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Correlates of rigorous and credible transnational governance: A cross-sectoral analysis of best practice compliance in eco-labeling

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Abstract

The number of eco-labeling schemes is rising dramatically, yet the rigor and credibility of such schemes remains uneven. Whereas some eco-labeling organizations (ELOs) comply with best practice guidelines designed to increase the credibility of their standards through attention to good operating principles, such as transparency and impartiality, others do not. Within this article, I attempt to explain this variation through multivariate regression analysis of an original cross-sectoral dataset of transnational ELO policies and practices. I find compelling evidence to suggest that ELOs with environmental non-governmental organization (ENGO) partners, nonprofit structures, or broad transnational reach are most likely to comply with best practices. I also find that private ELOs are more likely to disregard best practices than public ones. Conversely, I find little evidence that levels of industry funding or sector-specific competition dynamics affect best practice compliance. This study contributes new data, a new method of comparison, and new findings to the growing literature on transnational governance.

Keywords: best practice, eco-labeling, private authority, regulatory rigor, rule-setting transnational governance.

1. Introduction

Over the past 35 years, the number of organizations engaged in environmental certification and labeling (eco-labeling) has risen dramatically. Eco-labeling organizations (ELOs), such as the Forest Stewardship Council (FSC) and the Marine Stewardship Council (MSC) set rules about proper environmental conduct intended to guide and constrain companies on a voluntary basis. While states and international organizations continue to create and operate eco-labels, increasingly, the most widely used eco-labeling standards are created and maintained by civil society groups, industry associations, corporations, hybrid public–private organizations, and purpose-built for-profit or not-for-profit organizations. Perhaps unsurprisingly, the shift of rulemaking authority away from states and multilateral institutions and towards non-state actors has raised legitimate questions about the rigor and credibility of eco-labeling systems (Bowles 2011, p. 1). Many of these concerns center around the political motivations of private rulemaking bodies (Cutler *et al.* 1999, p. 369; Büthe & Mattli 2013, pp. 11–12), the negative effects of competition between different eco-labeling systems (Abbott & Snidal 2010, p. 324; Fransen 2011; Cashore & Stone 2014), and the lack of accountability in certain private governance schemes (Van Harten 2005, p. 615; Fuchs & Kalfagianni 2010, p. 10). In response to these concerns, a number of meta-standards or best practice guidelines have emerged with the goal of increasing the rigor and credibility of eco-labeling by encouraging attention to good operating principles, such as transparency, impartiality, and inclusiveness. In this paper, I ask under what conditions ELOs will be most likely to comply with globally-recognized best practice guidelines for eco-labeling.

I answer this question by testing a range of theories using multivariate regression analysis of an original dataset of ELO policies and practices in 2013. This unique dataset brings together, for the first time, information on 123 transnational ELOs comprising the full known population of transnational eco-labeling organizations at the time the study was conducted. I use this original dataset to probe hypotheses on the conditions for compliance with best practice in eco-labeling. I argue that best practice compliance is a useful proxy for the overall rigor and credibility

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of an ELO's governance efforts because compliance entails incurring considerable costs, submitting to heightened public scrutiny, and ceding control over standard content and administration. Moreover, a focus on best practice compliance has the added value of allowing researchers to compare ELOs across sectors and environmental issue areas.

My findings yield several surprising results that challenge past scholarship on eco-labeling and private governance. I find no evidence to suggest that industry-funded ELOs are less compliant with best practices than non-industry-funded ELOs. Nor do I find evidence that intra-sector competition between ELOs leads to heightened or diminished attention to best practices. I do, however, find evidence to suggest that, on balance, private ELOs are more likely to disregard best practices than public ones, and that ELOs developed in partnership with existing environmental groups, structured as nonprofits, or possessing broad transnational reach are more likely to comply with best practices than ELOs without these attributes. These findings suggest that a simple public/private dichotomy offers limited explanatory leverage for theorizing credible transnational governance. Attention to procedural rigor and credibility depend on the characteristics of the private organizations involved.

This study contributes to the burgeoning literature on eco-labeling and rule-setting transnational governance by establishing a unique method of comparing eco-labeling organizations across sectors. It also contributes to the field by offering an original large N cross-sectoral database through which to probe the plausibility of existing theories on the conditions for rigorous and credible transnational governance. I organize the paper as follows: first, I conceptualize eco-labeling as a form of rule-setting transnational governance. Next, I describe best practice in eco-labeling, explain its importance, and outline my dependent variable. I then review previous theories on regulatory rigor in transnational governance and derive a series of testable hypotheses. Following this, I explain my research methods, describe my data, and review my findings. I conclude by discussing the implications of my findings and suggesting avenues for future research.

2. Eco-labeling as rule-setting transnational governance

In this article, I conceptualize eco-labeling as a form of rule-setting transnational governance.[1] Transnational governance occurs "when networks operating in the transnational sphere authoritatively steer constituents towards public goals" (Andonova *et al.* 2009, p. 56). Rule-setting transnational governance mirrors traditional systems of intergovernmental or domestic governance inasmuch as a central authority establishes rules intended to guide and constrain the constituents of a governance network (Andonova *et al.* 2009, p. 65). In this case, ELOs establish rules about proper environmental conduct intended to guide and constrain companies that voluntarily agree to be bound by these rules. For example, the FSC establishes rules to ensure that FSC-certified companies harvest timber in a manner that maintains the forest's biodiversity, productivity, and ecological processes, among other factors (Forest Stewardship Council 2015). Rule-setting transnational governance arrangements are increasingly common. Indeed, we see them used in a number of areas, including accounting standards, fair trade labels, and transnational carbon markets. Consequently, a focus on eco-labels is a useful way of investigating a broader and increasingly salient class of transnational governance initiatives.

Past studies on this topic have mainly consisted of small n case studies that use process-tracing within a single industrial sector or a handful of sectors; for example, accounting (Camfferman & Zeff 2007), apparel and forestry (Bartley 2003, 2005, 2007), electro-technical (Büthe 2010a), financial reporting (Büthe & Mattli 2013), fisheries (Gulbrandsen 2010, 2014), forestry (Cashore 2002; Cashore *et al.* 2004; Bernstein & Cashore 2007; Auld *et al.* 2008; Overdevest 2010; Overdevest & Zeitlin 2014), labor (Fransen 2011; Fransen & Burgoon 2012), and sanitary paper product standards (Harrison 1999).[2] While these papers have yielded many valuable insights, few of their hypotheses have been submitted to a broader test for generalizability. This paper answers a call for more generalized testing of existing hypotheses that have been developed within particular commercial sectors (Gulbrandsen 2014, p. 89). The original dataset of 123 transnational ELOs used in this study provides an empirical base of unprecedented scope through which to test the generalizability of existing theories in a cross-national and cross-sectoral context.

This paper also asks a different question than previous research on rule-setting transnational governance. Past studies have attempted to explain the rise of transnational governance (Cutler *et al.* 1999; Hall & Biersteker 2002; Bartley 2003, 2007; Green 2013a); whether it can be legitimate (Cashore 2002; Cashore *et al.* 2004; Borzel & Risse 2005; Bernstein & Cashore 2007; Black 2008); how states interact with non-state governance schemes (Abbott &

Snidal 2010; Bartley 2011; Eberlein *et al.* 2014; Gulbrandsen 2014; Hale & Roger 2014); why firms join particular governance schemes (Potoski & Prakash 2005; Darnall *et al.* 2010); why certain governance schemes seek stakeholder input more than others (Carmin *et al.* 2003); why some sectors have more fragmented governance systems than others (Fransen & Conzelmann 2014); or which firms stand to benefit from the internationalization of standard-setting (DeSombre 2000; Büthe & Mattli 2013).[3] However, few studies have inquired into the conditions under which rule-setting transnational governance arrangements are most likely to be procedurally rigorous and create standards with the potential to achieve desirable regulatory outcomes.[4] In the following section, I develop a case for using best practice compliance as a means of comparing ELOs across sectors and gauging the sincerity and credibility of their governance efforts.

3. Best practices: What are they, who defines them, and why are they important?

Best practice guidelines for eco-labeling cover practices with general relevance, such as setting clear and measurable environmental objectives, including all relevant stakeholders in standard development, and subjecting rules and policies to public scrutiny. This makes them a useful tool for cross-sectoral comparison. While recommendations in best practice guidelines refer to broad operating principles and not standard content, I argue that compliance with best practice is, nonetheless, a good proxy for the overall credibility of an ELO's regulatory efforts. A high level of compliance demands significant costs and behavioral changes on the part of the ELO and makes it very difficult to develop meaningless standards. While best practice compliance is not a perfect proxy for rigorous standard content (a point I return to), there are a number of good reasons to believe that it can help separate credible governance efforts from superficial ones.

First, compliance involves relinquishing a considerable amount of control over the content of an eco-labeling standard. ELOs that are best practice compliant allow balanced groups of stakeholders to participate in standard development and decisionmaking, they cede control over certification to third party entities, and they are fully independent from their funding sources. These factors make it nearly impossible for an ELO in full compliance with best practice to create a standard that serves only a narrow constituency or completely ignores environmental end-goals. Second, best practice compliance exposes ELOs to a higher than normal degree of public scrutiny. Compliant ELOs must be fully transparent across their operations. Many standard-setting bodies, particularly those seeking to advance a self-interested agenda, are simply unwilling to submit to this level of public scrutiny and, therefore, forgo voluntary best practice compliance. Third, best practice compliance involves hard costs. Compliant ELOs incur significant expenses in seeking the input of marginalized stakeholders, monitoring their impacts, and publicly documenting their actions. Moreover, following best practices for stakeholder engagement can prolong the time needed to launch a new standard, leading to lost certification revenues and providing opportunities for competing standards to gain a foothold in the market (Carmin *et al.* 2003, p. 529).

For these reasons, best practice compliance is a good proxy for the likelihood an ELO will craft rigorous eco-labeling standards, and, thus, forms the dependent variable for this study. Best practice guidelines are developed by international organizations (the World Trade Organization [WTO], the Food and Agriculture Organization of the United Nations [UN FAO]), associations of eco-labeling organizations (the International Social and Environmental Accreditation and Labeling [ISEAL] Alliance) and international standard-setting bodies (the International Organization for Standardization [ISO]). They cover how ELOs should conduct their operations in the realms of standard setting, compliance assurance, and impact evaluation. Over the past 20 years, 10 guidelines on best practice in eco-labeling have been published by various organizations.[5] While the recommendations contained in these guidelines differ in many respects, there are also many areas of overlap.

To create a singular measure of my dependent variable, I construct a unique Index of Best Practice (IBP) comprising 38 widely agreed upon recommendations of best practice drawn from the 10 existing guidelines for eco-labeling.[5] The IBP was developed over four months and involved primary document analysis and key informant interviews with eco-labeling experts. I began by reviewing existing guidelines and identifying practices suggested by at least two different organizations (i.e. ISEAL *and* ISO). I then conducted interviews with six eco-labeling experts (including consultants, auditors, staff of accreditation bodies, and policymakers) to gain a better idea of which practices are most relevant to building and maintaining rigorous and credible standards. My objective throughout was to avoid biasing the IBP toward any one organization's definition of best practice and to narrow the IBP down

to the most relevant practices. The final IBP comprises 38 recommendations for best practice in eco-labeling, grouped into 10 thematic categories and scored on the basis of full, partial, or non-compliance. These thematic categories, which mirror the ISEAL Credibility Principles (ISEAL Alliance 2013), and a sample of the recommendations contained in each category, are presented in Table 1. Details on how compliance is scored are provided in section 5.

While a focus on best practice compliance is a useful tool for comparing ELOs across sectors, it is not a perfect proxy for rigor and credibility in eco-labeling. Thus, a few caveats should be applied at the outset of this study. First, while a focus on best practice can help us separate genuine from immaterial environmental claims, it cannot tell us whether a particular class of product is sustainable (i.e. palm oil). None of the existing best practice guidelines preclude the certification of certain types of products or services that may be inherently harmful to the environment. Second, it should be recognized that the organizations that create best practices might have political motivations (Loconto & Fouilleux 2014). While it may be tempting to view such guidelines as benign exercises in regulatory optimization, in fact, they advance unique agendas ranging from global trade liberalization to the normalization of a market-driven and procedural vision of sustainability (Bernstein 2011; Loconto & Fouilleux 2014; Bernstein & van der Ven 2015). Third, best practices must demonstrate fitness within a broader macro-political context (Mattli & Büthe 2005 p. 406), particularly the prevailing ideological consensus that barriers to free trade should be avoided at all cost. Fourth, and most importantly, best practices tell us little about the actual content of eco-labeling standards. It is entirely possible that two ELOs that are equally compliant with best practice could create very different standards, one much less rigorous than the other.

While all of these concerns are valid, there remain good reasons to focus on compliance with best practice. In addition to the reasons offered earlier in this section, best practice compliance prevents some of the worst abuses of regulatory power. For example, it is more difficult for an ELO to create a fraudulent eco-label if it has an organizational commitment to transparency. Similarly, the risk of regulatory capture is lessened if an ELO has policies in place to prevent the dominance of a single interest group. Thus, while compliance with best practice does not guarantee rigorous standards, it certainly increases the *likelihood* that an eco-label will be more than a hollow exercise in greenwashing.

Second, concerns about the political motives of best practice guidelines are moderated by the procedures through which the IBP and individual guidelines are constructed.[6] As noted above, the IBP is an amalgam of multiple best practice guidelines, each of which emphasizes different aspects of best practice. Hence, the conception of best practice presented in this study does not represent any organization's unitary or politicized vision. Moreover, each of the guidelines that feed into the IBP is constructed through a rigorous, multi-stakeholder, consensus-based process. The ISEAL Credibility Principles, for example, received input from over 200 stakeholders in each of two

Table 1 IBP categories and examples of recommendations in each category

Sustainability	• ELO possesses a monitoring and evaluation program that tracks the environmental impacts of its standards
Improvement	• ELO integrates the results of impact evaluations into proposed improvements to its standards
Relevance	• ELO involves persons with expertise or first-hand experience in standard development
Rigor	• ELO has a well-documented system of remediation and sanctions if compliance with its standards is not maintained
Engagement	• ELO implements a formal consultation mechanism that facilitates participation of interested parties in standard-setting and governance
Impartiality	• ELO ensures that financial models and governance decisions are structured to mitigate potential conflicts of interest
Transparency	• ELO ensures that all active standards are accessible to the public through its website
Accessibility	• ELO provides meaningful opportunities for disadvantaged stakeholders to participate in standard-setting and governance
Truthfulness	• ELO ensures that all claims associated with its standards use accurate and precise language
Efficiency	• ELO avoids duplicating existing national/international voluntary standards in the same issue area or commercial sector

ELO, eco-labeling organization; IBP, index of best practice.

rounds of public consultation (ISEAL Alliance 2013). Hence, the potential for any one interest group to influence the content of best practice guidelines is mitigated by checks and balances designed to prevent the overt politicization of the process. In sum, while there remains a risk in focusing on best practice compliance, this risk is sufficiently mitigated to warrant its use as a broad measure of regulatory rigor and credibility.

4. Existing theories of rule-setting transnational governance

In this section, I review previous attempts to theorize the conditions necessary for rigorous and credible transnational governance and specify the hypotheses to be tested in this study. In broad terms, past theories tend to focus on one of the following questions: (i) *who* is involved in the governance scheme; (ii) *where* does the governance scheme take place; and (iii) *which* sector or issue area does the governance scheme cover?

4.1. Who is involved in the governance scheme?

One of the most widely used means of determining whether a transnational governance scheme will be rigorous and credible is by examining *who* is involved. A key axis of variation in this category concerns an ELO's relationship to the state, which is often simplified through labels such as "public" and "private." I define public ELOs as those directly connected to the institutions of the state; this includes organizations established by subunits of government, supranational entities, or units of intergovernmental organizations acting quasi-independently of national decisions (Eberlein *et al.* 2014, p. 3). Conversely, private ELOs are not owned, governed, or primarily funded by states. This category includes industry-funded organizations, environmental non-governmental organization (ENGO) initiatives, and freestanding enterprises with neither ENGO nor industry involvement.

A number of existing theories point to the inherent weakness of private organizations in crafting credible transnational governance schemes. Critics argue that private governance schemes are generally less representative than their public counterparts (Carmin *et al.* 2003). The "rules" of private governance schemes are rarely, if ever, created with the consent and participation of the subjects of regulation (Büthe 2010b, p. 19; Fuchs & Kalfagianni 2010, p. 10). This can have important consequences for the rigor of a governance initiative because it curtails proper feedback mechanisms. Additionally, skeptics suggest that accountability in private governance schemes is generally lacking (Van Harten 2005, p. 615; Fuchs & Kalfagianni 2010, p. 10). This lack of accountability can lead to problems in the compliance and enforcement of eco-labeling rules, and, subsequently, diminished regulatory rigor.

Furthermore, a number of scholars have expressed concern about the impartiality of private forms of transnational governance. These concerns center mainly on industry-sponsored transnational governance initiatives. Mattli and Büthe (2005) suggest agents that are financially dependent on a principal will have strong incentives to take the interests of their funders into account at the expense of other interests (p. 405). Neo-Gramscian scholars suggest that private forms of governance exist principally to stabilize the hegemonic capitalist worldview and reproduce a corporate-friendly global governance system (Levy & Newell 2002, p. 84; Schäferhoff *et al.* 2009, p. 455). Viewed from these perspectives, the primary objective of industry-sponsored ELOs (i.e. the Sustainable Forestry Initiative) is not environmental, rather it is to demonstrate just enough regulatory effort to mitigate anxiety about the environmental impacts of certain industries. If these assumptions are true, one might expect to see less attention to best practices in industry-sponsored ELOs relative to non-industry sponsored ELOs.

This lack of independence may also be evident in for-profit certification and labeling bodies. Such organizations leave themselves vulnerable to downward pressure because their prosperity depends on expanding their clientele. In keeping with the notion that standards are much more likely to be adopted when the costs of compliance are kept low (Cashore *et al.* 2007, p. 163; Mayer & Gereffi 2010, p. 14), it could be argued that for-profit ELOs have a structural imperative to ignore best practices that would raise the cost of compliance for potential clients. The following hypotheses flow from this discussion:

H1: Private ELOs will be less likely to meet best practice than public ELOs.

H2: ELOs receiving more than 50 percent of their initial funding from a corporation or industry association will be less likely to meet best practice than non-industry-funded ELOs.

H3: ELOs legally registered as not-for-profit organizations will be more likely to meet best practice than for-profit ELOs.

Outside of theories that focus on the public–private relationship, a number of authors have previously found NGO influence to be a relevant factor in ensuring the rigor and credibility of a governance scheme (i.e. Corell & Betsill 2001; Gulbrandsen & Andresen 2004; Gulbrandsen 2010). ENGO participation can act as a voice for public concerns and provide a check on industry influence (Büthe & Mattli 2013, p. 220). In such situations, we may expect deep ENGO involvement in an ELO to lead to increased attention to best practice out of a desire to serve public ends, maintain ENGO credibility, and balance interests within a governance body.

H4: ELOs that were originally funded or initiated by a preexisting environmental NGO will be more likely to meet best practice than ELOs that were not funded or initiated by a preexisting environmental NGO.

4.2. Where does the governance scheme take place?

Another category of theories focuses on the physical location of transnational governance bodies and the unique impact of domestic institutional context on ELOs. A useful distinction can be made on the variety of capitalism (VOC) that characterizes the country in which an ELO's headquarters is located. Two types of institutional contexts are commonly identified in VOC literature: Liberal Market Economies (LMEs) and Coordinated Market Economies (CMEs) (Hall & Soskice 2001, p. vi).[7] Whereas LMEs tend to have decentralized systems where certification schemes are run like for-profit institutions and expected to compete for customers (Tate 2001, p. 446), CMEs often have supportive institutions which seek to encourage collaboration between standard-setters and provide resources to support shared innovation (Tate 2001, p. 446). Examples of such institutions include the Dutch Sustainable Trade Initiative (IDH), the German Gesellschaft für Internationale Zusammenarbeit (GIZ), and the Japan Environmental Management Association for Industry (JEMAI). The CME/LME distinction is a parsimonious way of determining whether the presence of state-funded supportive institutions leads to shared learning and innovation around best practices. If such institutions do facilitate learning and innovation, we might expect ELOs headquartered in CME countries to be more compliant with best practice than their counterparts in LMEs or other countries:

H5: ELOs headquartered in CME countries will be more likely to meet best practice than ELOs headquartered in non-CME countries.

Physical location can also be important for learning and diffusion processes. Previous research has examined the effect of specific territorial dynamics on business innovation (Bathelt *et al.* 2011, p. 3). If location-specific attributes and existing institutions can affect innovation in the business world, then it is plausible that they may equally affect innovation in transnational governance. Spatial proximity facilitates regular face-to-face meetings and conventions, which can stimulate further learning and knowledge generation (Bathelt *et al.* 2011, p. 3). These same processes may drive groups of ELOs clustered within the same city to collaborate and push each other toward more stringent compliance with best practice:

H6: ELOs headquartered in cities where there is a high concentration of other ELOs will be more likely to meet best practice than ELOs headquartered in cities with a low concentration of other ELOs.

4.3. Which sector or issue area does the governance scheme cover?

The final subset of theories focuses on sector and issue-specific dynamics that may affect the rigor of governance activities. One notable group of such theories focuses on the role of competition. Competition between ELOs operating within a particular sector can often serve to drive regulatory rigor downward as ELOs aim to expand the number of entities certified to their standard. Competing ELOs lower compliance criteria in a bid to attract self-interested firms "shopping" for the most cost-effective certification scheme amidst a buffet of choices (Gulbrandsen 2005; Abbott & Snidal 2010, p. 324). The resulting dynamic has been characterized as a regulatory "race-to-the-bottom" (Fransen 2011, p. 359). Other scholars in this field have posited the reverse argument, suggesting a "California effect" whereby competition ratchets-up the rigor of standards (Vogel 1995; Overdevest 2010; Overdevest & Zeitlin 2014). However, because empirical evidence of downward pressure has been well documented amongst competing forestry eco-labels (Gulbrandsen 2005, p. 349), the race-to-the-bottom dynamic is more likely. While the cross-sectional data presented cannot show change in best practice compliance over time, a significant correlation between ELOs who operate in highly competitive sectors and disregard for best practice would suggest the plausibility of the following hypothesis:

H7: ELOs in direct competition with multiple competing standards in the same sector, practice, or issue area will be less likely to meet best practice than ELOs in non-competitive sectors or issue areas.

5. Statistical analysis: Data and methods

I test the hypotheses outlined in the preceding section using an original dataset of 123 ELOs comprising, to the best extent possible, the full population of transnational ELOs in 2013. This is the first dataset to combine information on best practice compliance in eco-labeling alongside data on organizational, contextual, and sector-specific attributes across a large number of cases. The dataset was built over five months from August to December 2013 and represents a cross-sectional snapshot of ELO policies and practices during this period. I draw data from three sources. First, I draw upon public documents from ELO websites. Second, I use the online Ecolabel Index (2015) database to identify the population of cases that meet my scope conditions and to locate ELO headquarters.[8] Third, I draw upon email exchanges with ELO employees in situations where data was missing from public documents. The principal investigator performed all coding, but another researcher, using only the codebook provided, independently coded a sample of observations. Results between the principal investigator and the independent researcher were then compared to ensure commensurability.

Individual ELOs, the owners of eco-labeling standards, are the unit of analysis in this study. In selecting cases for inclusion in the dataset, I apply a number of scope conditions to ensure comparability. First, ELOs included in the dataset must be transnational in presence; meaning that their eco-labels are present in more than one country *and* that certification to their standards is available to firms headquartered in a different country than the ELO. Second, ELOs must develop at least one standard/eco-label that is primarily environmental in its objectives. ELOs operating standards that include environmental objectives only as a secondary or tertiary consideration (i.e. Fairtrade) are excluded from this analysis. Third, ELOs must have at least one environmental standard/eco-label that is currently active. Fourth, ELOs must have at least one eco-label that is consumer facing and cannot exclusively develop business-to-business (B2B) standards. Fifth, ELOs cannot solely develop in-house standards/eco-labels (i.e. Nike Considered Design). Sixth, ELOs must develop standards that denote achievement of a specific objective, not merely support for a broad set of principles (i.e. UN Global Compact). Finally, ELOs included in the dataset cannot solely develop standards that apply to a natural area or a professional designation.

The dependent variable (DV) for this study is the IBP discussed in section 3 of this paper. Each ELO in my dataset is evaluated against the IBP using a simple scoring system. On each of the 38 recommendations in the IBP, an ELO can score zero for non-compliance, one for partial compliance, or two for full compliance. I calculate an ELO's score across each relevant IBP recommendation and then sum the total compliance score.[9] I then divide the total compliance score by the maximum possible score to arrive at a number between one and zero (see Equation 1). I use a proportion in lieu of a simple count because certain recommendations in the IBP are not universally applicable to all ELOs in the dataset. An ELO that is fully compliant with best practice would score a one on the IBP, whereas one that disregards them entirely would score a zero.

Equation 1 Calculating IBP Score

$$\frac{Total\ best\ \ practice\ compliance\ score}{Maximum\ \ possible\ best\ \ practice\ compliance\ score} = IBP\ Score$$

The independent variables (IVs) in this study are a combination of both categorical and interval level variables that correspond to the hypotheses presented in section 4. A summary of the IVs, their affiliated hypotheses, and coding rules is presented in Table 2. Readers should note that the dichotomous variables in the "who governs" category are not mutually exclusive. It is possible for an ELO to be coded as both industry-funded *and* initiated by an existing ENGO (as is the case for the Roundtable on Sustainable Palm Oil).

In addition to the IVs, I also control for the effects of a number of variables that lack an extensive theoretical foundation in the literature, but hold common sense explanatory value. First, I control for whether an ELO explicitly develops standards for either food or fisheries because the reputational stakes for firms operating in these sectors tend to be higher and, therefore, may exert upward pressure on best practice compliance (Mayer & Gereffi 2010,

Table 2 Independent variables and coding rules

	Var. name	Type	Coding rules
Hyp.			
H1	Private	Dich.	ELO meets all of the following criteria: (i) funding is currently drawn from product/service sales or private endowments with less than 50% of current funding from government contracts or grants; (ii) the standard and its criteria are owned, operated, developed and revised by individuals outside the public service; (iii) the ELO and its standards were initiated by a non-state organization; and (iv) the ELO makes no explicit references to ownership by government entities in its public facing documents or websites.
H2	Industry_origin	Dich.	Over 50% of initial funding for an ELO or its most widely used standard was provided by a pre-existing major corporation or industry association.
H3	Non_profit	Dich.	ELO is legally registered as a not-for-profit organization in its headquarter country.
H4	NGO_origin	Dich.	Over 50% of initial funding for an ELO or the impetus for creating a particular standard was provided by a pre-existing NGO or a group of NGOs.
H5	CME	Dich.	ELO is currently headquartered in a CME country, defined as Germany, Japan, Switzerland, Netherlands, Belgium, Sweden, or Norway.
H6	ELO_density	Int.	Number of other ELOs headquartered within the same defined metropolitan area (city) at the time the study was conducted.
H7	Competing_standards	Int.	Number of transnational standards in direct competition with the most widely used standard of the ELO for transnational market-share at the time the ELO was founded. Direct competition exists when: (i) the standards target the same commercial sector (general multi-sector labels are not in direct competition with single sector labels); (ii) the standards overlap on at least one aspect of the product or service they seek to evaluate (i.e. management systems); or (iii) the standards overlap on at least one environmental attribute they seek to evaluate (i.e. energy efficiency).
Controls	Food_related	Dich.	ELO only develops food or fisheries related standards, not including tradable commodity crops (i.e. soy or sugar).
	Year	Int.	The year the ELO launched its first eco-labeling standard.
	No_standards	Int.	Number of standards (both environmental and other) that an ELO currently manages, not including variations/versions of a single standard that apply to multiple products or product categories.
	No_countries	Int.	Number of countries in which products bearing the ELO's most widely used standard can currently be purchased.
	Multi_sector	Dich.	ELO develops standards across more than one commercial or industrial sector.
	Multi_attribute	Dich.	ELO's most widely used standard (in terms of number of entities certified) examines multiple environmental attributes in determining whether a product/service can be certified.
	GDP_capita	Int.	GDP per capita (USD) of the ELO's headquarter country in 2013.

CME, coordinated market economy; Dich, dichotomous variable; ELO, eco-labeling organization; GDP, gross domestic product; Hyp, hypothesis; Int, interval variable; NGO, non-governmental organization.

p. 9; Fransen & Conzelmann 2014, p. 4). Second, I control for the year an ELO launched its first eco-labeling standard. This control is meant to highlight any temporal dynamics affecting compliance with best practice.[10] Third, I control for the number of standards, both environmental and otherwise, that an ELO currently manages and the number of countries in which products bearing an ELO's most widely used standard can currently be purchased. Both of these variables are proxy measures for organizational size and capacity. Fourth, I control for whether an ELO develops standards across more than one commercial/industrial sector and whether an ELO's most widely used standard examines multiple environmental attributes in determining whether a product/service can be certified. The

inclusion of these variables is meant to identify any relationship between specialization in a given sector/issue and best practice compliance. Finally, I control for gross domestic product per capita in an ELO's headquarter country. This variable is a proxy for a country's overall wealth and helps separate the effect of affluence on best practice compliance from the effect of supportive institutions that may be present in CME countries.

To accommodate the bounded nature of my DV, I follow Baum's (2008) suggestion to use a logit transformation (p. 299). This allows me to model y* (the logit transformation of IBP score) as a linear function of a set of regressors (X). The operation is summarized in Equation 2. Having transformed my DV to allow for linear modeling, I then use ordinary least squares (OLS) regression analysis. As a further precautionary measure I use HC3, a form of heteroskedasticity-consistent (robust) standard errors suggested for OLS regression with fewer than 250 cases (Long & Ervin 2000).

Equation 2 Logit Transformation of the DV (y*)

$$y^{\star} = \log \frac{y}{1-y} = X\beta + \varepsilon$$

6. Results

Eco-labeling organization scores on the IBP ranged from a high of 0.97 to a low of 0.12, with a mean of 0.54 and a standard deviation of 0.18 (N = 123, all values rounded to two decimals). The top five performers on the IBP are highlighted in Table 3. Significantly, the top performing ELOs are all organizations that have previously been identified as rigorous, credible eco-labeling organizations in a number of other sources (Natural Resources Defense Council 2015; Sullivan 2012). In Table 4, I present descriptive statistics by sector and the average and range of IBP scores for each sector included in the dataset. ELOs that develop standards related to commodities (i.e. sugar), carbon offsets, and fish/fisheries had the highest average IBP scores. Conversely, ELOs operating in the tourism, buildings, and furniture sectors had the lowest average IBP scores.

In broad terms, ELOs that scored well on the IBP tended to have clear environmental objectives and well-defined strategies to meet those objectives. They possessed advanced evaluation and monitoring systems to assess their environmental impact and strong feedback mechanisms to ensure continuous improvement of their standards. These organizations involved persons with expertise in standard development, sought participation from broad groups of stakeholders (including vulnerable stakeholders), and had policies in place to ensure that no single group of stakeholders exerted undue influence over their standards. They implemented rigorous compliance procedures, often employing well-trained independent auditors, routine audits, and unannounced spot-checks. They also exhibited a concern for transparency throughout their operations. Finally, ELOs that scored well on the IBP maximized their impact by making their standards as accessible as possible to diverse markets and by collaborating and coordinating with other ELOs, where appropriate.

Tables 5 and 6 explore the relationship between the IBP and the IVs identified in Table 2. Table 5 presents eight different multivariate regression models that test each category of hypotheses in sequence. Models 1a-1e focus on variables in the "who governs" category, model 2 the "where they govern" category, model 3 the "what they govern" category, and model 4 all IVs and control variables. I include standardized coefficients for model 4 in column 4b to give the reader an idea of effect sizes in the most complete model. In Table 6, I disaggregate the IBP into its 10

Table 3 Top 5 eco-labeling organizations for best practice compliance

Rank	ELO	IBP Score
1	Forest Stewardship Council	0.973
2	Bonsucro	0.934
3	Marine Stewardship Council	0.921
4	Linking Environment and Farming (LEAF)	0.892
5	UTZ Certified	0.892

ELO, eco-labeling organization; IBP, index of best practice; UTZ, universal trade zone.

Table 4 Descriptive statistics and IBP score by sector

Sector	% of pop.	Freq.	Mean IBP score	Min. IBP score	Max. IBP score
Building products	3%	4	0.55	0.51	0.61
Buildings	6%	7	0.44	0.23	0.80
Carbon	7%	9	0.47	0.18	0.74
Carbon offsets	3%	4	0.66	0.47	0.84
Cleaning products	2%	2	0.51	0.45	0.57
Commodities	5%	6	0.76	0.41	0.93
Cosmetics	2%	3	0.34	0.27	0.38
Electronics	3%	4	0.59	0.47	0.74
Energy	5%	6	0.65	0.47	0.86
Fish/Fisheries	5%	6	0.68	0.49	0.92
Food	11%	14	0.60	0.43	0.89
Forest products	6%	7	0.54	0.24	0.97
Furniture	2%	2	0.37	0.33	0.41
Other	9%	11	0.53	0.32	0.80
Textiles	3%	4	0.46	0.23	0.71
Tourism	5%	6	0.38	0.26	0.50
Waste mgmt.	2%	2	0.55	0.46	0.64
Multiple sectors	21%	26	0.51	0.12	0.75
All Sectors	100%	123	0.54	0.12	0.97

All values rounded to two decimals. IBP, index of best practice.

constituent categories, constructing a new DV for each category that represents an IBP score specific to that category. I then run a new series of regressions with all independent and control variables to get a better idea of how each variable affects particular aspects of best practice compliance.

As expected in H1, private ELOs (variable: *private*) are significantly and substantively associated with lower scores on the IBP. ELOs that are not owned, governed, or primarily funded by states or state-centric organizations are less likely to comply with best practices than their public counterparts. This relationship holds even when we control for a host of other variables (Table 5, model 4). Moreover, the size of the effect is the second largest amongst significant regressors (Table 5, 4b). Table 6, which disaggregates the IBP into its constituent categories, provides further evidence of where private ELOs fall short. Private ELOs are negatively and significantly related to best practice compliance across seven of 10 IBP categories. The only categories where private ELOs are not significantly correlated with lower best practice compliance scores are relevance, transparency, and truthfulness. In sum, there is a significant difference between public and private ELOs; however, my remaining findings urge caution in making generalizations about the rigor of private governance.

Surprisingly, I find less support for H2. There appears to be no statistically significant negative relationship between industry-funded ELOs (variable: *industry_origin*) and compliance with best practice in general (Table 5, models 1 & 4). Industry-funded ELOs are no more likely to disregard best practices than non-industry funded ELOs. The disaggregated IBP shows a negative and significant relationship on measures of relevance and rigor (Table 6). This suggests that industry-funded ELOs perform worse than their non-industry counterparts on practices such as involving experts in standard development, hiring competent auditors, and ensuring thorough checks on certified bodies. However, there is no significant relationship on categories where we might expect industry-funded ELOs to underperform, namely sustainability, impartiality, stakeholder engagement, and transparency.

As suggested by H3, there is a positive and significant relationship between ELOs that are legally registered nonprofits (variable: *non_profit*) and compliance with best practice. This relationship holds across all models; however, the size of the effect is only half that of the other significant variables in the model (Table 5, 4b). The disaggregated IBP shows that nonprofit ELOs outperform their for-profit counterparts on practices related to sustainability, stakeholder engagement, and impartiality (Table 6). In essence, nonprofit ELOs are better than for-profit ELOs at practices such as setting clear and measurable environmental objectives, engaging stakeholders in standard development, and maintaining strong independence from funding sources and third party certifiers.

Table 5 Multivariate regressions explaining compliance with best practices across eco-labeling organizations; DV = logit transformed IBP score

Model	Who governs					Where they govern	What they govern	All vars.	Stdzed Coefs.
	1a	1b	1c	1d	1e	2	3	4a	4b
Private	−0.596*** (0.157)	–	–	–	−0.820*** (0.161)	–	–	−0.721*** (0.173)	−0.312
Industry_origin	–	−0.272 (0.169)	–	–	−0.110 (0.162)	–	–	−0.179 (0.190)	−0.090
Non_profit	–	–	0.308* (0.158)	–	0.374** (0.142)	–	–	0.301** (0.137)	0.153
NGO_origin	–	–	–	0.597*** (0.218)	0.643*** (0.220)	–	–	0.625** (0.237)	0.276
CME	–	–	–	–	–	0.215 (0.167)	–	0.177 (0.164)	0.094
ELO_density	–	–	–	–	–	0.057 (0.034)	–	0.042 (0.041)	0.120
Comp_standards	–	–	–	–	–	–	−0.032 (0.019)	−0.018 (0.020)	−0.106
Food_related	0.519** (0.231)	0.564** (0.235)	0.596** (0.231)	0.558** (0.231)	0.411* (0.235)	0.658*** (0.243)	0.611*** (0.225)	0.465* (0.249)	0.209
Year	0.006 (0.010)	0.003 (0.011)	0.003 (0.011)	0.004 (0.010)	0.014 (0.010)	0.003 (0.010)	0.007 (0.011)	0.019* (0.011)	0.151
No_standards	0.000 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.002)	0.001* (0.001)	0.000 (0.002)	0.001 (0.002)	0.001 (0.001)	0.135
No_countries	0.012*** (0.004)	0.011*** (0.004)	0.011*** (0.004)	0.011*** (0.003)	0.012*** (0.003)	0.010*** (0.004)	0.011*** (0.004)	0.011*** (0.004)	0.316
Multi_sector	−0.172 (0.163)	−0.117 (0.163)	0.040 (0.167)	0.000 0.158	−0.110 (0.152)	0.034 (0.170)	0.127 (0.182)	0.028 (0.167)	0.016
Multi_attribute	0.040 (0.158)	0.015 (0.163)	−0.021 (0.165)	0.070 0.155	0.136 (0.146)	0.015 (0.167)	0.060 (0.175)	0.192 (0.165)	0.109
GDP_capita	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.016
Constant	−10.79 (20.78)	−6.98 (21.54)	−6.03 (21.22)	−7.91 (20.26)	−27.26 (19.77)	−6.77 (20.89)	−15.12 (21.92)	−37.37* (21.51)	
R-Square	0.263	0.221	0.226	0.268	0.385	0.233	0.226	0.407	
N	123	123	123	123	123	123	123	123	

***P < 0.01, **P < 0.05, *P < 0.1; robust HC3 standard errors in parentheses. CME, coordinated market economy; DV, dependent variable; ELO, eco-labeling organization; GDP, gross domestic product; IBP, index of best practice; NGO, non-governmental organization.

Table 6 Multivariate regressions explaining compliance with disaggregated categories of best practice; DV = IBP score by category

	Sustainability	Improvement	Relevance	Rigor	Engagement	Impartiality	Transparency	Accessibility	Truthfulness	Efficiency
Private	−0.247*** (0.054)	−0.189** (0.073)	−0.078 (0.057)	−0.106** (0.054)	−0.203** (0.079)	−0.226*** (0.065)	−0.113* (0.064)	−0.188** (0.095)	−0.110* (0.057)	−0.293*** (0.088)
Industry_origin	−0.069 (0.050)	−0.017 (0.059)	−0.124** (0.059)	−0.102** (0.050)	0.047 (0.076)	0.084 (0.065)	−0.012 (0.055)	−0.109* (0.064)	0.060 (0.062)	0.035 (0.061)
Non_profit	0.104** (0.048)	0.000 (0.047)	0.009 (0.050)	0.020 (0.048)	0.158** (0.078)	0.144*** (0.050)	0.037 (0.063)	0.034 (0.063)	0.017 (0.056)	0.109 (0.071)
NGO_origin	0.184*** (0.060)	0.075 (0.068)	0.051 (0.066)	0.120*** (0.043)	0.180** (0.079)	0.197** (0.079)	0.053 (0.058)	0.217*** (0.072)	0.056 (0.069)	0.085 (0.089)
CME	0.013 (0.047)	−0.005 (0.059)	0.052 (0.051)	0.035 (0.042)	−0.046 (0.068)	0.030 (0.062)	0.065 (0.048)	0.164*** (0.054)	0.020 (0.057)	0.024 (0.061)
ELO density	0.012 (0.009)	0.019 (0.012)	0.006 (0.011)	0.006 (0.009)	0.026* (0.015)	0.005 (0.012)	0.013 (0.012)	0.001 (0.013)	0.010 (0.011)	−0.004 (0.011)
Comp_standards	−0.004 (0.005)	−0.005 (0.005)	−0.011* (0.006)	−0.008 (0.005)	0.001 (0.008)	−0.001 (0.007)	0.003 (0.007)	−0.006 (0.006)	0.001 (0.070)	−0.003 (0.007)
Food_related	0.060 (0.062)	0.068 (0.079)	0.003 (0.063)	0.123*** (0.042)	0.109 (0.089)	0.140* (0.072)	0.108* (0.058)	0.079 (0.081)	0.139* (0.072)	0.115 (0.078)
Year	−0.000 (0.003)	0.001 (0.003)	0.006* (0.001)	0.003 (0.003)	0.010** (0.005)	0.010** (0.004)	0.003 (0.003)	0.001 (0.004)	0.002 (0.004)	−0.002 (0.004)
No_standards	−0.000 (0.000)	0.000 (0.001)	−0.000 (0.001)	0.000 (0.001)	0.001 (0.001)	0.000** (0.000)	0.000 (0.001)	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)
No_countries	0.002** (0.001)	0.002* (0.001)	0.002** (0.001)	0.002*** (0.001)	0.003** (0.001)	0.002** (0.001)	0.001 (0.001)	0.002** (0.001)	0.001 (0.001)	0.003** (0.001)
Multi_sector	0.041 (0.051)	0.017 (0.061)	−0.013 (0.056)	−0.005 (0.043)	0.058 (0.079)	0.008 (0.063)	−0.077 (0.052)	−0.070 (0.068)	0.047 (0.054)	0.144** (0.068)
Multi_attribute	0.037 (0.042)	0.090* (0.050)	0.079 (0.049)	0.031 (0.041)	0.092 (0.065)	0.048 (0.055)	0.035 (0.045)	0.046 (0.055)	−0.235*** (0.049)	0.057 (0.061)
GDP_capita	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Constant	1.020 (6.032)	−1.317 (6.950)	−11.84* (6.728)	−5.766 (5.701)	−20.02* (9.221)	−18.90* (7.930)	−4.98 (6.627)	−0.752 (7.962)	−4.53 (7.534)	5.01 (8.583)
R-Square	0.401	0.234	0.171	0.349	0.298	0.313	0.187	0.348	0.316	0.280
N	123	123	123	123	123	123	123	123	123	123

***P < 0.01, **P < 0.05, *P < 0.1; robust HC3 standard errors in parentheses. CME, coordinated market economy; DV, dependant variable; ELO, eco-labeling organization; GDP, gross domestic product; IBP, index of best practice; NGO, non-governmental organization.

Consistent with H4, ELOs that were founded or funded by an existing ENGO (variable: *NGO_origin*) are positively and significantly associated with best practice compliance across all models. The size of this effect is comparatively large, roughly comparable to that of the "private" variable (Table 5, 4b). This result suggests that ELOs with deep and persistent ties to existing ENGOs (i.e. World Wildlife Fund) are more compliant with best practice than those without significant ties to NGOs (freestanding organizations). The disaggregated IBP suggests that ENGO-led ELOs are particularly adept at practices related to sustainability, rigor, engagement, impartiality, and accessibility (Table 6). These include setting clear and measurable environmental objectives, using robust compliance procedures, engaging stakeholders, maintaining independence, and making standards inclusive and accessible.

Contra H5 and H6, there is no evidence that where an ELO is headquartered holds any relationship to best practice compliance. Neither an ELO's location in a CME country (variable: *CME*) nor an ELO's proximity to other ELOs (variable: *ELO_density*) are significantly related to IBP score.[11] These results cast doubt on hypotheses that see domestic institutional supports or regional innovation clusters playing a role in driving up compliance with best practices. The disaggregated IBP shows a positive and significant relationship between ELOs headquartered in CME countries and practices related to accessibility (Table 6). ELOs in these countries may benefit from government resources directed at making eco-labeling standards more inclusive to small firms and marginalized stakeholders.

Finally, I find no evidence to support H7, which suggests that ELOs competing in the same sector as other ELOs (variable: *comp_standards*) will be less likely to comply with best practices. The relationship is negative but not statistically significant in any of the models in Table 5. It is only weakly significant in the "relevance" category of the disaggregated IBP (Table 6). In plain terms, competition with other ELOs appears to hold no general relationship to any aspect of best practice compliance.

Among control variables, there is a positive and significant relationship between ELOs that exclusively make food/fisheries-related standards (variable: *food_related*) and the IBP (Table 5, models 1–3); however, the relationship diminishes in strength and significance as more variables are added to the model (Table 5, model 4). Additionally, the size of the effect is smaller than most other significant variables. There is also a very strong and positive relationship between the number of countries in which products bearing the ELO's most widely used standard can currently be purchased and IBP score (variable: *no_countries*). This relationship is positive and significant across all models (Table 5) and seven of 10 categories of the disaggregated IBP (Table 6). Moreover, the effect size is the largest of all significant variables in the model. In brief, organizational size, capacity, and transnational reach appear to be strongly associated with best practice compliance.

7. Discussion

Three findings in the preceding analysis are particularly surprising. The first concerns the lack of a significant relationship between industry-funded ELOs and best practice compliance. Much past work on this topic offers reasons for deep skepticism about industry-backed eco-labels, yet the evidence presented here does not necessarily support this skepticism. Notwithstanding concerns about a principal-agent relationship between industry associations and the ELOs they support (Mattli & Büthe 2005 p. 405), industry-funded ELOs score no better or worse on measures of independence and impartiality than their non-industry counterparts (Table 6). Nor is there a significant negative relationship to other aspects of best practice where we might expect industry-funded ELOs to shirk their commitments, such as setting clear and measurable objectives, involving balanced groups of stakeholders in standard-setting, and maintaining transparency throughout their operations (Table 6). Indeed, two aspects of best practice compliance that should be the most repellant to industry – ceding control over standard content and risking further public scrutiny – are not supported by the evidence in this study.

However, lest we celebrate the death of industry greenwashing too soon, it is important to note the areas where industry-funded ELOs are underperforming. As Table 6 shows, industry-backed ELOs are negatively associated with practices related to regulatory relevance and rigor. This is disconcerting because best practices in these categories include factors such as involving scientists and experts in standard-setting and employing competent auditors. These are important aspects of credible eco-labeling programs that are often under-scrutinized by the public. Hence, it is possible that industry-funded ELOs may have found a way to comply with some aspects of best practice and still produce eco-labeling standards that compel minimal behavioral change in certified companies. This is an issue requiring further research and one that I address in the conclusion.

The second surprising finding concerns the lack of a relationship between competition and best practice compliance. My results suggest that competition does not generally lead ELOs to disregard good operating principles as they compete for finite market-share (Mayer & Gereffi 2010 p. 14), nor does it inspire more attention to regulatory rigor through public comparison and benchmarking (Overdevest 2010). Indeed, a more detailed sector-by-sector analysis yields contradictory results. High numbers of competing ELOs inspired better than average IBP scores in some sectors (commodities, fish/fisheries), and lower than average scores in others (tourism, sustainable buildings) (Table 4). In other sectors, such as the highly competitive realm of organic food certification, IBP scores remain densely clustered around the mean value for the entire study. In sum, outside of a specific sectoral context, competition is an unreliable predictor of best practice compliance.

A few caveats must be applied to the competition finding. First, the coding of the competition variable may influence the results. The variable does not capture competition between social and environmental standard-setters (i.e. Fairtrade) or competition between generic multi-sector ELOs (i.e. the Blue Angel) and sector-specific organizations (i.e. FSC). Thus, it may under-estimate the level of competition in some sectors. Second, decisions on how sectors are defined may influence the result. An ELO's sector is coded according to the end product to which its most widely used standard (by number of entities certified) is applied. The distinction between whether that end product is a commodity or a food product, for example, can be blurry.[12] Finally, the result must be interpreted within the limits of cross-sectional data. Given that IBP score and competition within a sector are measured at a single point in time, the data cannot account for changes to an ELO's sectoral focus over time and cannot capture how compliance with best practice has changed with the addition of new competitors. These caveats notwithstanding, the lack of a discernible relationship between competition and best practice compliance at a given moment in time should give us pause to consider the generalizability of theories about the effects of competition on voluntary governance systems.

The third surprise finding concerns the conflicting meaning of my results for broader theories of private governance. The regression results clearly indicate a negative and sizeable relationship between privately owned ELOs and IBP score. However, the downward pressure of "privateness" does not apply evenly across ELOs. Indeed, ELOs that are ENGO-sponsored, nonprofits, or have broad transnational presence demonstrates the reverse effect on best practice compliance. Hence, my findings suggest that generalizations about "private" governance must be used cautiously, particularly in the realm of eco-labeling. Importantly, one should not conflate the credibility of a large, ENGO-sponsored private ELO like the FSC with that of a small, for-profit, regional organization.

8. Conclusion

Eco-labeling is representative of a broader category of rule-setting transnational governance that increasingly occurs outside the parameters of the international state system. Previous research on this topic has sought to build theories about the conditions for rigorous and credible eco-labeling through focused analysis of particular sectors or a small subset of sectors. Yet to date, few scholars have probed the validity of their hypotheses in a more generalized cross-sectoral context. This article attempts such a task by creating a new means of comparing ELOs across sectors (the IBP) and by testing the generalizability of existing hypotheses against a unique dataset comprising the full population of transnational ELOs in 2013. To this end, a number of important findings have emerged. Several hypotheses that hold considerable intuitive appeal, particularly those suggesting that industry-funded governance schemes are uniformly less rigorous than their non-industry-funded counterparts, found little statistical support. Similarly, theories that see competition as associated with either more or less attention to best practice compliance were not supported by the evidence presented here. Conversely, compelling evidence was found to suggest that ELOs with ENGO partners, nonprofit business structures, and broad transnational reach are more likely to create and maintain rigorous and credible eco-labeling standards than ELOs without these attributes.

These findings inform ongoing debates about the promise and peril of private authority in global governance. In general, my findings urge a cautious approach to assessing the merit of private transnational governance activities. As the case of eco-labeling shows, credible governance arrangements can come from a variety of sources, including those outside the state system. However, not all private governance initiatives are created equal. Certain conditions are clearly more conducive to increased regulatory rigor. Hence, my findings suggest that the principal question underlying debates on private authority in international relations should be re-framed from "can governance

outside the modern state-system work?" to "*under what conditions* can governance outside the modern state system work?"

In relation to eco-labeling specifically, further research is needed on how best practices are constructed and how they connect to eco-labeling standard content. Best practice guidelines are necessarily designed to target high-level operational principles and, thus, risk missing the small differences that may separate meaningful eco-labels from hollow ones. Indeed, it would be erroneous to conflate best practice compliance with on-the-ground environmental impact. Future scholarship in this field should ascertain whether best practices lend credence to superficial regulatory efforts or whether their meta-governance approach actually leads to more stringent standards. A closer examination of the relationship between best practice compliance and standard content may also lead to a clearer idea of what best practice overlooks, either intentionally or unintentionally.

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Notes

1 Others conceptualize eco-labeling as "transnational business governance" (Eberlein *et al.* 2014), "non-state market-driven (NSMD) governance" (Cashore 2002) or "transnational new governance" (Abbott & Snidal 2010). I use the broader term "rule-setting transnational governance" to capture the continued importance of state-led organizations in transnational eco-labeling, a trait that is de-emphasized in other conceptualizations.

2 Notable exceptions include: Abbott 2012; Bulkeley *et al.* 2012; Büthe & Mattli 2013; Green 2013a,b; Fransen & Burgoon 2014; Hale & Roger 2014.

3 See also Eberlein *et al.* (2014) on this subject, in the special issue of *Regulation and Governance*.

4 Two exceptions are Dingwerth and Pattberg (2009) and Gulbrandsen (2010).

5 These include: the ISEAL Alliance Codes of Good Practice and Credibility Principles (ISEAL Alliance 2010a,b, 2012, 2013), the ISO 14020 and 14024 standards (International Organization for Standardization 1999, 2000), Annex 3 to the Agreement on Technical Barriers to Trade (World Trade Organization 1994), the AA1000 Assurance Standard (AccountAbility 2008) and the UN FAO Guidelines for the Ecolabelling of Fish and Fishery Products (Washington & Ababouch 2011). I focus my attention on best practice guidelines specific to social and environmental standard-setters.

6 This same rationale guards against endogeneity in this study. No single ELO dictates what constitutes best practice; hence, the IBP remains sufficiently unbiased to serve as this study's dependent variable.

7 CMEs include: Germany, Japan, Switzerland, the Netherlands, Belgium, Sweden, and Norway. LMEs include: US, Britain, Australia, Canada, New Zealand, and Ireland (Hall & Soskice 2001, p. 20).

8 Accessible at http://www.ecolabelindex.com/.

9 Cases where a best practice does not apply are coded differently than instances of non-compliance. In calculating IBP score, I look at the proportion of relevant best practices that an ELO complies with. Hence, while some ELOs will have compliance score out of 38, others will have a score out of 34.

10 Controlling for the year an ELO began eco-labeling also provides a check on endogeneity between the independent and dependent variables. It is possible that late-emerging ELOs adopted certain organizational features captured in the independent variables (i.e. nonprofit structures) in order to better comply with best practices. If this reverse causal direction were true, one would expect to see a positive relationship between the year an ELO launched its first standard and IBP score. The lack of a relationship between these two variables suggests that the hypothesized causal direction is correct.

11 I acknowledge the potential for measurement error as a result of the fact a minority of ELOs may have relocated headquarters over time. However these cases are not numerous enough to influence the outcome of the regression.

12 In this case, commodities are defined as raw products that are tradable on a large scale (i.e. sugar, soy), whereas food products are those that are non-tradable (i.e. tomatoes).

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Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Appendix S1 Transnational eco-labeling organization dataset codebook.

Appendix S2 EcolabelData V35.dta.

