analysis is "problem contingent" or not? The term, "problem contingent" captures those analyses that seek to generate insights for managing or solving a clearly specified "on the ground" problem. This means that their analysis, conclusions, and insights are "inductively derived" based on the problem at hand.

17. Understanding a problem at hand almost always requires that the analyst pay attention to "key features" that would need to be understood, and addressed, if the problem is to be successfully managed.

18. For example, in the case of Type 1 fisheries depletion discussed below, Ostrom won the Nobel Prize in economics by arguing that "open access" resource depletion tragedies needed to be distinguished between those that are "excludable" from those in which "excludability" is difficult or impossible. For excludable resource management, such as timber sustainability, Ostrom argued that the common solution in which private property rights are granted (a private land owner would have an interest in managing resource for the long-term) do not apply in the case of "non-excludable" resources, such as fish (because they swim it is difficult to draw lines on a map and exclude access). Ostrom argued that in these cases the granting of private property rights could not solve the problem. Instead, she argued that community-based resources management for non-excludable resources (which she called "common pool resources" CPRs), would perform better at avoiding resource collapse.

19. Hence, Ostrom's approach was "problem contingent" because her entire analysis was inductively built from an assessment of the problem that needed to be solved: in her case a "class of resource depletion tragedies". Likewise Auld, Bernstein, Cashore and Levin's distinction of four key features of climate change as Type 4 "super wicked problems" is also "problem contingent" (time is running out; those causing the problem want to solve it; irrational discounting, and no central authority). This approach meant that traditional analytical frames - such as cost-benefit or multi-goal policy analysis – that were developed irrespective of the key features of a particular problem at hand

(they were developed as universal analytical approaches to assessing not only how, but whether a particular problem at hand could be effectively managed) - would be ill suited for addressing the very real problem of climate emissions or avoiding extinction of a particular species.

20. To be totally clear however, an analysis does not have to delve deeply into a particular problem's "key features" to be coded "problem contingent" (though all analyses that do so are easily coded as such), but they do have to generate conclusions and research questions towards managing or solving a clearly identified "on the ground" problem at hand qua the problem at hand.
21. For example, if a paper was asking whether a private governance system could be designed to maintain forest conservation from pressures to convert these forests to other uses, then this would be coded "problem contingent" even if the paper didn't go into details about the key problem features. However, if the paper simply used the case of forest conservation to develop a theory of individual, organization or state preferences to thematic areas beyond forest conservation irrespective of the problem at hand, then it would not be coded problem contingent. This means the coder has to ascertain what the analytical framework, empirical research, and theory building is attempting to do.
22. One hint that the approach is not problem contingent if the analyst: a) generalizes about individual, or organizational or state preferences beyond the problem at hand and b) concludes that it is not "rational" for policy makers to ameliorate the problem at hand, or to advance an assessment that the problem can be managed, but just not in line with what policy makers seek to achieve. For example, as elaborated below, Nobel Prize winning economist Nordhaus argues that the economically "rational" approach to address the climate crisis is to achieve a 3.2 degree outcome, even though policy makers have sought a 1.5/2 degree outcome, which is based on scientists projections of the maximum levels possible to avoid catastrophic collapse. In Nordhaus' case even though he is focused on the climate crisis he is not problem contingent: i.e. he did not develop a theory and approach to solving the climate crisis at 1.5 or 2 degrees. Rather he applied a pre-existing framework focused on maximizing aggregate utility that determines both how, and whether, a problem can be "rationally" solved.
23. Another hint that an analysis is not problem contingent is if the analysis concludes, based on existing or historical evidence that it is not "feasible" or "rational" to solve a problem owing to lack of public support other or institutionalized processes. The reason this is a clue that such an article is not "problem contingent" is because there is vast literature on the way policies create politics: i.e. they change feasibility calculations and motivations. Hence a problem contingent approach would most certainly engage in assessments of existing feasibility challenges, but they would not allow that analysis to identify whether a problem can be solved, but instead, how to engage in some kind of path dependent policy choices that would be expected to change feasibility assessments in line with the problem at hand.
24. For example, German government policy officials designed a unique policy mix known as the "feed-in tariff" program that was designed to enhance support for the policy over time. A similar approach was undertaken by the British Columbia government, which identified a unique policy mix for its carbon tax by granting rebates to individuals and municipalities to improve the politics in support of the carbon tax as time unfolded. Hence both of these would be examples of not taking feasibility as fixed, and instead incorporating "key features" (including initially low levels of political support) to find ways to enhance support over time.
25. While the above guidance will help coders with most cases aimed at disentangling "problem contingent" approaches, there are nuances that also need discussing.

批注 [A4]: So is this only an example of papers out of the framework scope or is it an example of non-problem contingent? -HL

批注 [A5R4]: example of non-problem contingent

批注 [A6]: So the distinction is whether a preexistent analytical tool is utilized? And according to the previously mentioned definition, the judging criteria is to determine "whether the analysis is directing its attention to understanding about to better manage, or solve, a clearly specified, empirically measurable sustainability outcome."

The reason Nordhaus's analysis is not problem contingent is because
It's not inductively derived. (This is another dimension indeed)
The to-be-solved sustainability is not ONE instead a mix of outcomes - e.g., at least economic health and climate change.
It doesn't mean to solve a particular problem that Ben believes extremely pressing, i.e., climate change, but instead hinder it's being solved (if C is the judging criteria, then it implies there is a value rank among various aspects of sustainability goals. Then the next question is how this value rank is determined and what does it look like?)
Which understanding is correct? -HL

26. For example, what to do if the article's approach and analysis appears to be a case of "problem contingent", but the empirical measure it employed seems poorly suited for such an analysis? Let us consider two examples from the illustrative application review below. In one case, van der Ven, Rothacker, and Cashore, undertake an analysis to assess the impact of eco-labeling on deforestation. Now so far this is a "problem contingent" approach if it only seeks to generalize conclusions to the "on the ground" case of deforestation. Hence if they only ask whether an ecolabeling is able to address deforestation, or might be able to do so based on existing research, then it is "problem contingent". (This is similar to the case below of the author who examine whether voluntary standards might be able to stop the practice of caging hens).

27. But an issue arises depending on what the scholars choose as metrics to measure "deforestation".

In the case of van der Ven et al, their emphasis on data showing increases in deforestation following the uptake of certification does overall seem to reinforce the "problem contingent approach". But what if in these countries eco-labeling did result in conserving some protected areas, in exchange for NGOs agreeing to allow companies to convert forests in other areas? In these types of cases, an "effective" eco-label would witness simultaneous conservation and deforestation. That is, deforestation would continue in the areas where the agreement allowed it, but would not occur in the protected area. In this case then the "dependent variable" as measured by whether deforestation continued or not, would not be able to fully capture the effectiveness of eco-labeling programs in reinforcing protection in designated areas. Our guidance to coders is still to code such an effort as "problem contingent" as this is more a problem of research design than one of not being problem contingent. (Indeed, a query into why deforestation continues is certainly about an "on the ground" measurable problem, and the researchers are bound to find, even with this measure, if an explanation was owing to a "quid pro quo" agreements.

28. However, there is another case that is more difficult and is worth discussing: those cases in which scholars assess the effectiveness of different approaches to conservation based on whether or not it reduces the *rate* of deforestation. This is in fact a common way to measure "on the ground" impacts of finance, eco-labeling, or community-based forest governance in understanding whether these tools hold promise in conserving forests. The huge problem with this measure is that "success" is focused on limiting how much *time* it will take for a country or region to run out of natural forests. Hence, it is a terrible measure if analysts want to understand the effects of policies aimed at understanding how to stop forests from being deforested. But what to do if the article otherwise discusses the problem of deforestation, the science behind why forests need to be conserved, and focuses on understanding how different policy options, such as financing for carbon and forests, might impact these questions? That is, what to do if their "on the ground" measure is ill-chosen, but they otherwise appear to be "problem contingent"?

29. After all a durable protected areas might explain not only the declining rate, but would eventually show up as no more deforestation once the extractive project was concluded. Do we consider this simply a poor choice of dependent variable, or do we consider this a way of showing "false positives" by those advocating for, or promoting, a particular policy form? For example, there seems to be a possible connection between those scholars and practitioners who believe on community-based forest management, or forests and finance, and the choice to measure declining rates rather than actual conservation. In these cases, there is possible evidence that they are more focused on promoting a tool, than on carefully interrogating its effects on and on the ground problem. If so, this is best not coded as "problem contingent". But what if researchers genuinely just want to understand the effects of different tools and are agnostic about positive and negative effects? In these cases, comparing differences in slowing deforestation rates might be the first of more fine grained measures that, given their analysis, they would be expected to eventually uncover. In these cases, "problem contingent" is warranted.

批注 [A7]: This sentence is not clear to me. -HL

30. Hence, the coder must be aware of these nuances and where it is a close call, be clear to explain in the spread sheet why they eventually came down on one side or the other.
31. A similar issue appears in the article below in the section “illustrations of the coding protocol framework” that assesses whether green building certifications improves the climate crisis. At first glance this appears to be a “problem contingent” candidate since it identifies the climate crisis as problem, and is assessing Green Building as a possible solution. However, there are two main reasons why this article cannot be coded “problem contingent”. The main reason is that the article is turning to the climate case as a way to develop a generally theory about why organizations would support private governance systems like green building. The conclusions about support have to do with “heterogenous markets” which has nothing to do with the nature of the problem at hand. Indeed, the authors extrapolate lessons by treating this as a case of “heterogeneous markets” rather than reflecting on the implications of findings for whether green building might provide a pathway to address the climate crisis qua climate crisis. Second and related, its measure of “compliance” is far removed the nature of the problem at hand. Instead, they use arbitrary measures including “20 percent reductions” in climate emissions. As above, to be coded as “problem contingent” decision to use the 20% reductions in climate emissions would require that the authors discuss what this measure means for the problem, and what kind of “on the ground” outcome they would expect. However, the authors do not do this, and hence cannot be classified as “problem contingent”.
32. Contrast this case to the article below on cage free hens. In this article, the question posed is not whether eco-labeling systems permit a few more hens to be cage free, but rather whether voluntary eco-labeling systems might provide a path to achieve a cage free hen industry. One can easily measure “cage free” on the ground, and hence this easily fits into a “problem contingent” approach. Moreover, the authors find that there are only marginal impacts of the private systems and hence view existing efforts as unable to address the on the ground problem. At the same time, they reflect on what design changes might be made to change the result in the future such that it might be part of a policy mix that could lead to a cage free future. In this case, in contrast to the Green building example, this is easily coded as “problem contingent”
33. Hence, any framework that is not based inductively on solving a key problem at hand qua the problem at hand, cannot be coded as “problem contingent”.
34. This means that any framework that is meant to apply to assess and manage any and all problems regardless of the issues governing that problem, and that considers whether a problem can be solved are not problem contingent. Many such theories like cost benefit analysis or “good governance” are universally applied, but some are only applied to a sub class of cases such theories about the impact of private markets. The key distinction is whether the analysis is focused on a problem or class of on the ground problems (problem contingent), or whether it is focused as a universal way to make decisions, or not universal, but applied to as subset of cases that are not identified based on a class of problems, but on a class of tools such as private governance systems.

C.2.1.2 Not problem contingent

35. The flip side to the question as to whether or not an article is “problem contingent” is to ask the reverse question: i.e. is it meant to apply beyond a specific kind of “on the ground” problem or class of problems? To be sure, the easiest way to code this is through a “default” approach in which anything that is not considered problem contingent is automatically coded as “not problem contingent.”

36. However, the problem with undertaking this approach as a “first cut” is that it can lead to two types of coding errors. First, it might lead to including articles that should be excluded from the universe of cases, but which were inaccurately included when coders first asked this question before formally beginning coding. In other words, there would be no “checks and balances” approach if a mistake is made. However, if a coder was required to again assess whether an article was “not problem contingent” by assessing how articles in that category would need to approach the topic, rather than simply resulting from a default orientation, the likelihood of catching errors is very high. Second and related, coding based on characteristics of articles that generalize beyond the problem at hand (i.e. they are not problem contingent) allow coders to assess whether some articles are literally ambivalent in their orientation. In these cases a code might inadvertently classify as “not problem contingent” when they would have also independently coded as non “generalizable beyond problems”. Hence by having coders ask the opposite question and answer affirmatively or not, would allow them, when they code in both directions, to engage more carefully in how to best make the distinction, rather than biasing “ambivalent cases” in the “non-contingent categories”.

37. For these reasons it is worth then discussing the opposite of “problem contingent”: which covers those cases where the analysts seek to generalize from the research on a problem or set of problems at hand to develop theories beyond those problems at hand: i.e. they either do not pay attention to “key features” of the problem at hand, or they look at the problem at hand as simply a case to explain motivations of individuals, actors, or states that are meant to apply generally, or to a subset of cases that are not chosen based on key features of the problem. For example, the article on green building that looked at climate, did not develop a general theory of preferences as it argued that preferences will change depending on market heterogeneity, but its subclass of cases that it did apply to had nothing to do with the problem at hand, but with market structure. And, they made it clear that their theory could be applied to understand preferences for private green standards to understand any and all organizational, individual and state preferences.

38. So, in these cases “generalizability” is not limited to a problem or class of problems and therefore is “not problem contingent”. Sometimes this means their frameworks will be universal in nature, sometimes they will qualify that their theories only apply in certain cases of “resonance groups” (like heterogeneous markets or say, “developing countries”) but they will not narrow their generalizability to specific on the ground problems qua specific on the ground problems.

39. For example, if scholars are assessing how private governance systems gain legitimacy or trust, and if that is their key interests, then they are not “problem contingent” as theories of legitimacy and trust are being developed to understand certain kinds of governance systems. Hence these would be coded as “generalizing beyond a specific case” and are not problem contingent.

40. Now, what to do when the analysis is on a sustainability challenge, does not appear “problem contingent” but neither does it appear to create a “generalizable account”? [What would be an example of this?] At this point, if it is clear that the paper is in the universe of cases, and only at this point, coders are to take a “default approach” and code as Type 2 or 3. But is only a “last resort” as the coder must identify that they took a default approach and why. Again we take this approach because we don’t want to inadvertently create Type 2 or 3 as a “catchall” category. At the same time, we do need a default approach for cases that are clearly not “problem contingent” even if they don’t fit the mirror opposite category (generalizable beyond a problem or class of problems).

批注 [A8]: Exactly.. How to delineate the universe of cases?
Guess the problem contingent-non problem contingent classification is not jointly exhaustive for all articles. -HL

C.2.1.3 Utility

41. The second key distinction draws on longstanding debates among scholars as to whether individuals, or as organizations or states are generally motivated by "self-interest" or whether "altruistic" and other non-utility enhancing motivations play a larger role. There are to be sure, sophisticated debates about how to think of and measure, "utility", "self-interest" and "human satisfactions" versus altruism, with some scholars arguing almost tautologically, that altruism must have, by definition, some kind of self-interested motivation (such as the "good feeling" people receive when making donations to different causes).
42. For the purposes of coding, the main distinction for whether or not to classify yes or no to the "utility" enhancing question is whether the analysis largely accepts that humans and their organizations are self-interested, satisfaction seeking entities (which is what economists, rational choice and public choice scholars largely trained to believe), or whether other concerns beyond their self-interest can also be motivators, such as anti-slavery norms or concerns for biodiversity loss – especially illustrated by individuals and organizations who seek to halt biodiversity loss in places they may never visit, and/or especially in cases where an organization promotes solving a particular problem that, in so doing, might even carry a risk of undermining its own self-interest.
43. In the discussion of the schools below, both the Compromise School and the Sequentialist school do not accept that satisfaction seeking self-interested utility enhancing behaviours are able to explain all motivations, nor do they accept that policy solutions must be consistent with these utility enhancing motivations. The Sequentialists argue, for instance, that slavery is so abhorrent that it must never be permitted. This means, by definition, that a compromise approach to discuss who might own slaves, or a cost-benefit analysis to assess whether slavery is economically beneficial, would undermine an ability to solve the problem of slavery. While some utility enhancing scholars such as Sunstein argue that utility enhancing motivations will lead to a world with no slavery. Sequentialists argue that the very act of making abolishing slavery conditional on finding a utility enhancing rationale, risks undermining an ability to eradicate slavery. Similar arguments are made about endangered species and so on which altruistic motivations helps explains why human might conserve species, even if it leads to suboptimal utility enhancing outcomes. To be sure, the Compromise school is less strident than the sequentialists, as they believe that the best way to manage conflict among different values – of which utility enhancing self-interests are only one of several values and motivations - is to engage in processes that balance economic, social, environmental, and cultural interests and outcomes. For the Compromise school then, it is not only a mistake to only focus on self-interest or utility enhancing human satisfactions, but that, empirically, this is not how humans and their diverse organizations operate. Hence, the Compromise school rejects utility as the dominant approach, but does incorporate utility interests to find compromise other environmental, social, and cultural interests and values.
44. Implications for coding: The key takeaway is that coders need to assess whether the analyst either implicitly or explicitly is championing utility/self-interest/ human satisfactions as the ultimate way to understand and/or prescribe policies; or whether they accept that other environmental, social and indigenous/cultural motivations are treated qua environmental, social and indigenous/cultural motivations, rather than been folded into a set of utility enhancing comparators. If the article is championing utility/ self-interest/ human satisfactions to understand or prescribe policies, then the article is Type 1 or Type 2. If not, the article is Type 3 or Type 4.
45. There are importance nuances to be sure. For instance, what happens if a scholar is simply describing the role of different interests and values in the policy making processes, but is silent on what this means about what ought to be done? The decision tree will assist in this regard, but we note now two principles. First, when uncertain, stand back and ask whether the author seems

批注 [A9]: Distinct utility in a narrow or general sense? -HL

批注 [A10R9]: Or a distinction between economic utility versus the wider notion of utility, which also contains non-economic values. The tautology comes from economists' unrealistic assumption that norms stem from purely rational calculation and the unsatisfactory explanation of the generalization of utility. -HL

批注 [A11]: What if there's a divergence in understanding and prescription. For example, in my thesis, although the analysis largely assumes the local officials as self-interested, the conclusion advice to cultivate the public service motivations and sustainable development values so that the norms could be reshaped. In this case, how the article should be coded? -HL

to belong more or less situated in one of the schools. Second, we can also assess whether there seems to be an implicit bias towards that school, or whether the scholar is simply using techniques from one school but is targeting another (just the way some economists designed a “cost-effective” cap and trade program to help companies meet their Type 4 acid rain pollution quota at the least cost.)

C.2.1.4 Not utility

46. BEN WILL WRITE A SIMILAR REVIEW AS HE DID ABOVE ON “NOT PROBLEM CONTINGENT”

C.2.2 The Four Schools of Sustainability

47. Cashore’s broad reflections of the way the four types have been applied to the last 50 years, including an assessment of his 30 years of collaborative research, revealed four sophisticated schools of sustainability thought and practice that reinforced each problem type. In a nutshell: each school’s analytical tools draw on profoundly important, but competing, ethical obligations, about the kinds of problems that are most important for society and policy makers. These competing ethics Cashore and colleagues argue, carries profound implications for not only how to think about, manage, and “solve” the problem at hand, but also how to adjudicate “whack-a-mole” effects i.e., those cases in which solving their preferred problems makes another worse. Cashore argues that these ethical obligations are often hidden in what appear to be objective, “data driven” and “evidence based” methods, resulting in an unconscious bias that can lead policy makers to inadvertently apply the wrong school given the nature of problem at hand. Hence making this unconscious bias explicit is a first critical step in overcoming unintended whack-a-mole effects in general and creating “fit for purpose” policy analysis in particular. Understanding these “schools of thought and practice” will greatly assist the coding process.

C.2.2.1 Commons

48. The **Commons** school (Type 1 reinforcing) is motivated by ethical obligations to promote meaningful “collective action” institutions capable of avoiding “tragedies of the commons” in which short term resource depletion causes catastrophic collapse of economic sustainability. Commons scholars have long recognized that understanding, and prescribing solutions for long-term management, requires careful analytic attention to “key features” of the resource in question, whether it be grasslands, timber management, or fish in a specific geographical setting (Ostrom 1990; Gibson, McKean, and Ostrom 2000; Ostrom 1999). This approach to “problem structure” or “key features” of the problem led Ostrom to show that not all resource depletion tragedies are the same: while some, like timber are “excludable” and hence can be solved through the granting of private property rights or public ownership, others, such as fish that swim are “non-excludable” and hence require different solutions. Ostrom spent a career uncovering effective institutional arrangements for avoiding “common pool resource” tragedies (Ostrom and Ostrom 1972), which she argues are best managed by developing local community-based resource governance systems (Gibson, McKean, and Ostrom 2000).² The application of school’s institutional design

recommendations have been highly *transformational* in helping local communities manage resources, including forests, for their long-term economic benefits (Gibson, McKean, and Ostrom 2000; Ostrom 1999).

49. **Moles:** This schools' focus on a particular resource problem – such as limiting harvesting of economically beneficial, utility enhancing fish and timber to levels in line with their biological rates of reproduction – means that questions about whether converting the marine or land resources into other potentially higher economically beneficially uses – such as what occurs when marine ecosystems are converted to fish farms, forests into palm oil or agriculture or plantations – fall outside of its theoretical and prescriptive underpinnings. This school is also silent on what to do about the overwhelming evidence that managing for long-term sustained yields usually produces a number of ecological moles, including degrading natural ecosystems that can render extinct, or endanger, forest dependent species (Cashore and Bernstein 2022)
50. Therefore the Commons School is “problem contingent” and it does treat individuals, organizations and states as self-interested, satisfaction driven entities that seek to maximize some kind of “utility” outcome.

C.2.2.2 Optimization

51. In contrast, the **optimization** school (Type 2 reinforcing) incorporates as many synergistic and whack-a-mole effects as possible in developing frameworks that allow not only for the adjudication as to **how, but whether**, a problem or problems at hand can be successfully managed. This school of thought and practice is diverse, from international relations scholars whose debates whether rational states cooperate based on relative or absolute gains mask a common project: to understand given a problem at hand such as climate or species extinctions, what the “optimal” outcome can be given state preferences. It also includes “cost-benefit” analysis dominant within economics, in which an “optimal” approach to any problem at hand is one in which overall aggregate utility is enhanced. What unites all of these strands is that they have been developed independent of a problem at hand, and are meant to apply to understand cooperation over any and all class of problems. The result is that successful application of any strand of the Optimization School to a problem at hand does not guarantee that the problem itself will be well managed given its salient features (such as say habitat required to maintain a specific species), but that the outcome will conform to some a priori notion of “optimality” – be it aggregate utility in the case of cost-benefit analysis, or aggregate global cooperation given states’ interests.
52. Many of the strands of this school can be traced to “utilitarianism” as a moral philosophy in which analysts devote much time and analytic attention to finding ways to systematically **compare** the range of potential impacts of policy tools or institutional arrangements against their self-interest, or satisfying “utility” enhancing outcomes (Pinchot 1987). This means that this school advances an implicit morality that determines not only how, but **whether** a particular problem at hand can be ameliorated (Spies et al. 2018; Lippke et al. 1990).
53. **Cost-benefit analysis:** a leading strand of this school accomplishes task by applying “cost-benefit” analysis to calculate and identify the most economically “optimal” approach to address any given problem. This approach achieves this task by systematically comparing the direct economic benefits of a policy tool, approach, or activity – such palm oil production that increases incomes, wages, and profits, with potentially negative utility undermining effects that might occur to humans through loss of nature, cultural traditions. The commensurability of all types of utility to their economic utility equivalents is often conducted through “willing to pay” calculations (Thomas and Chindarkar 2019; Salles 2011). This approach that has led the US EPA, for instance, as Cashore and Bernstein have noted (Cashore and Bernstein 2022: 7), to value a human life at \$9.47 million

批注 [A12]: Think it has been mentioned in the above sections but further clarifications would be helpful to inform the coders on how to deal with the articles where cost-benefit analysis is utilized to, however, prioritize non-economic values. For example, to assign an extremely high Value of Statistical Life or Social Cost of Carbon to make a point that addressing climate change is more than urgent and pressing. These articles are essentially “rebel from inside of the Type 2 School,” by which I mean they uphold the Type 4 value system but attack the predominate Type 2 thinking within there paradigm/symbolic system. -HL

USD (Environmental Protection Agency 2020). This strands is motivated by the ethical imperative, reinforced by widespread empirical evidence (Loayza and Raddatz 2010) that efforts to improve aggregate economic utility, has lifted millions out of poverty (Liu et al. 2020; Sachs 2006).

54. **International relations:** a second strand of this school within international relations assesses support for global policies and/or institutions against whether states are motivated to achieve relative (Waltz 1959) or absolute gains, owing to some kind of self-interested or utility enhancing motivations (Keohane 1984).

55. **Global environmental governance:** A prominent strand within sustainability studies is the “Oslo-Potsdam” solution (Hovi, Sprinz, and Underdal 2003) for assessing the effectiveness of global environmental governance and international agreements. This approach does not connect back to the problem at hand inherent in the Paris Accord’s 1.5/2 degree objectives, or Ostrom-style transnational fishing depletion, or the scientific evidence about what is required to say, avert the effects of pollution on forested ecosystems, (Küting 2000), but rather on what is the most optimal solution for maintaining utility enhancing benefits given state preferences (Young 2003). They accomplish this task by envisioning a “no regime” counterfactual, the current state of cooperation, and the “optimal” state of cooperative given state’s self-interested preferences (which could be owing to either relative or absolute gains). This is an important distinction. While the Oslo-Potsdam approach uses labels such as “global commons” and climate as a “collective action problem”, that seems to imply they belong to the Commons School, they are most often found within Optimization school’s ethical frames because their theoretical and empirical orientation is disconnected from what scientific research indicates is required to maintain and manage the problem based on ecological degradation. Of course they discuss these issues, but their frameworks are not derived from them. One easy “test” to distinguish whether an article is advancing Type 1 and Type 2 frames is to ask: “does the framework allow for the identification of an optimal outcome that is not connected to a clearly specified outcome that scientists indicate is required to effectively manage the problem at hand?”

56. In sum, this approach also applies to those scholars who study individuals and organizations – be they state or non-state actors - in order to develop, or apply, theories of individual, organizational and state based behaviour that are developed independently from the features of any particular problem, but that are used to assess both how, and whether, the problem can be ameliorated given pre-existing individual, organizational or state motivations and preferences.

57. This school’s thinking permeates World Bank projects across the world, and has been taken up by governments across the world (Cashore and Nathan 2020). In China alone, this approach, including the way it has engaged forest management (Hyde, Wei, and Xu 2008) has lifted 100s of millions out of poverty. Overall, there has been undisputed correlations (Figure 8.12) between advancing economic growth and the massive reduction in poverty when defined, and measured, as increased in income (Thomas and Chindarkar 2019). This school has also been prominent, since the since 1990s, in shaping the global sustainability agenda in general (Bernstein 2001) and on forests in particular (Humphreys 2006). This school has been highly transformational in fostering a particular approach to sustainability that champions massive growth in forest exports (Figure 8.13) and the preference for utility enhancing FMD tools as a means to reduce deforestation (UN Environment 2020).

58. **Moles:** As this school is focused on society wide moles, it necessarily incorporates an effort to incorporate a range of outcomes, including environmental and social challenges (Cashore and Bernstein 2022) in its quest to champion “aggregate utility” across society as a whole (Pinchot 1987; Thomas and Chindarkar 2019). Those practicing cost-benefit analysis do this through a process known as “internalizing externalities”, environmental moles (Sukhdev et al. 2011; Thomas

批注 [A13]: ;) Keohane -HL

and Chindarkar 2019). They do this by assign utility values to “moles” and synergies that might be created given a particular policy option, and then use these values to compare and contrast policy options against their myriad of effects.

59. Hence unlike the Type 1 reinforcing commons school, cost-benefit strands of the Optimization school would incorporate the utility undermining whack-a-mole effects of say, fostering timber sustainability in an area that might have produced greater returns by allowing say, more lucrative mining operations. At the same time, the school limits other moles, such as utility enhancing development projects that are found to undermine local cultural practices and environmental conservation.
60. Similar thinking and analytical frames are behind those assessing state preferences, since self-interested motivated states are always concerned with assessing whether agreeing to a particular treaty might have unintended effects elsewhere.
61. However, this school is silent on what to do about the outcomes which are exacerbated by championing utility enhancement – such as species losses that are caused by utility enhancing activities (Spies et al. 2018; Lippke et al. 1990). For example, while Nobel Prize winning economist William Nordhaus has found that the most optimal, or “economically rational” reduction possible is 3.2 °C degrees (Nordhaus 2017), his framework is not able to engage those who begin, and end, on ecological scientists’ projections that anything over 1.5 degrees warming risks catastrophic environmental outcomes.
62. Therefore the Optimization School is “not problem contingent” and it does treat individuals, organizations and states as self-interested, satisfaction driven entities that seek to maximize some kind of “utility” outcome,

C.2.2.3 Compromise

0. In contrast, **The Compromise School** (Type 3 reinforcing) is motivated by strong ethical foundations concerning empowering a range of voices and stakeholders within policy making processes, and to treating social and environmental outcomes as distinct from, and needing to be balanced with, economic goals. Within sustainability studies this school has thought about, and advanced ways to achieve consensus and compromise-based solutions through stakeholder dialogue and negotiations between contesting ideas and interests (Cashore and Bernstein 2022). These ideas have been prominent in the creation of a range of private governance innovations, especially thinking about the most appropriate and effective way to include a range of environmental, social, and economic stakeholders in deliberating over tools design and standards (Tollefson, Gale, and Haley 2008).
1. The **Compromise** school reinforces Type 3 framing because it incorporates, but expands, an emphasis on utility to include, in their own right, environmental, social, and cultural goals. To do so, it draws on, strong ethical foundations aimed at promoting balance among competing goals and interests through principles of inclusiveness, transparency, accountability, and empowerment. This school emphasizes the creation of deliberative processes with which to take appropriate decisions (Scharpf 2000). This school has been highly transformative in engaging conversation across a range of values, that, in fostering stakeholder dialogues to achieve consensus can reduce conflict while promoting peace and prosperity (Bunse and McAllister 2022).
2. This school is behind the long history of UN inspired efforts, including the Brundtland commission advancing the “three-legged stool” of sustainability (WCED 1987) that asserts that, there must be balance and compromise across different economic, social, and environmental values, organizations and interests (Bernstein 2001).

3. [As an important aside, do note however, that the Brundtland report was ambivalent in its moral underpinnings, as it also fosters the Optimization school's utilitarian beliefs in "achieving the greatest good for the greatest number in the long-run" through its oft quoted adage aimed at "allowing the current generation to meet their needs without compromise the needs of future generation"].
4. Researchers from this school have found, or posited, that depending on how they are constituted, inclusionary approaches can help foster political legitimacy (Bodansky 1999), public support, and improve policy making (Dryzek 1990; Eckersley 1992; Cashore 2002; Risso 2011; Overdevest and Zeitlin 2016). The transformative impact of this school includes the development and implementation of, the United Nation's Sustainable Development Goals (SDGs) (Bernstein 2017).
5. Likewise its adherents have been prominent in the creation of a range of public and private policy innovations and mixes (Bernstein 2001), with sustained attention to thinking about the most appropriate ways to include a range of environmental, social, and economic stakeholders in deliberating over the design of policy tools and standards (van der Ven 2018; Tollefson, Gale, and Haley 2008).
6. This school has been **highly transformative** in engaging conversations across a range of values, and for fostering stakeholder dialogues to achieve consensus. Its latest transformative impact includes seeing the United Nation's adopt is framework under the auspices of the "Sustainable Development Goals" SDGs (Bernstein 2017), which replaced the "Millennium Development Goals" (MDB Joint Statement 2021) which was preceded by the United nation's 1993 "Agenda 21" promoted at, and following, the first Rio Earth Summit (UNCED 1993; Sitarz 1993).
7. **Moles:** This school also incorporates moles by advocating a compromise approach in which no single problem or set of interests dominates. However for these same reasons it can, produce decisions that are inconsistent with the science of what is required to address a particular problem (Cashore et al. 2019). For instance, Victor (2015), in describing the Paris Accord as a "transformative" event that achieved consensus by compromising on mandatory compliance requirements, has also acknowledged that the Accord's problem oriented $1.5^{\circ}\text{C}/2^{\circ}\text{C}$ objectives were "ridiculous". Similarly, when the Canadian province of Newfoundland invoked a Type 3 compromise dialogue to address biologists warning that they were overharvesting cod, the stakeholders adopted a policy that chose higher catch levels than what was projected to be required to save the fisheries (McKenna 1992). The result was that the fisheries collapsed, undermining Type 1 fisheries and Type 4 ocean ecosystems (Cashore and Bernstein 2022).
8. Therefore the Compromise School is "not problem contingent" and does not treat individuals, organizations and states as self-interested, satisfaction driven entities that seek to maximize some kind of "utility" outcome

C.2.2.4 Prioritization (Have we shifted back to prioritization?)

9. The **Prioritization School** (Type 4 reinforcing) rejects Types 2 and 3 "commensurability" biases (Tribe 1972) to instead, ranking problems according to their importance through a lexical ordering orientation (Cashore and Bernstein 2022). Adherents to this school apply a "sequentialist" analysis in which the policy design being offered is consistent with what is required to ameliorate the problem at hand. The most often cited example of a globally diffused sequentialist approach concerns the eradication of slavery in which, the very application of the compromise school to adjudicate who could or could not own slaves, or the optimization school to adjudicate the utility enhancing benefits of owning slaves, would undermine the problem itself: i.e., no one, for any reason, ought to be allowed to own another human being. The same logic applies to efforts to address species extinction crises: i.e., policy makers designers have no choice but to grant Type

批注 [A14]: Then how to accurately distinguish between Type 3 and Type 2 in coding since both schools incorporate a mindset of utility-seeking and some scholars in the Type 2 school expand the connotation of utility in a way that Type 3 scholars treat it? It seems that the distinction is not in line with either the two dimensions (problem contingent or utility assumption) but a third dimension, that is, how to solve the problem: Type 2 provides a strictly quantified solution with the cost-and-benefit analysis while Type 3 doesn't prescribe quantitatively but rather, as it's mentioned above, following a dialogue/stakeholder engagement approach in order to achieve a balance of various values/interests. -HL

4 status to endangered species because they face two choices: either conserve habitat protections consistent with what scientists' project is required to maintain the viability of the species, or do not undertake these provisions and risk species extinction.

10. The **prioritization school** addresses the climate crisis by finding solutions – in contrast to Nordhaus – that are consistent with climate scientists finding that we must limit warming to 1.5 degrees to avoid catastrophic ecological impacts or risk Newfoundlesque outcomes. While the Prioritization school was initially prominent in the 1970s in advocating for strong domestic environmental regulations and promoting international organizations such as UNPE, it has failed to achieve its transformative agenda, in part because of the dominance of the optimization and compromise schools (McAfee 1999).
11. The **Prioritization school** reinforcing Type 4 frames because it confronts “commensurability” biases inherent in Commons and Optimization schools (Tribe 1972) to instead, ranking problems according to their importance through a lexical ordering process (Cashore and Bernstein 2022). Once problems are ranked, the Prioritization school then turns attention to solving a particular high ranked problem at hand by interrogating what kind of outcome would be required to achieve success, and what kind of policy solution would be required to be initiated (Just the way Ostrom did for Type 1 CPR commons tragedies). This thinking is behind Auld, Bernstein, Cashore and Levin’s approach to addressing Climate as a Type 4 Super wicked Problem that, owing to its four key features (time is running out; those causing the problem also want to solve it; the future is discounted irrationally; and no central authority), path dependency analysis is required to effectively manage this problem.
12. **Moles:** The most important implication for our review is that, taken together, each school adjudicates how to address “whack-a-mole” problems that fall outside their preferred type: the commons, economic optimization, and compromise schools narrow an ability to address Type 4 problems that are synergistic with their preferred type. In contrast to Types 3 and 2, but consistent with Type 1, the prioritization school advances its analytical approach first based on the key features of the problem at hand, and then addresses second and third order problems only in ways that do not undermine, but reinforce an ability to ameliorate the Type 4 problem.
13. Therefore the Prioritization School is “problem contingent” and does not treat individuals, organizations and states as self-interested, satisfaction driven entities that seek to maximize some kind of “utility” outcome

NOTE: the most updated forms of the tables below are [found here](#)

See latest they are in a new link now

Commons School (Type 1 reinforcing)

- **Problem orientation:** utility undermining collective action problems
- **Key features of a specific "on the ground" problem:** determinative
 - careful attention to the fundamental features of a clearly identified and measurable collective action challenge, most notably a specific "tragedy of the commons", that would need to be taken into account to understand its causes and potential solutions
 - e.g. the absence of rules excluding access to grasslands, or the ability of fish to swim making excludability difficult
- **Solution orientation:** the development of a long-term oriented economically optimal governance institution capable of avoiding a clearly specified "on the ground" utility undermining problem, highlighted by resource collapse
- **Dominant disciplines:** economics, rational choice political science, some strands of anthropology
- **Dominant methodologies:** quantitative data for developing design principles, supported by qualitative ethnographic case studies
- **Theory building project:** contingent
 - causal and prescriptive insights narrowed to only cover a specific problem, or a specific class of problems
 - e.g. design principles for "common pool resources" (CPR) management
- **Moles:** This school thinks deeply about avoiding moles by applying the wrong kind of collective action frame. However the schools silent on what to do when solving a particular collective action tragedy leads Type 2 moles (such as improving timber sustainability when another agricultural crop would have been more lucrative: Type 3 moles (such as undermining legitimacy of political processes, and Type 4 moles, such as species extinctions that occur from utility enhancing practices.

Optimization school (Type 2 reinforcing)

- **Problem orientation:** aggregate utility undermining outcomes
 - suboptimal society wide utility undermining outcomes
 - measured through income and wealth, or by converting non-economic outcomes, such as reduction in human satisfaction from losses of nature and cultural traditions into utility equivalents (often through "willingness to pay" surveys).
 - international agreements that fail to maximize state preferences (whether for relative or absolute gains)
- **Key features of a specific "on the ground" problem:** subservient
 - only taken into account if doing so produces policy innovations that maximize aggregate utility of individuals, organizations or states, rather than being drawn on to assess what is required to effectively manage a specific "on the ground" problem per se.
- **Solution orientation:**
 - a policy action (or inaction) that is expected to maximize aggregate utility; an innovative global governance arrangement that is expected to maximize state preferences
 - These "*optimal*"solutions will determine not only *how*, but *whether*; a specific "on the ground" problem can be effectively managed
- **Dominant disciplines:** economics (classical & behavioral), political science (rational/public choice; behavioral); international relations (neo-realist and neo-liberal); some strands of philosophy (esp. utilitarianism)
- **Dominant methodologies:** cost-benefit analysis including econometrics modeling, game theory
- **Theory building project:** universal
 - adherents seek to generate universal (aka "general") theories of self-interested motivations of individuals; organizations or nation states
- **Moles:** This school thinks deeply about moles causes by Type 1, Type 3 and Type 4 framing though its emphasis on "internalizing externalities" in which it anticipates as many moles (and synergies) as possible, works to grant them utility equivalents to avoid utility undermining moles. However the school is silent on what to do about moles that are created by applying Type 2 reasoning, such as loss of biodiversity and cultural traditions.

Compromise school (Type 3 reinforcing)

- **Problem orientation:** conflict among a subset of individuals, organizations or nations states that undermines legitimacy and the principles of "good governance"
- **Key features of an "on the ground" problem:** **subservient**
 - Taken into account only when doing so helps generate consensus or compromise among a diverse set of stakeholder, values and interests, rather than being drawn on to assess what is required to effectively manage a specific "on the ground" problem per se.
- **Solution orientation:** incorporating different stakeholders, values and interests into governance and policy making that are deemed to be "fair", "equitable" and "balanced", and that is expected to produce "legitimate" compromises across economic, social, environmental, and cultural values
 - the resulting policy decision will determine not only **how**, but **whether**, a specific "on the ground" problem can be effectively managed
- **Dominant disciplines:** political science (comparative public policy, some strands of political philosophy), sociology, some strands of geography, anthropology, philosophy and law
- **Dominant methodologies:** multistakeholder dispute resolution, historical and qualitative analysis, reinforced by quantitative methods for testing general propositions
- **Theory building project:** **universal**
 - adherents seek to generate universal (aka "general") theories about how to go about building or maintaining legitimacy, and or design dispute resolution procedures and multistakeholder policy dialogues capable of producing agreement among competing interests and values
- **Moles:** This school thinks deeply about moles caused by Type 1 and Type 2 frames by an effort to balance different interests and motivations in ways that create political legitimacy and good governance. It however, it does not offer a theory about what to do when legitimate processes produce decisions that undermine Type 1 or 4 problems

Prioritization school (Type 4 reinforcing)

- **Problem orientation:** moles caused by effective Type 1,2 or 3 behaviors and policy solutions. These include:
 - Specific kinds of social and cultural outcomes such as slavery or the loss of longstanding indigenous practices and cultural traditions;
 - environmental tragedies such as species extinctions or the catastrophic ecological effects of climate change
- **Key features of a specific "on the ground" problem:** **determinative**
 - careful attention to the fundamental features of a clearly identified and measurable environmental, social, or cultural problem that would need to be taken into account to understand its causes; and potential solutions
 - e.g. the features of climate as a "super wicked" problem: time is running out; those causing the problem want to solve it; irrational discounting, and no central authority
- **Solution orientation:** **sequentialism** or lexical reasoning in which problems are ranked according to their importance such that managing lower ranked problems is limited to those policies and behaviors that do not undermine higher ranked problems
- **Dominant disciplines:** law (especially environmental and human rights strands) political science (especially historical institutionalism, some strands of political philosophy), some strands of philosophy and sociology, ecological economics
- **Dominant methodologies:** path dependency analysis, historical institutionalism, process tracing, anticipatory policy design, applied forward reasoning, some strands of scenario analysis and modeling
- **Theory building project:** **contingent**
 - causal and prescriptive insights narrowed to only cover a specific problem, or a specific class of problems
 - Such as policy pathways for overcoming the tragedy of "super wicked" problems
- **Moles:** This school thinks deeply about moles caused by Type 1, 3 and 3 frames by arguing for an explicit "lexical" or "sequentialist" approach to problem solving such that lower ranked problems do not cause higher ranked moles. However, the school is largely silent on how to engage in a ranking system, and how to approach lower ranked moles that may undermine legitimacy of the political system and economic opportunities.

Table 2: Four Schools of Sustainability and their Reinforcing Problem Types

		<i>Utility dominates?</i> Analysis, conclusions, and theories treat individuals, organizations and states as largely self-interested, satisfaction driven entities that seek to maximize some kind "utility" outcome?	
		YES	NO
<i>On the ground problem contingent?</i> Analysis, conclusions, and theories narrowed to understanding and/or managing a clearly specified "on the ground" problem or class of problems?	YES	COMMONS TYPE 1	PRIORITIZATION TYPE 4
	NO	OPTIMIZATION TYPE 2	COMPROMISE TYPE 3

Source: created by Benjamin Cashore. First published in table format in Cashore and Bernstein (2022)

D. Coding Protocol

D.1 Key questions for coders

D.1.1 THE UNIVERSE

D.1.1.1 Does the article fit in the universe of sustainability analyses we seek to assess?

If yes, continue coding. If not, discard the analysis as outside of our universe

If the article makes no reference to an environmental or sustainability challenge then it falls outside the scope of the universe we seek to study.

D.1.2 PROBLEM CONTINGENT?

D.1.2.1 Is the analysis, conclusions, and theories derived from, and directed to, understanding and/or managing a clearly specified "on the ground" problem or class of problems?

If this answer is yes, then the analysis will be coded as either Type 1 or Type 4

D.1.3 BEYOND, AND NOT DERIVED FROM, A PROBLEM OR SET OF PROBLEMS?

D.1.3.1 Is the analysis, conclusions, and theories generated to apply beyond understanding, and/or managing a clearly specified "on the ground" problem or class of problems?

(If this answer is yes, then the analysis is coded as either Type 2 or Type 3)

D.1.4 UTILITY/SELF-INTEREST?

D.1.4.1 Does the analysis, conclusions, and theories treat individuals, organizations and states as largely self-interested, satisfaction driven entities that seek to maximize some kind “utility” outcome?

(If this answer is yes, then the analysis will be coded as either Type 2 or Type 1

D.1.5 EXTENDS BEYOND UTILITY/SELF-INTEREST?

D.1.5.1 Does the analysis incorporate theories and conclusions incorporate an assessment of individuals, organizations and/or states that extends beyond self-interested satisfaction seeking motivations?

D.1.1 CODING TIPS

D.1.1.1 Distinguishing Type 1 from Type 2

14. Coders must be keenly aware of the distinctions between Type 1 and Type 2 utility orientations. The key difference of course is that Type 1 utility enhancing analysts only target a very clearly identified specific “on the ground” collective action challenge that pertains to sustainability outcomes of some kind. Collective action challenges are always about specific and measurable suboptimal outcomes, such as the classic prisoner’s dilemma when, unable to communicate and agreed to binding rules, both have the Nash equilibrium outcome of “confessing”, even though the optimal outcome based on years in prison is not to confess. The same issue applies to time lost to rubber necking in traffic when the optimal outcome is to avoid the traffic jam caused by rubber necking.
15. All of these have specific issues in mind, and solutions are derived to address them irrespective as to the whack-a-mole impact that might occur by doing so. For example, it is possible to hire more police officers and cameras to avoid slow traffic (which is precisely what many airports do to avoid cars idling waiting for passengers), but it might be that these funds could be better deployed providing educational opportunities for inner city youth.
16. Optimization school economists address this issue by attempting to incorporate any and all problems into their aggregate utility functions, thereby asking not only how to address a specific collective action problem, but whether it is rationale for feasible to do so.
17. While these distinctions are fairly clear from a reading of the framework, coders can get tripped up in a few ways. The most notable issue is how Optimization economist and global affairs political scientists treat climate change. Some often refer to the climate crisis as a “collective action” challenge, but then apply optimization tools to assess how different climate policy options and governance arrangements perform in terms of improving overall aggregate utility. In these cases, they are focusing on climate change as a problem, and often a specific set of tools including finance and market driven mechanisms, but their analysis incorporates and advances an approach that reinforces aggregate utility. This is found in Nordhaus’ conclusions that the “rational” economic welfare enhancing approach to solving the climate crisis would yield a 3.2 degree world – which is decidedly not in line with what Type 4 reinforcing biologists indicate is required to avert ecological tragedy. Likewise Nicholas Stern’s argument that the discount rate for addressing the climate crisis is close to 0, is still reinforcing an aggregate utility oriented approach – even though

批注 [A15]: Unclear -HL

rhetorically he seems to come across as a Type 4 scholar, that is not what his approach is offering. Similarly, while neo-liberal institutionalist Keohane also rhetorically treats the climate crisis as so important it must be addressed irrespective of equity concerns, he is not applying Type 4 reasoning: rather he turns to his theory of absolute gains as motivating states to determine not only whether, but how, the climate crisis can be managed. This approach is decidedly developed without reference to the ecological challenges of the climate crisis, but rather a generally theory of state motivations.

D.1.1.2 Distinguishing Type 4 from Type 1

D.1.1.3 Distinguish Type 3 from Type 4

D.1.1.4 Distinguishing Type 2 from Type 3

E. Coding Application

Once the coder has answered, and justified, the five key questions in Section D, they must now input the data into the master spreadsheet in the following sets.

- 1) **Is the article in the universe we are exploring?**
a. If no, discard and code as such

NOTE: the next two questions are opposite sides of the same coin. We are choosing to ask the question in two different ways, rather than having a “default” coding approach that could mask ambiguity or uncertainty.

- 2) **Is the article problem contingent?**
a. If yes, code as such in the spreadsheet
- 3) **Is the article championing generalizable theories and conclusions of behaviour of individuals, organizations and states that are meant to apply beyond the problem or class of problems at hand?**
a. If yes, code as such

NOTE: the next two questions are opposite sides of the same coin. We are choosing to ask the question in two different ways, rather than having a “default” coding approach that could mask ambiguity or uncertainty.

- 4) **Is the article championing or assuming self-interest/utility/satisfaction of individuals, organizations or states?**
a. If yes code as such
- 5) **Is the article offering an approach that assume multiple motivations of individuals, organizations or states that are not reducible to self-interest/utility/satisfaction conceptualizations?**
a. If yes, code as such

Decision tree

We will then be able to create an automated spreadsheet that produces the code based on these answers. Any contradictory answers will be labelled automatically as ambiguous.

The coder will then need to reassess answers to the questions to reflect on whether a coding error was made. If no coding error was made, then the coder will enter a “confirm” ambiguous classification (NOTE: we expect few of these now with the clear code book. We will discard ambiguous papers for purposes of our analysis, unless they become “unambiguous” through a revised code book discussion)

批注 [A16]: Hi Ben, you told me to put Knox-Hayes' article in this section but I've pasted it to the appendix page 40 since it fit better over there! -Beatrice

F. Datapoints for coding journal articles

The following information is to be captured for each article/solution that is being evaluated by the coder. Please use [the excel coding template \(insert link when ready\)](#) to capture information.

#	Parameter	Type of Input (or example)	Comments/ References
Basic Information about the article			
1	DOI	e.g., doi:10.1111/rego.12215	-
2	Name of journal	e.g., Journal of Regulation and Governance	-
3	Volume number	Number	-
4	Date	DD/MM/YYYY	-
5	Title of the paper	Text	-
6	Abstract	Text	
7	Official key words specified in the article	Text	
8	List of all Authors	Text	
9	Corresponding author's name	Text	If corresponding author is not available, capture first author's details -
10	Corresponding author's affiliated organization	Text	
11	Corresponding author's highest degree	Text	
12	Corresponding author's field of study (highest degree)		
13	Corresponding author's graduating university (highest degree)	Text	
14	Corresponding author's geographic location (Highest degree)		

#	Parameter	Type of Input (or example)	Comments/ References
15	Corresponding author's PhD dissertation (Only for Political Science)		
16	Corresponding author's research interests (Only for Political Science)		
17	Corresponding author's 5-10 publication titles (Only for Political Science)		
18	Corresponding author's CV Link		
19	Categorization of corresponding author's educational background	Choose from drop down <ul style="list-style-type: none"> • Natural Sciences • Engineering • Environmental Studies • Non-Economic Social Sciences and Humanities • Rational Choice Political Science • Historical Political Science • Public Policy • Economics • Law • Management, Administration, & Finance • Transition Studies • Others 	
Diagnostic questions			
20	Does the article fit in the universe of sustainability analyses we seek to assess? (Yes / No)	Yes / No	If No, remove the article from the dataset.

#	Parameter	Type of Input (or example)	Comments/ References
			If Yes, proceed with coding.
21	Research methodology of the Article	Choose from drop down <ul style="list-style-type: none"> • Qualitative • Quantitative • Mixed Methods 	-
22	What problems or set of problems is the article trying to address?	Text	Explain your understanding of the problem being addressed in the article
23	<p><u>Problem contingency</u></p> <p>Do the analysis, conclusions, and theories derived from, and directed to, understanding and/or managing a clearly specified "on the ground" problem or class of problems?</p>	Yes / No	<p>If Yes, then the article is either Type 1 or Type 4</p> <p>If No, then the article is either Type 2 or Type 3</p> <p>Refer to Section C2.1.1 and C2.1.2 in the codebook for additional guidance</p>
24	Provide arguments that supports your response to Q23	Text	-
25	Provide some key text passages from the article that support your response to Q23	Text	-
26	<p><u>Problem contingency</u></p> <p>Are the analysis, conclusions, and theories generated to apply beyond understanding, and/or managing a clearly specified "on the ground" problem or class of problems? (Yes / No)</p>		<p>If Yes, then the article is either Type 2 or Type 3</p> <p>If No, then the article is either Type 1 or Type 4</p> <p>Refer to Section C2.1.1 and C2.1.2 in the codebook for additional guidance</p>
27	Provide arguments that supports your response to Q26	Text	-

#	Parameter	Type of Input (or example)	Comments/ References
28	Provide some key text passages from the article that support your response to Q26	Text	-
29	<u>Utility</u> Do the analysis, conclusions, and theories treat individuals, organizations and states as largely self-interested, satisfaction driven entities that seek to maximize some kind "utility" outcome?	Yes / No	If Yes , then the article is either Type 1 or Type 2 If No , then the article is either Type 3 or Type 4 Refer to Section C2.1.3 and C2.1.4 in the codebook for additional guidance
30	Provide arguments that supports your response to Q29	Text	-
31	Provide some key text passages from the article that support your response to Q29	Text	-
32	<u>Utility</u> Do the analysis incorporate theories and conclusions incorporate an assessment of individuals, organizations and/or states that extends beyond self-interested satisfaction seeking motivations?	Yes / No	If Yes , then the article is either Type 3 or Type 4 If No , then the article is either Type 1 or Type 2 Refer to Section C2.1.3 and C2.1.4 in the codebook for additional guidance
33	Provide arguments that supports your response to Q32	Text	-
34	Provide some key text passages from the article that support your response to Q32	Text	-
35	What are some key words used in the article that support your problem type classification?	Text	<p>Examples of key words for Type 1:</p> <ul style="list-style-type: none"> • Optimality • Free rider • Shirk

#	Parameter	Type of Input (or example)	Comments/ References
			<ul style="list-style-type: none"> • Collective action dilemmas • Efficiency • Optimization • Internalizing externalities <p><i>Examples of key words for Type 2</i></p> <p><i>Examples of key words for Type 3</i></p> <p><i>Examples of key words for Type 4</i></p>
36	Based on the above, what is the problem type of the article (Type 1, 2, 3, and 4)	Type 1, 2, 3, and 4 auto-populated based on response to Q23, Q26, Q29, Q32	
37	Difficulty in coding the article and identifying the problem type	Choose from drop down <ul style="list-style-type: none"> • 1 – Very easy • 2 – Easy • 3 – Medium • 4 – Hard • 5 – Very Hard 	Score of 1 and 2 can be considered an 'explicit' presentation of problem type Score of 3,4, and 5 can be considered an 'implicit' presentation of problem type
38	Primary coder's name	Text	-
39	Secondary coder's name	Text	
40	Secondary coder's coding	Type 1, 2, 3, and 4	
41	Secondary coder's reasoning	Text	
42	Intercoder reliability	Match if Q36 = Q40 Non-match if Q36 != Q40	

G. Application beyond scholarly text analysis

G.1 Written documents

G.1.1 Evaluation reports

G.1.2 Scholarly syllabi

WE WILL DISCUSS HERE THE APPROACH TO CODING THE SYLLABI GIVEN WE ONLY HAVE ABSTRACT.S

G.1.3 News stories

G.1.4 Press releases/ Policy announcements

G.2 Organizations

G.2.1 Non-governmental

G.2.2 Governmental

G.2.3 Private sector

G.3 Policy tools/interventions

H. Coding through data scraping and Machine learning

While key word approaches will never be as nuanced as manual coding, they do allow for application of greater data driven quantitative techniques and outcomes that should also prove useful for basic and applied research. We understand that quantitative classifications will be less nuanced than the qualitative assessments. In order to move them somewhat closer to a qualitative review, the section on key words below for advancing the quantitative "machine coding", which draw on the, and be justified by, key words that emerge from the qualitative review.

H.1 Key words:

H.1.1 inductive

H.1.2 quantitative analysis of key words based on coded articles

H.2 Machine learning

Appendix 1: Coding ambiguous articles from the Journal of Regulation and Governance

Article 1: [Assessing the institutionalization of private sustainability governance in a changing coffee sector](#)

Authors: Janina Grabs

Abstract: The potential of transnational private governance initiatives to constitute effective alternatives to state-led regulation of global value chains rests on their ability to scale up and become institutionalized in a given sector. This study examines whether such institutionalization has occurred in the coffee sector, the commodity with the most widespread adoption of certified products and over 30 years' experience of private governance, and tests hypotheses on facilitating and inhibiting conditions. It finds that while norm generation around responsible supply chain management and the organizational institutionalization of standard-setting bodies is well advanced, the practice of internalizing social and environmental externalities through the routinized production and purchase of higher priced certified goods continues to be questioned by industry actors. Indeed, conditions that favored normative and organizational institutionalization, such as high levels of industry concentration, product differentiation, and deliberative interaction, are shown to represent barriers to the practice-oriented institutionalization of market-driven regulatory governance.

Comments from previous researchers: Type 2 or Type 3.

The paper examines how private governance for sustainability can be institutionalized using the coffee sector as an example.

- It explores three ways/forms of institutionalizing: norms, organizations, and practices.
- The paper identifies key reasons for the lack of institutionalizing of private sustainability governance in the coffee sector.
- The paper does not discuss how and whether private governance can address environmental problems or address the structural features of the problem.
- It is difficult to ascertain whether the paper uses an economic rationale, which could classify it as Type 2 or a non-economic rationale, which could classify it as Type 3.
- Key reasons for lack of institutionalizing PSG in the coffee sector include the non-existence of a stable political community of practice, the non-existence of sustained demand for certified products, highly politicized issue areas, existence of hegemonic power structures, and passive revolutions.
- Large MNCs/retailers find certification to be an expensive tool and have created their own certifications/labels instead of depending on third-party certifiers.

Problem classification: Type 3. The problem of how private governance for sustainability can be institutionalized focuses on balancing the interests of various stakeholders, rather than addressing the environmental problem itself.

Article 2: [Authoritarian but responsive: Local regulation of industrial energy efficiency in Jiangsu, China](#)

Authors: Junming Zhu, Marian R. Chertow

Abstract: Regulatory behavior and effectiveness in authoritarian settings are subject to alternative characterizations. By tracing enforcement processes through a variety of case studies, this article proposes and refines a new model, at least with respect to energy efficiency regulations in China: authoritarian but responsive. Local rulemaking and operationalization is authoritarian, with strong

and coordinative bodies of regulation, strategic plans, and active involvement of local authorities. Local authorities, however, often find themselves facing a welter of laws imposed on companies that create competing priorities for these local officials who then must struggle to find pragmatic solutions. On numerous occasions, such satisficing behavior by local officials makes them responsive to the performance and demands of regulated firms. Embedded in the decentralized authoritarian context, the authoritarian but responsive approach is found to be a rational choice of local governments and different from previous conceptualizations. It helps local governments coordinate across a diverse array of regulatory issues. Drawing on environmental enforcement in China, the model provides consistent explanations for the seemingly changing and discretionary enforcement incidents.

Comments from previous researchers: Type 3 or Type 4.

- The paper explores governance within an authoritarian system, where local regulators compete with different interests and a strong central regulator that demands action on pollution and energy demands.
- The environmental policies in China are given type 4 status due to the strength of the central government.
- The paper draws on a type 3 analysis to understand how local regulators maneuver within this framework.
- The paper suggests that energy regulators should adopt a combination of Type 4 and Type 3 approaches, with a focus on improving China's energy efficiency.
- Type 4 policies include closure of old plants with low energy efficiency, electricity quota, mandatory upgrades of tech, etc.
- Type 3 approaches suggest responsive enforcement to improve overall regulatory effect, with direct preferential enforcement of less stringency compared to other firms and alleviation of previous punitive enforcement.
- Local authorities were found to be flexible and responsive to industrial performance when enforcing mandatory policies, leading to better compliance and improvement in energy efficiency.
- Regulators were more flexible based on the firm's energy efficiency and other local contributions such as treatment of local waste, employment levels, tax revenue, etc.

Problem classification: Type 1. The problem focusses on the impacts of governance regimes on specific environmental issues, in this case "industrial energy efficiency".

Article 3: Transparency in transnational governance: The determinants of information disclosure of voluntary sustainability programs

Authors: Philip Schleifer, Matteo Fiorini, Graeme Auld

Abstract: The rise of "new" transnational governance has intensified debates about a lack of accountability in global politics. Reviewing the mechanisms through which transparency can foster accountability beyond the state, this article explores the determinants of information disclosure in the field of transnational sustainability governance. Examining the institutional design of 113 voluntary sustainability programs, we find a positive correlation between the involvement of public actors and information disclosure. In contrast, the role of civil society is more ambiguous. There is no statistical support for arguments linking nongovernmental organization participation to increased transparency. At the same time, our analysis reveals a robust correlation between civil society-led metagovernance and information disclosure. Moreover, we find that crowding has a negative effect on transparency, whereas normative peer pressures have no influence. At a broader level, the

analysis reveals a lack of “deep transparency” among transnational sustainability governors. This limits the scope for transparency-induced accountability in this policy domain.

Comments from previous researchers: Type 2 or Type 3.

- The article uses a quantitative research approach to analyze 113 voluntary sustainability programs and their level of transparency.
- The focus is on accountability among actors and information disclosure.
- The analysis is Type 3 and does not address structural features of the problem.
- The article explores the possible causes and determinants of transparency and information disclosure.
- The impact of VSPs and higher information disclosure on environmental outcomes is not explored.
- The theory of club goods is used to analyze information disclosure patterns of VSPs.
- The article could be classified as Type 2, but Type 3 seems like a better fit.

Problem classification: Type 3. The problem focuses on accountability among actors in transnational governance.

Article 4: [Symmetric and asymmetric motivations for compliance and violation: A crisp set qualitative comparative analysis of Chinese farmers](#)

Article 5: [Judicial enforcement deputies: Causes and effects of Chinese judges enforcing environmental administrative decisions](#)

Article 6: [Fragmented or cohesive transnational private regulation of sustainability standards? A comparative study](#)

Authors: Luc Fransen, Thomas Conzelmann

Abstract: Literature on private regulation recognizes the proliferation of competing regulatory organizations and approaches in various industries. Studies analyzing why fragmentation arises so far focus on single-case studies, the exploration of single variables, or variation in types of fragmentation. This article analyzes why in certain industries and for certain issues regulatory organizations proliferate, while in others a single regulatory organization emerges which covers the entire industry. Through a comparative case study of private regulation of sustainability standards in the forestry, clothing, IT-electronics, and chemicals industries, we show how a combination of low industrial concentration, civil society involvement in governance, and stringent standards of a first-moving regulator offer the strongest explanation for a fragmented private regulatory field, while high industrial concentration, business-driven governance, and lenient standards of a first-moving regulator lead to cohesive regulation.

Article 7: [Dynamic governance interactions: Evolutionary effects of state responses to non-state certification programs](#)

Article 8: [Transnational governance and the re-centered state: Sustainability or legality?](#)

Authors: Tim Bartley

Abstract: After two decades in which transnational governance of production processes has typically meant voluntary subscription to privately developed standards, some transnational rulemaking projects are promoting mandatory compliance with law. The emerging timber legality

regime is one example of this, and scholars' efforts to theorize this regime have produced provocative new analyses of interactions between public and private standards. Recent analyses, including those in this issue, predict that the new legality regime will bolster voluntary initiatives that certify sustainable forests. Based on research in Indonesia and China, I argue that this prediction is questionable and that the rise of the timber legality regime could constrict, rather than expand the space for global private authority. Further, I argue that it would not be entirely a bad thing if the legality regime overtook sustainability certification. Behind these specific arguments are general perspectives on how domestic circumstances shape transnational business governance and on the role of states in pluralistic fields of governance – both issues that are obscured by more architectural approaches.

Article 9: [Orchestrating sustainability: The case of European Union biofuel governance](#)

Authors: Philip Schleifer

Abstract: This article provides an empirical analysis of orchestration – that is, the initiation, support, and embracement of private governance arrangements through public regulators – in the field of European Union biofuel governance. It examines the emerging sustainability regime and shows that orchestration has been extensively practiced. Regulators in the European Union have used a range of directive and facilitative measures to initiate and support private biofuel certification schemes and to incorporate them in their regulatory frameworks. This has given rise to a hybrid regime in which public and private approaches are closely intertwined. Discussing the benefits and complications of engaging with private biofuel sustainability governance, the article's findings point to a partial failure of orchestration in this policy area.

Comments from other researchers: Deciding between Type 2, Type 3 and Type 4

- Type 2 argument was based on it being more focused on the economic rather than social – and the question lies in whether the economic and the social side was more dominant?
- Type 3 mentions that it was not only a concern for the environment but also a social safeguard perspective. However, it was not specific. Good governance as a compromise school approach and the legitimacy of the government mechanisms - 'reducing costs and increasing reach'.
- Type 4: critique of sustainability itself? **Not type 4: must clearly show an alignment of the problem and thinking about the solution.**
- It is a Type 2 problem with a Type 3 solution – and we want to distinguish the framework of analysis from the tool used to achieve it.
=> It is a Type 3 paper – 'as a result, orchestration appears to have undercut rather than promoted good private governance in the biofuel industry.' *orchestration* tends to be type 2 – game theorist approach - rather than type 3).

Article 10: [Playing games of governance: How and why Fair Trade pioneers evade corporate capture](#)

Authors: Anna Hutchens

Abstract: The concept of power in political governance has traditionally focused on domination and the preservation of the status quo. In an economic context, institutional and organizational studies have expressed growing interest in the dynamics of agency and institutional change, captured in the concept of "institutional entrepreneurship." In the context of global free trade, the Fair Trade movement's experience shows that ongoing institutional entrepreneurship is important for entrepreneurs to transcend absorption by corporate hegemony. In this article I examine the capacity for agency in market institutions through the lens of "defiance" to illuminate the imaginative "game players" who evade institutional capture in the evolution of market governance.

Comments from other researchers: Deciding between Type 2 and Type 3

- Type 2 because it mentions but does not specifically look into the social mechanisms. It lists a plan of action unlike Article 9 which has at least considered social mechanisms at hand. In the conclusion - defiance offers us a lens of capturing and understanding game playing in political governance and, in turn, the possibility of institutional change in global markets. For fair trade movement to survive, it has to be consolidated with growing amounts of entrepreneurship - throws me off a bit that its type 3 but it is not specific throughout the paper. - **It is not type 2 because from the tool we cannot tell the type of problem and the means to achieve a problem.**
- Type 3 – talks about social mechanisms with an agency to defy the current institutions. Fair trade considers the community, social welfare in market expansion.

=> It is type 3.

Article 11: Knox-Hayes, "Negotiating climate legislation: Policy path dependence and coalition stabilization" (DRAFT)

Ben's notes:

- First it does not always follow that an application or assessment of game theory or even economic valuation will mean the paper is Type 2. This is because the paper may be assessing whether the theory works to explain something, rather than assuming the theory is correct. Second, just like cost-effectiveness analysis improved the compliance and reduce costs of Type 4 acid rain regulations through the development of a "cap and trade" system, an application of game theory or ACF/sabatier theory could be used to assess how coalitions might influence, or not, "on the ground" outcomes such as 1.5/2 degrees. Similarly, knowledge about how dialogues work a la compromise school could be reshaped to think about type 4 problems (which is how many have applied Sabatier/ACF)
- So game theory and costs and benefits are clues could be type 2 but not always (as the code book discusses)
- Likewise assessing coalition formation to think about effects of problem solving would be expected to draw on all kinds of theory of support, including game theory – but that wouldn't be its ultimate interest and it wouldn't be relying on game theory to tell us WHETHER the problem could be solved – only instead to understand coalition formation
- Second,
- the article is very clear that its results are not consistent with ahistorical motivations assumed by RC theory

- “Policy path dependence suggests that theory alone is insufficient to predict policy outcomes; policy results depend strongly on prior policy efforts, historically and socially contingent coalitions, and the resulting framing of policy possibilities.”
- At the same time, and ironically, the article says it can model these interactions
- If the conditions of prior policy and coalition formation are adequately understood, the modeling of coalition formation suggested here could be used to predict or project future policy trajectories. The model could also be used to understand current policy dilemmas and to more quickly find the equilibrium or range of equilibria that will stabilize the field of conflict.”
- The ironies and contradictions of these two quotes can be discussed later ☺
- Third, result we need to distinguish the instrumentalist orientation of the paper (“how can we understand coalition formation to improve climate outcomes?”) from the findings itself.

For example even though the article found that ahistorical RC couldn't explain outcomes, what if it did find this? Would that still be biased, or would it instead tell of the “impossibility” of finding non RC behaviors? My feeling is that because we know the world isn't explained solely by RC behaviors, that this “finding” is an example of bias, rather than an empirical observation (granted same could be said for historical critical juncture work, but at least these folks are open to finding broader sets of motivations that can and do exist).

- For all these reasons this article falls outside Type 2 thinking, even though influenced by it. But, does it go enough in the direction of Type 4? Or does it provide answers that would limit an ability to solve the climate crisis qua the climate crisis?
- I again go back to this conclusion: “*This could have a considerable benefit in accelerating the rate of policy development under conditions requiring quick action, such as climate change.*”

“Quick action” is clearly the first key feature of climate change. At the same time the problem is weakly tended to and rather abstract.

So I can see coding on both Type 4 and Type 3. At the same time, because the article discusses the clean air act, and discussions pollution as its focus, and because it does shed light on how to solve, rather than simply seek consensus or compromise about climate action, at the end of the day, it seems best classified as type 4

[Article 12: Regulation and voluntarism: A case study of governance in the making](#)

Authors: Tamar Barkay

Abstract: In this article I analyze a multi-stakeholder process of environmental regulation. By grounding the article in the literature on regulatory capitalism and governance, I follow the career of a specific legislative process: the enactment of Israel's Deposit Law on Beverage Containers, which aims to delegate the responsibility for recycling to industry. I show that one crucial result of this process was the creation of a non-profit entity licensed to act as a compliance mechanism. This new entity enabled industry to distance itself from the responsibility of recycling, and thereby frustrated the original objective of the legislation, which was to implement the principle of “extended producer responsibility.” Furthermore, this entity, owned by commercial companies and yet acting as an environmentally friendly organization, allowed industry to promote an anti-regulatory agenda via a “civic voice.” The study moves methodologically from considering governance as an institutional structure to analyzing the process of “governancing,” through which authoritative capacities and legal responsibilities are distributed among state and non-state actors. Two key findings are that this process and its outcome (i) are premised on an ideology of civic voluntarism,

which ultimately delegates environmental responsibilities to citizens; and (ii) facilitate an anti-regulatory climate that serves commercial interests.

Comments:

Recycling extended producer responsibility

Two key findings are that this process and its outcome (i) are premised on an ideology of civic voluntarism, which ultimately delegates environmental responsibilities to citizens; and (ii) facilitate an anti-regulatory climate that serves commercial interests.

the emergence of public-private regulatory regimes.

"regulatory capitalism" as the overall matrix within which various forms of "new governance" come into being (Levi-Faur 2005; Braithwaite 2008).

So far above it is Type 3

But this sentence implies possible Type 4: "Reduce litter and divert recyclable items from the waste stream" although the only issue here is that it is still abstract – what is the problem exactly in "reducing litter" very vague...also "waste stream" also vague...in the direction of Type 4 but not exactly measurable yet...

Recycling corporation undermined original purpose of law (this is same in forest practices boards)- to put costs onto industry

Delegated to individual citizens regime. This technique, however virtuous and in line with the aspirations of new governance arrangements it may be, also raises grave questions concerning the ability of organized commercial interests to use it to shape regulatory frameworks in ways that may undermine business's own responsibility for the public good.

My observations: this article clearly is focused on understanding if a public/private innovation might yield compliance for a specified outcome: recycling etc. The answer is no: that it went in the other direction and industry used its power to fend off requirements to individuals that led to outcomes that were not intended

So this seems to be Type 4 BUT the issue here is that recycling is also abstract: what problem exactly was trying to be solved? It is too abstract to be measurable in terms of an "on the ground" problem. BUT at the same time they are thinking of "on the ground" problems however badly defined, and they are assessing where private or non-state regulatory capitalism can solve problems that they were created to address.

Problem classification: Type 4. So for these reasons I would still give a 4 (not because they found a negative answer but because they were assessing whether these innovations improved compliance and uptake)

Article 13: [When risk-based regulation aims low: Approaches and challenges](#)

Authors: Julia Black and Robert Baldwin

Abstract: Risk-based regulation is becoming a familiar regulatory strategy in a wide range of areas and countries. Regulatory attention tends to focus, at least initially, on high risks but low-risk regulatees or activities tend to form the bulk of the regulated population. This article asks why regulators need to address low risks and it outlines the potential difficulties that such risks present. It then considers how regulators tend to deal with lower risks in practice. A body of literature and survey-based research is used to develop a taxonomy of intervention strategies that may be useful in relation to low-risk activities, and, indeed, more widely. In an article to be published in the subsequent issue of this journal, we will then develop a strategic framework for regulators to employ when choosing intervention strategies and we will assess whether, and how, such a framework could be used by regulatory agencies in a manner that is operable, dynamic, transparent, and justifiable.

Risk-based regulation is a particular strategy or set of strategies that regulators use to target their resources at those sites and activities that present threats to their ability to achieve their objectives (Black 2005a, 2008; Black & Baldwin 2010).

The companion article assesses whether, and how, such a framework could be used by regulatory agencies in a manner that is operable, dynamic, transparent, and justifiable, and argues that coming to grips with the challenges presented by low risks compels us to rethink our conceptions of risk-based regulation more generally.

Theory of risk: issue is for what purpose?

"Such survey responses, however, focus on the levels of satisfaction of involved parties rather than provide an independent view of strategies and operations."

Problem classification: Type 3. Not enough discussion on implications for actual problems. They are also trying to develop a framework for understanding risk that seems to be applied both beyond problems, but also nuancing different problems. It is going in direction of Type 4 potentially but too abstract to be there

Article 14: [Dynamic governance interactions: Evolutionary effects of state responses to non-state certification programs](#)

Authors: Lars H. Gulbrandsen

Abstract: Research has recognized that states enable or constrain private governance initiatives, but we still know too little about the interactions between private and public authority in the governance of various social and environmental problems. This article examines how states have responded to the emergence of forest and fisheries certification programs, and how state responses have influenced the subsequent development of these programs. It is argued that historical and structural differences in the management of forest and fisheries have resulted in divergent state responses to certification programs, but that both trajectories of interaction have led to a strengthening of the non-state program. The article draws upon these cases to inductively identify types of interaction between state policies and non-state certification programs, the causal mechanisms that shed light on interaction dynamics, and the conditions under which state involvement is likely to result in either strengthening or weakening of non-state programs.

Coding:

weakening or strengthening of non-state certification programs
dynamic interactions between public and private governance

how to states influence?
Number of fisheries certified

"The evidence suggests, however, that the FAO guidelines in combination with other government policies and market dynamics have had a positive impact on the development and uptake of the program. First, the MSC has actively employed the FAO guidelines in efforts to enhance the credibility of the program and attract new clients for certification."

"As with the FSC, government support for the MSC has contributed to its impressive growth in recent years. In both cases, state responses to the emergence of certification programs have served to legitimize certification as a credible policy tool that companies and consumers can trust."

This is definitely not type 4: there is nothing about actual on the ground problems, no measure as to what an "on the ground" outcome would be, and only looks at support and competition.

Whether it is type 2 or 3: it seems to me as it doesn't directly incorporate utility/satisfactions – indeed it is looking at government/private sector interactions with implicit assumption that government policy may include some rationales beyond Type 2... it does seem to be trying to develop a theory of public private interactions beyond a particular problem, but not in a way that is clearly rationalized

Problem classification: Type 3

Article 15: The limits and variety of risk-based governance: The case of flood management in Germany and England

Authors: Lars H. Gulbrandsen

Abstract: Risk-based governance is argued by many to hold the promise of a more rational and efficient state, by making explicit the limitations of state interventions and focusing finite resources on those targets where probable damage is greatest. This paper challenges the assumption that risk-based governance has the potential for universal and uniform application, by comparing contemporary flood management in Germany and England. On first inspection, flooding appears to be a paradigmatic case of risk colonizing European policy discourses, with the traditional notion of flood defense giving way to flood risk management in the context of climate change, increasingly frequent flood disasters, political and cost pressures on flood protection, and publicly available Europeanwide flood assessments. Drawing on in-depth empirical research, this paper shows how the role, and even the definition, of "risk" is institutionally shaped, and how the respective institutional environments of German and English flood management practices impede and promote risk colonization. In particular, the use and conceptualizations of risk in governance are variously promoted, filtered, or constrained by the administrative procedures, structures, and political expectations embedded within flood management and wider polities of each country. The findings of this research are important for the design and implementation of supranational policies and regulations that endorse risk-based approaches, such as the recent EU Flood Directive, as well as scholarly debate as to how to legitimately define the limits of governance in the face of uncertainty and accountability pressures.

Coding:

Problem: flooding

Risk based governance poorly suited to addressing “ namely that risk-based governance ensures a more efficient use of finite resources” (cost effective)

Increase in floods that caused economic damage

The reforms in the two countries adopted the labels “making space for water” (DEFRA 2005) and “room for rivers” (Bundesregierung 2005a). As the concept of room/space suggests, land-use regulation has become a central part of the emerging flood management approaches (LAWA 1995, 2004; DCLG 2006). Other domains beyond flood defenses, such as commercial insurance for private risk management (LAWA 2004; ABI & Government 2008) and flood risk communication (EA 2006; UBA 2006), have also received attention.

Ok so this is a question attempting to answer whether risk does something in the context of good governance, transparency, and shaping responses to particular problems, in this case flood management.

Now, it is finding that risk plays out different in different contexts, but it isn't really distinguishing this based on the key features of flooding in each country, but different institutional settings. This means it isn't building a grant theory of rationalist thought, and it is reinforcing Steinburg's concept of “resonance groups” but not based on problem structure.

Therefore it is not type 4. Is it type 3 or type 2? It is not advocating for a rationalist theory so it is squarely type 3

Problem classification: Type 3

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² Notably, while Ostrom focused on enhancing economically optimal solutions for sustained management of the resource in question, the conception of the problem at hand was not derived from the key ecological features of the ecosystem in which the CPRs were situated. As Ostrom made clear in her classic tome, *Governing the Commons*: "The issue in this case—and many others—is how best to limit the use of natural resources so as to ensure their long-term *economic viability*" (Ostrom 1990: 1). To be sure, Ostrom called for such Type 4 thinking, arguing that while biological and ecological systems were different from those covered by conceiving of utility undermining resource tragedies, they, too, could be enhanced by similar inductive attention to the features of the problem at hand (Ostrom 1990: 25-26).