How Relevant are Input and Output Legitimacy in International Environmental Governance?

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Abstract: Conventional wisdom holds that public support for international governance is important, and that it is a function of input and output legitimacy. Input legitimacy pertains to how policies are established and implemented. Output legitimacy pertains to how effective, costly, and advantageous governance output is. Conceptual and theoretical work abound, we know rather little about how much, empirically, each facet of legitimacy matters for public support, and whether one form of legitimacy can substitute for the other. Based on three experiments administered to representative samples of citizens from Germany and the United Kingdom (N=3000 each), and with an empirical focus on long-range transboundary air pollution in Europe, we address three questions: (1) To what extent do process (input) and output quality matter individually for public support of international governance efforts? (2) Does high process quality make citizens more supportive of output that is ineffective and disadvantageous, and vice versa? (3) Does the prospect of effective and advantageous output reduce public demand for high process quality, and vice versa? The results show that both facets of legitimacy matter, but that output legitimacy matters more than input legitimacy. While process preferences are hardly affected by the prospect of "good" or "bad" governance output, citizens are less tolerant of ineffective and unfavorable output when process quality is low. Overall, our results suggest that, from the viewpoint of policy-makers and democratic legitimacy, enhancing process quality is worthwhile, notably in the sense of greater transparency, civil society involvement, and involvement of (democratically elected) national parliaments.

Keywords: legitimacy, process, outcome, transparency, civil society, parliament, air pollution, international environmental governance, experiment, survey, public opinion

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1. Introduction

When citizens think about how well their country is governed they usually evaluate the input and output dimension of their country's political system (Scharpf 1997; Dellmuth and Tallberg 2015; Schmidt 2013; Steffek 2003, 2015; Weatherford 1992; Zaum 2013; Zürn 2000, 2004). The input dimension relates to the governance process, that is, how political decisions are taken, and how policies are enacted and implemented. The output dimension relates to whether the system produces effective solutions to societal problems, and what the cost and distributional implications of solutions are. While conventional wisdom holds that both dimensions matter and conceptual and theoretical studies on this issue are plentiful, empirical research is lagging behind. That is, we know rather little about the extent to which each dimension of legitimacy matters individually, and the extent to which one could substitute for the other.

Empirical insights into this issue are important not only academically, but are also relevant to the "real world" of politics. For instance, as policy-makers are struggling to find effective solutions to many societal problems, e.g., environmental degradation, social inequality, unemployment, or immigration, it is important to know whether enhancing input (process) quality could help in ascertaining or maintaining public support even in situations where political systems are, due to the complexity of challenges, very slow in coming up with effective solutions.

Existing empirical research on the input and output legitimacy issue from a public opinion perspective has focused primarily on domestic politics and on the European Union. One prominent example is the "stealth democracy" debate, in which Hibbing and Theiss-Morse (2001, 2002) have argued that citizens tend to care more about the results of politics than about process quality, as long as they are content with the outputs of the political system. Research on European integration has shown that public support for the EU is shaped both by procedural considerations and by output performance (e.g., Hooghe and Marks 2003, 2005; Rohrschneider 2002; Boomgarden et al. 2011; Banchoff and Smith 1999; Anderson and Reichert 1995; McLaren 2002).

We take this debate to the international level and examine how relevant input and output legitimacy considerations are to public support for international governance efforts, and whether one facet of legitimacy could substitute for the other. Filling this gap in our knowledge is important particularly because there is a widespread presumption that shifting authority to policy-making fora beyond the nation state may result in declining legitimacy (public support) and thus an authority-legitimacy gap (e.g., Hooghe and Marks 2015; Reus-Smit 2007; Stevenson and Dryzek 2014; Avant et al. 2010; Brassett and Tsingou 2011; Buchanan and Keohane 2006; Dellmuth and Tallberg 2015; Gronau and Schmidtke 2015; Hurd 1999; Johnson 2011; Lenz et al. 2015; Rohrschneider 2002). Many studies focus, from a conceptual and theoretical viewpoint, on questions of input (process) legitimacy in international and global governance (e.g., Bodansky 2013; Lavenex 2013; Papadopoulos 2010; Doherty and Wolak 2012; Archibugi et al. 2012; Scholte 2007; Clark 2005; Keohane and Nye 2003; Falk and Strauss 2001; Claude 1966).

However, there is virtually no empirical work that has addressed the following questions systematically and in a methodologically rigorous manner. First, to what extent do input (process) and output quality matter individually for public support of international governance efforts? Second, does high process quality make citizens more supportive of

output that is ineffective and disadvantageous? Conversely, does low process quality make citizens less supportive of output that is ineffective and disadvantageous. Third, does the prospect of effective and advantageous output reduce public demand for high process quality, and vice versa? Conversely, does the prospect of ineffective and disadvantageous output increase public demand for higher process quality?

The research presented in this paper relies on an experimental study design, with three distinct experiments administered to nationally representative samples of citizens from Germany and the United Kingdom (N=3000 each). The three experiments are designed to respond to the three questions on input and output legitimacy raised above, and to test hypotheses that derive from these questions. The advantage of using an experimental design in our context is that it also allows for analysis of "what if" conditions, that is, input and output characteristics that currently do not exist. Another advantage is that the experimental design is superior to correlational analysis when it comes to testing of causal hypotheses.

The empirical focus is on air pollution in Europe. The reason for focusing on a specific policy challenge in our experiments, rather than on some abstract, non-issue-specific international governance scenario, is that we wanted to make the experiments intuitive and tangible for participants. This is clearly the case with air pollution, which is an issue that poses obvious international governance challenges, notably because pollution travels across national boundaries. For instance, a recent study[1] on the subject came to the conclusion that within the European Union coal-fired power plants caused more than 20,000 premature deaths in 2013. For comparison, the study notes that 26,000 people died in road traffic in the EU the same year. The overall health costs due to coal burning in the EU are estimated at 32.4 - 62.3 billion Euros.

The experiments were carried out in Germany and the United Kingdom because these two countries are among the largest emitters of air pollutants in Europe, and because they pollute each other and are thus engaged in the same clean air governance effort. In 2013, German coal-fired power plants were, according to the aforementioned study, responsible for an estimated 2,490 premature deaths abroad (230 in the UK) and UK coal-fired power-plants were responsible for an estimated 1,350 premature deaths abroad (320 in Germany). Moreover, we opted for Germany and the United Kingdom also because the two countries have different political systems and different histories of EU membership. This allows us to explore whether our empirical findings are relevant to different political and economic contexts.

The results show that both input and output quality matter, though output quality matters more. Process preferences are hardly affected by the quality of prospective output, but citizens are less accepting of ineffective and unfavorable output when process quality is low. These findings suggest that enhancing process quality, and thus input legitimacy, is worthwhile, notably because it encourages and enables policy-makers to try and find solutions to problems that require costly and long-term policies and involve substantial risks of policy failure.

[1] "Europe's Dark Cloud: How Coal-Burning Countries Are Making Their Neighbors Sick" 2016, http://wwf.fi/mediabank/8633.pdf.

The following section discusses the main theoretical concepts, such as input and output characteristics of international governance and its legitimacy, and outlines the hypotheses to be tested. The next section describes the empirical study design, particularly the design of the three experiments. We then present the empirical findings and end with a discussion of these, as well as options for further research and policy implications.

2. Arguments

Policy-making has internationalized quite dramatically over the past few decades. That is, many policy choices that used to be made entirely within the institutions of the sovereign territorial state are now being made in fora that include representatives from several or many countries (e.g, Zürn 2000; Kriesi et al. 2013). As governance efforts have proliferated beyond the state debates over procedural and outcome-related aspects of such governance efforts have emerged (e.g., Keohane and Nye 2003; Archibugi et al. 2012; Bernstein 2011; Bodansky 2013; Hurd 1999). While some debates are focusing primarily on outputs of policy-making, others center on processes (or inputs) of decision-making and policy implementation. One example is the current debate over the Transatlantic Trade and Investment Partnership (TTIP), where critics dispute both the effects on economic growth, employment, and environmental and consumer protection, and the implications of dispute settlement provisions for national control over important economic processes.[2]

The example of TTIP, and many others, show that public support for international governance efforts is essential not only in terms of democratic quality and stability of political systems overall, but also in terms of the viability of policies in specific areas. How, in turn, citizens evaluate international governance efforts, and how in the aggregate public support or opposition develops, appears to be a function of how citizens evaluate the procedural and outcome characteristics of governance efforts (e.g., Dellmuth and Tallberg 2015; Doherty and Wolak 2012; Hibbing and Theiss-Morse 2002; Hooghe and Marks 2005; Banchoff and Smith 1999; Boomgarden et al. 2011).

The existing literature on legitimacy of (or public support for) international governance has focused primarily on procedural aspects. It offers many innovative conceptual and theoretical insights into problems of transparency, participation, and accountability in international governance and also provides ideas on how limitations or deficiencies could be addressed. However, in view of the large literature on process and outcome fairness in allocating scarce resources (e.g., Doherty and Wolak 2012; De Fine Licht et al. 2014; Esaiasson et al. 2012; Tyler et al. 1997) and the vibrant but still unresolved debate over input and output legitimacy in domestic politics (e.g. Hibbing and Theiss-Morse 2002) it is somewhat surprising that the existing literature on international governance offers only few systematic empirical insights into the relevance of input and output legitimacy in that realm. Specifically, it does not offer systematic empirical evidence on the extent to which input and output legitimacy are, individually and in relative terms, relevant to public support for international governance. Nor does it tell us

[2] E.g., https://www.theguardian.com/business/2015/jul/03/what-is-ttip-controversial-trade-deal-explained.

whether increased input legitimacy could offset deficiencies in output legitimacy, and vice versa.

The hypotheses to be tested in our experiments derive from the three questions raised above. Empirically, we will consider three procedural (input) and three outcome elements that, in the existing literature on domestic and international governance, are regarded as affecting legitimacy. We briefly discuss each of these before outlining the hypotheses to be tested.

With respect to input legitimacy, we focus on transparency of decision-making processes, involvement of civil society, and approval by (democratically elected) national legislatures. Transparency is widely regarded as a factor that tends to increase confidence of citizens in policy-making processes, political institutions, and their outputs, particularly because it supports accountability (e.g., Keohane and Nye 2003; Archibugi et al. 2012; De Fine Licht et al. 2014; Grigorescu 2007; Held and Koenig-Archibugi 2005).

Civil society involvement is regarded by many scholars as an essential means of ascertaining the representation of otherwise underrepresented interests in society, increasing transparency and accountability, and enhancing problem solving capacity by adding know-how that is relevant to problem-solving (Dellmuth and Tallberg 2015; Lidskog and Elander 2010; Scholte 2007, 2011; Archibugi et al. 2012; Bernstein 2011; Buntaine 2015; Grigorescu 2007, 2015; MacDonald 2012; O'Brian et al. 2000; Tallberg et al. 2013, 2014). Recent research in fact shows that involving civil society groups tends to enhance public support for global governance, both in democratic and non-democratic systems (Bernauer and Gampfer 2013; Bernauer et al. 2016).

We are also interested in the implications of decision-rules. The traditional principle of state consent holds that no country can be bound to international governance arrangements unless it accepts those. Treaty ratification requirements are the most prominent expression of this principle. Since this principle increases the transactions costs of international governance and tends to result in lowest common denominator solutions, which may be at odds with output legitimacy (see below), majority decision-making in international governance and reduced domestic implementation hurdles (weaker or no ratification requirements) have been suggested (e.g., Bodansky 2013). However, whereas majority decision-making is standard in domestic law-making, the implications of "more efficient" decision-modes in international governance remain subject to debate. Empirically, we will focus on two decision-modes that represent the opposing ends of the debate: the traditional principle of state consent (domestic ratification required before an international agreement can be implemented domestically), and automatic implementation of an international agreement without the need for prior domestic ratification if the majority of countries negotiating an agreement decide to adopt the agreement. We tend to side with those scholars who argue that shifting decision-making authority along these lines may undermine legitimacy because it tends to take authority away from democratically elected national legislatures (e.g., Dahl 1999; Blondel et al. 1998; Hooghe and Marks 2005; Lidskog and Elander 2010; Archibugi et al. 2012; Banchoff and Smith 1999; Beetham 1991; Esaiasson et al. 2012; Hurd 1999; Johnson 2011; Paterson 2010; Reus-Smit 2007). Presuming that it is difficult to substitute the legitimating effect of national legislatures with some kind of international legislature (e.g., Falk and Strauss 2001; Blondel et al. 1998; Boomgarden et al. 2011; Rohrschneider 2002; Schmidt 2013) we hypothesize that the principle of state consent tends to enhance input legitimacy.

With respect to output legitimacy, we concentrate on three characteristics of output from international governance that are widely regarded as affecting legitimacy: problem solving effectiveness, costs, and relative benefits. International governance efforts that are expected to, or do in fact, solve problems more effectively are likely to enjoy greater public support, all else equal (Scharpf 1999; Dellmuth and Tallberg 2015; Doherty and Wolak 2012; Hibbing and Theiss-Morse 2002). Costs of governance efforts are likely to play a role as well, with perceived legitimacy (public support) declining with increasing costs (McLaren 2002; Anderson and Reichert 1995; Boomgarden et al. 2011; Schmidt 2013; Steffek 2015; Tyler 1990). Moreover, relative benefits are likely to affect perceived legitimacy. As noted in the International Relations literature on relative gains, governments are likely to pay attention not only to absolute, but also to relative benefits, that is, how much their respective country would benefit from a cooperative effort, relative to other countries (e.g., Powell 1991; Grieco and Snidal 1993). The presumption is that governments and their citizens are more likely to accept cooperative arrangements producing more evenly distributed benefits and reject arrangements that would result in lower benefits to themselves, relative to other states. Similarly, many studies on distributional fairness, social justice, and common pool resources (e.g. Talyor et al. 1997; Ostrom 1990; Brahms 2008) note that support and legitimacy are positively affected by even distribution of benefits.

Based on these priors, we can formulate hypotheses on how input (process) and output characteristics of international governance are likely to affect public support, and how input and output relate to one another in affecting public support.

The first hypothesis focuses on the relevance of input (process) and output considerations in an absolute sense. That is, we are interested in the extent to which input (process) and output characteristics of international governance, as discussed above, are relevant to citizens' evaluations of the governance effort as a whole. Whether one or the other matters more remains open, both in research on domestic politics and research on international governance. As noted above, whereas the conventional wisdom holds that both matter, the "stealth" democracy argument suggests that output may matter more than input.

H1: Input and output considerations matter when citizens evaluate international governance efforts.

Whereas the first hypothesis centers on whether input and output are relevant independently of each other, we are also interested in whether they are related, in the sense of one making up for deficiencies in the other, or one amplifying the other. We do not know of any empirical research on international governance that has systematically examined this question. Research on procedural fairness shows that in costly allocation situations people tend to be more accepting of disadvantageous output if they regard the allocation procedure as fair. It is unclear, however, whether this finding can be translated to international governance contexts. Neither is procedural fairness equivalent to input legitimacy, nor are we dealing with allocation decisions that have very obvious and direct effects for individual citizens. However, translation of such arguments to international governance is quite intuitive and can be approached from two perspectives.

First, reminiscent of the "stealth democracy" argument, one can hypothesize that when citizens expect a governance effort to produce positive outputs (i.e., outputs that are effective, low cost, and distributionally advantageous), they are less likely to demand im-

provements in process quality (as proxied by the three characteristics discussed above). Conversely, when citizens expect governance to perform poorly in output terms, we expect greater demand for improvements in process quality.

H2.1: The prospect of positive governance output reduces demand for improvements in process (input) quality.

H2.2: The prospect of negative governance output increases demand for improvements in process (input) quality.

Second, somewhat reminiscent of arguments on procedural and outcome fairness in allocation decisions, one may expect that high process (input) quality is likely to make citizens more accepting of negative output. Conversely, low process (input) quality is likely to make citizens less accepting of negative governance output.

H3.1: High process (input) quality is likely to make citizens more accepting of negative governance output.

H3.2: Low process (input) quality is likely to make citizens less accepting of negative governance output.

3. Empirical Design

In this section we describe the sampling strategy, the survey design, and the three experiments that were used to evaluate the hypotheses stated above.

3.1 Sampling

The three experiments were embedded in population-based online surveys. The surveys as such were identical except the experimental part, which consisted of experiment 1, 2, or 3. Each experiment as administered to two representative samples, one drawn from the German and another from the UK adult population. That is, we carried out three surveys per country, each of which included one of the three experiments.

The sampling, matching, and data collection was carried out by YouGov (https://today.yougov.com/about/about/). In April 2016, YouGov interviewed a total of 3,699 respondents from the UK and a total of 3,617 respondents from Germany. For each of the two countries, these respondents were matched down to 3,000 for three surveys (each including one of the experiments) carried out in each country. The survey including experiment 1 was administered to 600 participants, and the two other surveys including experiment 2 and 3 respectively, each of which included three treatment groups of 400 respondents, was administered to 1,200 participants each per country. This means that each person participated in one experiment only. The smaller sample for experiment 1 is due to the fact that the design of this experiment (a conjoint choice experiment) generates 6000 observations (10 per participant, see below).

For each of the seven different groups per country (one group in experiment 1, three groups in experiment 2, and three groups in experiment 3), the sample was matched to a sampling frame on gender, age, education, and geographical area (England, Scotland, Wales, and Northern Ireland for the UK data, and East-West for Germany). The two sampling frames, one for the UK and one for Germany, were constructed by stratified

sampling from the two national full 2014 Eurobarometer 82.4 samples, with selection within strata by weighted sampling with replacement (using the person weights on the file). The matched cases were weighted to the sampling frame using propensity scores. The matched cases and the frame were combined and a logistic regression was estimated for inclusion in the frame. The propensity score function included age, gender, education, and geography. The propensity scores were grouped into deciles of the estimated propensity score in the frame and post-stratified according to these deciles.

3.2 Survey Design

Each survey consisted of three consecutive parts: first, several demographic and political items required by YouGov for matching and block randomization; second, one of the three experiments; and, third, other items covering political attitudes and demographic background.[3]

The survey started with an informed consent page and then asked for information on gender, age, education level, political ideology, and area and characteristics of residence.

The second part, which included experiment 1, 2, or 3, started with a description of the international governance scenario. It described the problem of air pollution in Europe, including a definition of air pollution, estimates of annual costs for European countries resulting from air pollution, negative effects of air pollution on public health in Europe, and identification of Germany, the UK, Poland, France, and Italy as being responsible for the largest share of air pollution in Europe. Participants were then asked to complete the experimental part of the survey. That is, they were exposed to randomly assigned treatment conditions and were then asked to provide responses to items that serve to measure the dependent variables. Table 1 indicates the principle features of the three experiments. For details of each experiment, see further below.

Table 1: Basic design of the three experiments

Experiment No.	Treatment conditions	Response variables (dependent variables)	Sample size
1	Various input and output characteristics randomly allocated in conjoint choice experiment	Overall support for the governance effort	600 (6000 observations because of multiple choice tasks)
2	Randomly allocated information on (priming for) effective/favorable or ineffective/unfavorable governance output	Support for various governance process features	1200

3 The six survey instruments (three per country) are available from the authors on request.

3	Randomly allocated information on (priming for) high or low governance process quality	Support for effective/favorable or ineffective/unfavorable governance output	1200

The third part of the survey included a series of items measuring so-called stealth and sunshine democracy attitudes (Hibbing and Theiss-Morse 2002; Neblo et al. 2010), conflict aversion (Mutz 2006), attitudes towards civil society and the environment, trust in government, satisfaction with democracy, attitudes concerning the EU, individual political efficacy, perceived local and national air quality, political party affiliation, education level, household size, and income.

3.3 Experiment 1: Conjoint Choice Experiment

Experiment 1, which serves to evaluate hypotheses 1, is a conjoint choice experiment that captures the salience of process and outcome features of international governance efforts (in our case with respect to reducing transboundary air pollution) when citizens form overall preferences regarding such efforts. Specifically, we confronted participants with pairs of proposals for a European agreement against air pollution and asked them to tell us which proposal(s) they prefer. The proposals differed with respect to the agreement's expected outcome as well as negotiation and implementation procedures. This experimental design enables us to understand what types of outcome and process characteristics are more salient from the viewpoint of citizens when they develop their overall preferences vis-à-vis international governance efforts.

Conjoint experiments are particularly useful for analyzing simultaneous causal effects of various facets in a complex decision situation, such as determinants of consumer choices (Green, Krieger, and Wind 2001), agreement and participating country characteristics that make trade agreements and particular trade partner countries more popular (Spilker, Bernauer, and Umaña 2016), individual traits rendering a person more likely to be welcomed as an immigrant (Hainmueller and Hopkins 2015), or, in our case, the combinations of procedural qualities and expected output of international environmental policies that increase or decrease citizens' policy support.

At the beginning of our conjoint experiment, we provided basic information on air pollution in Europe[4] and continued with instructions for completing the conjoint experi-

4 The text of this introductory part was: "Air pollution caused by emissions from industry, cars, trucks, airplanes, electric power generation, and households has major implications for public health and the environment in the United Kingdom, Europe, and elsewhere. Air pollutants include particulate matter, ground level ozone, ammonia, nitrogen oxides, sulphur dioxide, and other substances. A recent report by the European Environmental Agency concludes that such air pollution costs Europe more than 160 billion GBP (or around 200 billion euros) each year, which is equivalent to the entire economic output of Finland in a year. Bad air quality is also responsible for more than 450,000 premature deaths each year in Europe. Germany, the United Kingdom, Poland, France, and Italy are responsible for the largest part of these emissions and

ment[5]. The key part of the experiment consists of tables that show features of international agreements against air pollution, including input (process) and outcome features. These are shown in Table 2. As can be seen in the table, we operationalized input and output characteristics with three different features each, as discussed above. Following the conceptual and theoretical literature on how international governance could be "democratized", our empirical representations of input characteristics focus on transparency, involvement of civil society, and endorsement by democratically elected domestic policy makers. Each of these three process characteristics is widely presumed to have a (input) legitimating effect. Output characteristics are empirically represented along three lines that are straightforward: effectiveness in reducing air pollution, costs of implementing the agreement, and benefits of the participant's country relative to other countries.

After familiarizing herself/himself with the six features (attributes), each respondent was asked to compare pairs of two proposals, with each participant completing this task five times. The values (expressions) on each attribute were inserted randomly into the tables. To avoid ordering effects, the order of the attributes was randomly assigned for each participant, but was then held constant per participant for all five choice tasks to limited cognitive demands on participants. Table 3 provides an example.

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the resulting damage. Importantly, this air pollution does not stop at national borders. To the contrary, air pollution caused by emissions at one point, for instance somewhere in the United Kingdom, can travel hundreds and sometimes thousands of miles and affect people and the environment elsewhere. This means that pollution created in the United Kingdom affects people and the environment in other countries, and the other way around. For these reasons, European countries, including the UK, are planning to negotiate a new comprehensive agreement to reduce air pollution. This agreement will prescribe how much each country must reduce its emissions. European countries are also debating how to organize the negotiations of this agreement."

5 The relevant text was: "Please look at the following table very carefully. It shows particular features of the negotiation process that are being considered and different consequences the international agreement against air pollution could have for the United Kingdom and other European countries. We will now ask you to compare particular features of the negotiation process that are being considered and consequences the agreement against air pollution may have for the United Kingdom. You will see two possibilities side-by-side. Their features differ, and you will be asked to tell us whether you support or oppose them. Please read carefully. Some sets of procedural features and consequences may look similar but could still differ in one or more important aspects. You will be asked to compare the two possibilities and tell us which one you think the UK government should accept."

Table 2: Conjoint attributes and possible attribute values, worded for the UK. Respondents saw this overview table before engaging in the experiment and were allowed to refer back to the table during the experiment.

Attribute	Attribute values (randomly assigned)
The agreement could reduce air pollution in the UK and other European countries by a	• large amount (around 50% compared to today) • medium amount (around 30% compared to today) • small amount (around 10% compared to today) • very small amount (around 2% compared to today)
The costs of implementing the agreement in the UK could be	• very low (additional £5 for the average UK household per month) • low (additional £10 for the average UK household per month) • moderate (additional £30 for the average UK household per month) • high (additional £50 for the average UK household per month) • very high (additional £100 for the average UK household per month)
The benefits for public health and the environment in the UK could be	• at least as big and perhaps even bigger than in other European countries • smaller than in other European countries
Different types of non-governmental groups could be involved alongside government representatives in all aspects of the negotiations:	• environmental groups (e.g. the World Wildlife Fund (WWF), Greenpeace, or Friends of the Earth) • scientists without any conflict of interest (e.g. scientists from leading universities) • business groups (e.g. British Chambers of Commerce, Confederation of British Industry, Association of Electricity Producers) • none
Public information about the negotiations:	• journalists have full access to all parts of the negotiation and can report freely, and all proposals in the negotiations are made public on the internet right away • the negotiations and proposals are kept confidential and journalists do not have access to the negotiations; the public will be informed about the results once the negotiations are concluded
The agreement, once negotiated, will become law and will be fully implemented in the UK	• only if the UK parliament has also approved the agreement • if the majority of negotiating countries, which may or may not include the UK, approves the agreement

After having compared a pair of proposals, respondents were asked to express their preference for one or the other (binary choice task; "Which proposal should the UK/German government accept?") and to rate each proposal on a scale ranging from 1 to 7 ("How much should the UK/German government support or not support proposal 1/2?"). The unit of observation in the resulting dataset is defined by the response variable, which is the response to each proposal. This generates two observations for each choice task (one choice task including comparison of two policy proposals), and a total

of 10 observations per participant because of five choice tasks. For a sample of 600 participants, the number of observations is thus 6000.

We then assess the causal effects of the conjoint attributes (the six input/output characteristics) on overall support or opposition to a proposed governance effort. That is, we regress the binary choice or rating variable on dummy variables for all values but one per conjoint attribute for all conjoint attributes. We interpret the estimated regression coefficients as the causal effects of conjoint attribute values on support for a particular governance effort. These causal effects represent the average of all causal effects of a particular attribute value against a certain baseline value across all possible value combinations for the remaining conjoint attributes. In technical terminology, these are what Hainmueller, Hopkins, and Yamamoto (2014) call "Average marginal component effect" (AMCE), which can be estimated via linear regression.[6] We account for the fact that each respondent evaluated multiple proposals (10 in total) by clustering standard errors by respondent (Hainmueller, Hopkins, and Yamamoto 2014).

Table 3: Example of a conjoint table with two proposals to be compared side-by-side

	Proposal 1	Proposal 2
Agreement reduces air pollution by	large amount (around 50%)	very small amount (around 2%)
Costs of implementing agreement in UK	very low (£5 per household per month)	very high (£100 per household per month)
Benefits for public health and environment in the UK are	at least as big as, perhaps even bigger than benefits in other European countries	smaller than benefits in other European countries
Non-governmental groups involved	environmental groups	none
Public information about the negotiations	journalists have full access, all proposals in negotiations made public on internet	negotiations and proposals kept confidential, journalists do not have access to the negotiations; public informed about results once negotiations are concluded
Agreement, once negotiated, is implemented in the UK	only if UK parliament has also approved the agreement	if majority of negotiating countries has approved the agreement, which may or may not include the UK

Which proposal should the UK government accept? Select a box below to indicate your choice.

Proposal 1	Proposal 2

6 Hainmueller, Hopkins, and Yamamoto (2014) list several conditions that must be met for interpreting linear regression coefficients as AMCE. We show in the appendix that these conditions are met in our case.

On a scale from 1 to 7, how much should the UK government support or not support PROPOSAL 1?

Not support at all 1	2	3	4	5	6	Strongly support 7

On a scale from 1 to 7, how much should the UK government support or not support PROPOSAL 2?

Not support at all 1	2	3	4	5	6	Strongly support 7

3.4: Experiment 2: Effects of Outcome Framing on Preferences for Process

We rely on experiment 2 to evaluate hypothesis 2. Experiment 2 is a framing experiment that serves to study the effects of prospective governance output on demand/support for governance process features that we regard as representing low or high process quality. Within homogeneous blocks defined by gender and age group, participants were randomly assigned to one of two information treatments concerning prospects of either advantageous or disadvantageous output, as defined by costs, effectiveness, and relative benefits, or to a control group receiving no information about the prospective outcome.[7] For the UK sample, the treatment wording is the following (followed by a summary not shown here):

> [*Good outcome treatment*:] Most experts on air pollution believe that these negotiations will produce an effective agreement that reduces air pollution in the United Kingdom and other European countries by a large amount (reduction by around 50%). They also believe that the costs of implementing the agreement in the United Kingdom will be low (£5 per household per month), and that the benefits for public health and the environment in the United Kingdom will be at least as big and perhaps even bigger than the benefits in other European countries.
>
> [*Bad outcome treatment*:] Most experts on air pollution believe that these negotiations will produce an ineffective agreement that reduces air pollution in the United Kingdom and in other European countries only by a small amount (reduction by around 5%). They also believe that the costs of implementing the agreement in the United Kingdom will be high (£100 per household per month), and that benefits for public health and the environment in the United Kingdom will be smaller than the benefits in other European countries.

Participants were then asked to express their preferences concerning seven procedural characteristics of the governance effort, the dependent variables in this experiment: participation of either environmental groups, scientists, or business groups in international negotiations; whether negotiations should be conducted in an open manner or behind closed-doors; and whether approval by the national parliament should be required, or whether a decision by the majority of the negotiating countries should automatically

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7 For experiments 2 and 3, we asked YouGov to allocate each participant to one out of six subgroups defined by age (18–34, 35–54, and 55 or older) and gender, before randomly assigning participants within these homogeneous blocks to eligible treatments or the control group. YouGov refers to this procedure as block randomization. It very closely mimics block random assignment, meaning complete randomization within homogeneous blocks and setting hard N limits for each group per block (Gerber and Green 2012, 71), which is not feasible in online survey research where participants are continuously sampled from an internet panel and are invited and, then, decide whether to participate or not.

lead to mandatory implementation (for details on item wording, see Appendix). For instance, the item on involvement of environmental groups reads as follows:

> Countries involved in negotiating the international agreement to reduce air pollution in Europe are also dealing with how to organize the negotiations and how the resulting agreement should be implemented. We are interested in what position you personally think the UK government should take on these issues.
>
> On a scale from 1 to 7, how much should the UK government support or not support the following?
>
> Environmental interest groups (e.g. the World Wildlife Fund (WWF), Greenpeace, or Friends of the Earth) should be allowed to participate alongside government representatives in all aspects of the negotiations.

Once preferences concerning procedural characteristics were measured, we asked participants to rate their expectations with respect to the outcome of the governance effort from a UK/German perspective. Four items were used with the intention of allowing us to check whether the information treatments effectively manipulated participant expectations as intended. We asked whether the participant thought the agreement was likely ... 1) to impose high or low costs on the average household in her/his country; 2) to reduce air pollution by a large or a small amount; 3) to be more or less beneficial for the UK/Germany when compared to other European countries; and 4) to be good or bad for the UK/Germany?[8]

The causal effect of the two treatments (average treatment effect ATE) was examined by means of linear regressions of the outcome on the assigned treatment (Angrist and Pischke 2009). We also report ATEs obtained by the inverse probability weighted (IPW) difference in means estimator (Aronow and Middleton 2013), with p-values derived from randomization tests that fully acknowledge block random assignment (Gerber and Green 2012; Aronow and Samii 2012).

3.4: Experiment 3: Effects of Process Framing on Outcome Evaluations

With experiment 3, again a framing experiment, we evaluate hypothesis 3 and assess whether high or low process quality influences support for governance efforts positive or negative outcome properties. To this end we randomly assigned participants (again within homogeneous blocks defined by gender and age group) to information treatments concerning the negotiation and implementation process, or to a control group receiving no such information. For UK respondents, we used the following treatment text:

> The procedure for negotiating and implementing the international agreement to reduce air pollution will be the following. Please read each point carefully and check its box to indicate that you have read carefully.
>
> [*High process quality treatment*:]

8 The wording of these manipulation check items depended on whether a participant received an information treatment or was allocated to the control group. For those receiving an information treatment, the question was: "From what you just previously read about the consequences of the international agreement, what do you think? Is the agreement likely to…". For those allocated to the control group, the question read: "From what you just previously read about the international agreement, what do you think? Is the agreement likely to…"

Negotiations conducted by government representatives, environmental interest groups, and scientists: Representatives of environmental interest groups (for example, the World Wildlife Fund (WWF), Greenpeace, Friends of the Earth) and scientists without any conflict of interest (e.g. scientists from leading UK universities and research institutions) participate alongside government representatives in all aspects of the negotiations.

Full public information on the negotiations: Journalists have full access to all parts of the negotiation and can report freely, and all proposals in the negotiations are made public on the Internet right away.

Approval by UK parliament required: Once the agreement has been negotiated, it will become law and will be fully implemented in the United Kingdom only if the UK parliament has also approved the agreement.

[*Low process quality treatment*:]

Negotiations conducted exclusively by government representatives: Representatives of environmental interest groups (for example, the World Wildlife Fund (WWF), Greenpeace, Friends of the Earth) and scientists without any conflict of interest (e.g. scientists from leading UK universities and research institutions) will NOT participate in the negotiations.

Negotiations behind closed doors: The negotiations and proposals are kept confidential and journalists do not have access to the negotiations; the public will only be informed about the results once the negotiations are concluded

Approval by UK parliament NOT required: Once the international agreement has been negotiated and has been adopted by the majority of participating countries, it will become law and will be fully implemented in the United Kingdom, even if the UK government and parliament do not endorse the agreement.

The dependent variable in this experiment captures support for (opposition to) two versions of a European agreement against air pollution, one of which has advantageous outcome properties (low costs, high effectiveness, UK/Germany benefits more than other countries), and the other disadvantageous outcome properties (high costs, low effectiveness, UK/Germany benefits less than other countries). The two versions were presented in random order. The main reason for measuring support for two proposals, one with favorable and one with unfavorable outcome properties, was to increase the validity of our measure for support of an unfavorable governance outcome. We think that this approach makes participants more aware of the low outcome quality of the latter.

We also asked participants to rate the procedural aspects of the governance effort on four scales ranging from undemocratic to democratic, from unfair to fair, from bad for the UK to good for the UK, from inappropriate to appropriate, and from being the wrong way to do it to being the right way to do it. These ratings serve as manipulation checks for experiment 3.[9]

The causal effect of our treatment conditions (average treatment effect ATE) was estimated by means of linear regressions of support for the outcome of the governance effort (which could be favorable or unfavorable) on the assigned treatment (Angrist and

9 The wording of these manipulation checks depended on whether a respondent received an information treatment or was allocated to the control group. For those receiving an information treatment, the question was: "From what you just previously read about the process of how the international agreement will be negotiated and implemented, how would you rate this procedure?". For those in the control group, the questions was: "From what you just previously read about the international agreement, how would you rate the procedure of how the agreement will be negotiated and implemented?"

Pischke 2009). We also report standard errors of the ATEs that were derived via randomization tests that fully acknowledge block random assignment.

4. Results

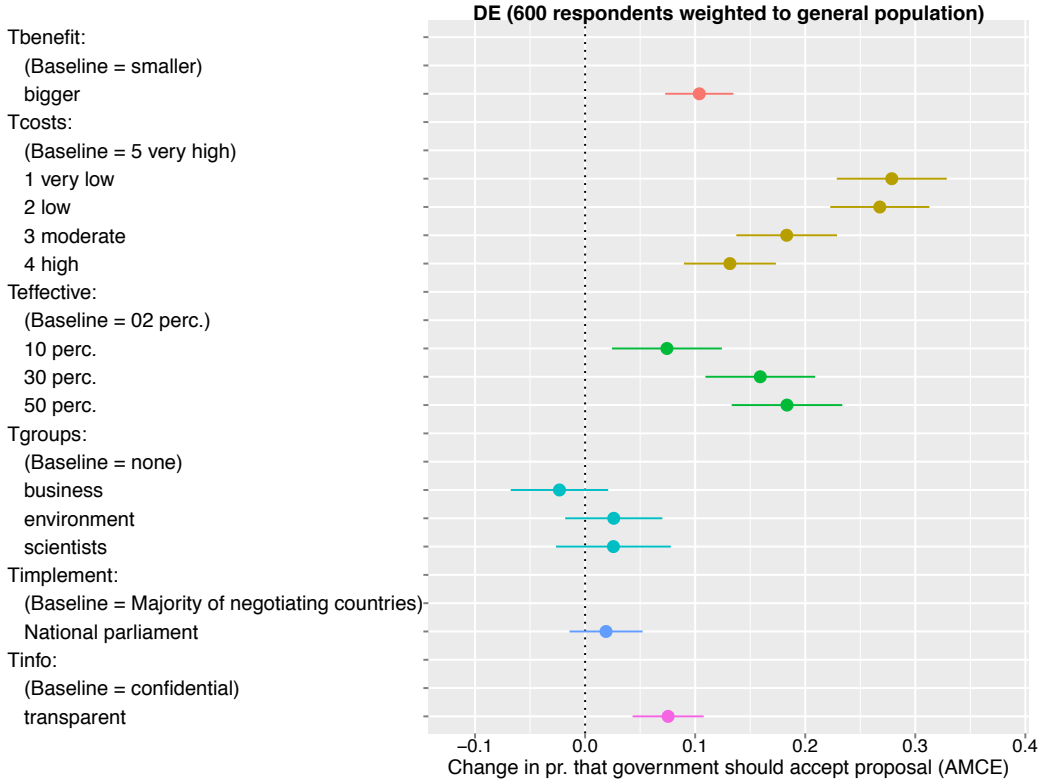
In this section we present the main findings from each experiment, followed by a discussion of limitations, options for further research, and policy implications in the subsequent section.

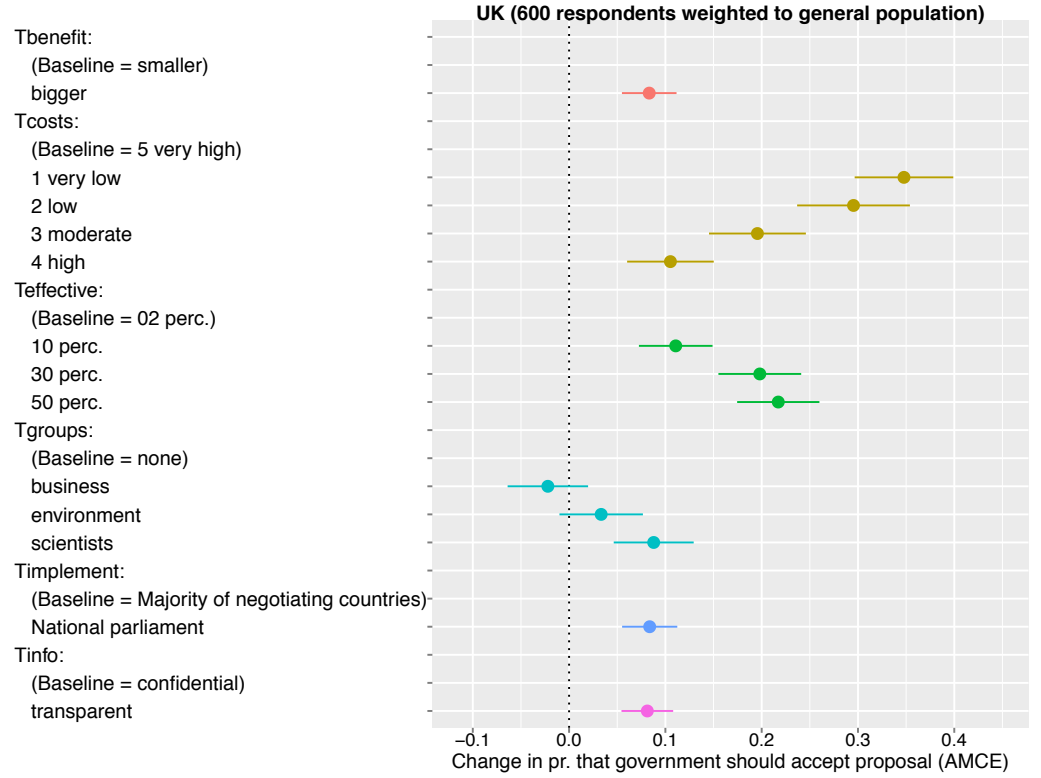
4.1 Relevance of Input and Output Performance

With experiment 1 we examine whether output-related and input-related characteristics of international environmental governance have independent effects on support for (or opposition to) such efforts. Overall, we find that both output and input characteristics matter, but that output-related features are more influential than input-related features.

Figure 1 summarizes the AMCEs that we obtained via regression analyses of data from the two samples (Germany, United Kingdom), applying weights that match the two national samples to the respective frame. The plots visualize regression estimates (AMCE) as dots with their 95% confidence intervals as solid horizontal lines (Hainmueller, Hopkins, and Yamamoto 2014). If, for example, a governance effort is described as being more beneficial for Germany than for other European countries the probability that this governance effort is favored in the binary choice task is about 0.1 larger than the probability that a proposal is chosen that benefits other countries more than Germany.

Figure 1: Results from experiment 1 (Germany (DE) and UK)





Looking at the AMCEs of individual attributes, the effects are, by and large, in line with what we expected. Both input and output characteristics of governance seem to matter. However, output-related governance features appear more influential than input-related features (judging from visual inspection of the effect sizes). While we observe statistically significant results for the output-related governance attributes, we cannot be 95% confident that many of the coefficients for input attributes are different from zero.

Regarding output characteristics, higher relative benefits for the participant's own country, lower costs of the governance effort for the average household, and higher effectiveness in reducing air pollution all increase the probability of a participant favoring such a governance effort. Regarding process characteristics, involvement of business groups has a negative effect, and involvement of environmental groups and scientists has a positive effect. However, based on our data we cannot rule out with the usual certainty that some of these effects are zero (with the exception of the positive effect of including scientists in the UK sample). Approval by the national legislature before implementation, as opposed to automatic implementation, enhances support. However, this effect is statistically significant at the 95% level only for the UK sample. This difference between the two countries seems to be in line with greater public skepticism in the United Kingdom against international governance efforts, above all the EU, relative to Germany, which has a much longer history of EU membership and whose population appears to be more at ease with the EU.[10] Finally, greater transparency of governance efforts increases support, as compared to negotiations behind closed doors.

To assess the robustness of these results[11], we first estimated a regression model using the pooled data for Germany and the UK. For this model, we added country dummies and their interactions with treatment dummies to the regression equation. The main findings remain the same. Second, we regressed the rating variable, rather than the binary choice variable, on the same treatment dummies. We obtain similar results for all conjoint attributes. Third, we extended the regression models, adding one control variable together with interaction terms between all treatment dummies and this control variable. We repeated this procedure for several demographic, environmental, and political control variables.[12] The basic pattern of the three output-related conjoint attributes remains similar across these tests. However, when controlling for these additional variables, we observe greater variation in the results for process-related attributes. Overall, our general finding regarding output-related attributes appears robust to these additions.

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10 We asked participants in the UK and Germany whether their country should leave the EU. Slightly more than 40% of UK respondents wanted the UK to leave the EU while only about 20% of the German respondents wanted Germany to leave the EU.

11 We report results for all robustness tests in the appendix.

12 These control variables items were placed in the survey before the experimental part (age, gender, left-right self-placement, city type, and region) as well as afterwards (stealth and sunshine democracy, conflict aversion, environmental concern and environmental vulnerability, trust in government, political efficacy, and education).

The observed variation in the effects of process-related attributes across subgroups suggests the following causal narrative for why German respondents showed no statistically significant preference for requiring approval by the national parliament (as opposed to automatic domestic implementation of international majority decisions). When we control for environmental concern and interactions of the latter with the treatment conditions) we find that German respondents strongly concerned about the environment are indifferent between the two implementation procedures. In contrast, respondents with low environmental concern are more likely to prefer national parliamentary approval before implementation. We observed a similar conditional effect for German participants who regarded air pollution as a problem, or not as a problem. People who are concerned about the environment and think that air pollution is a problem prefer an international clean air agreement that must be implemented in Germany if a majority of countries agree. These citizens might be afraid that their national parliament will do less for clean air than a majority of other European governments. For UK respondents, this pattern is the opposite. Those who think that air pollution is a big problem in the UK prefer parliamentary ratification prior to implementation, while those who consider it no problem prefer implementation after an international majority agrees.

In summary, experiment 1 shows that both process (input) and output characteristics of international governance efforts matter, in the sense of having a direct and independent effect on public support. It also shows, however, that citizens seem to care more about output than about process. We now move to investigating whether citizens condition their evaluation of a policy's procedural aspects on the expected outcome (experiment 2), and whether support for a clean air policy, which is expected to be expensive, ineffective, and less beneficial for respondent's own country (UK or Germany) is affected by the procedural quality of this policy (experiment 3).

4.2. Does Low Outcome Quality Increase Demand for Increased Process Quality?

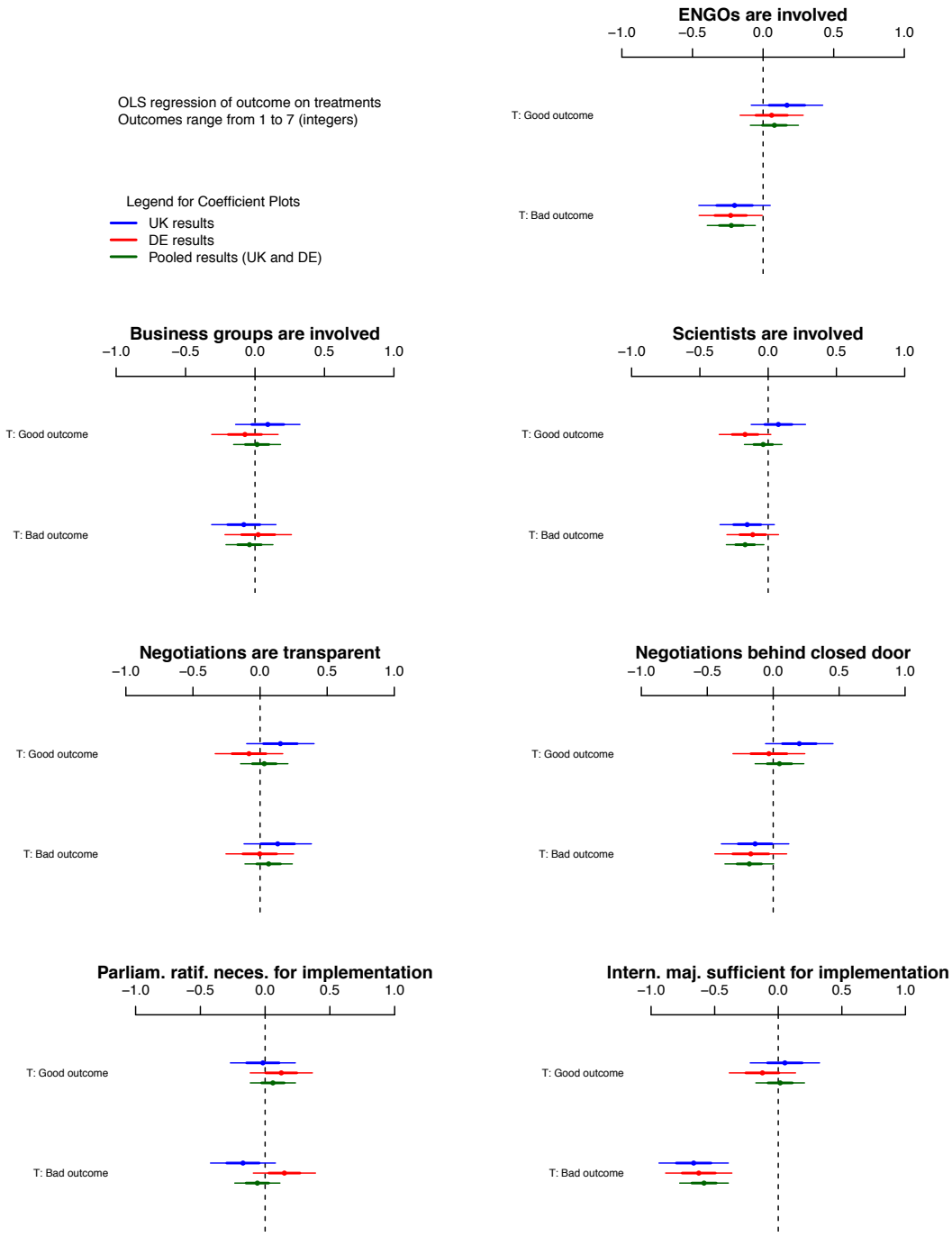
Experiment 2 served to examine whether individuals demand increased process quality when facing governance efforts that appear ineffective and disadvantageous, or whether they care less about process quality when prospective output are effective and advantageous. Overall, we find that preferences concerning most procedural quality characteristics are not affected by whether the prospective outcome is "good" or "bad". The main reaction to prospective "bad" output appears to be that citizens then prefer a national parliamentary ratification requirement. That is, they resort to the traditional principle of state consent in order to safeguard against undesirable international governance output. Our manipulation checks back the causal interpretation of these results.[13] Participants who received the "bad output" treatment considered the potential agreement as more costly, relatively ineffective, as well as less beneficial and simply "bad" for their country.

The coefficient plots in Figure 2 summarize results from linear regressions of the seven dependent variables (process quality facets) on dummy variables for the two treatments, with the control group as the baseline. The dots represent point estimates, which can be interpreted as causal effects (ATE). The horizontal lines are 95% confidence intervals.

13 The results of these manipulation checks are included in the appendix.

We use sample weights that match each of the three experimental groups separately to the sample frame (national adult population). We also report results based on pooled data from samples from the UK and Germany, estimating treatment effects without adding a country-dummy and without using sample weights.

Figure 2: Results of experiment 2



Looking at our results more closely, prospective output that are ineffective and disadvantageous (compared to no information regarding the outcome) reduce support for the proposition that (wording for the UK sample) "[o]nce the international agreement has been negotiated and approved by the majority of negotiating countries, it should become law and be fully implemented in the United Kingdom, even if the UK government and parliament do not approve the agreement." For this dependent variable, we expected a negative effect, and we found such an effect for both countries. This finding is backed by estimation of the ATE using the IPW difference in means estimator and its p-value via randomization inference, taking into account that treatments were assigned with equal probability within homogeneous subgroups defined by gender and age group.[14] In addition, we find weak evidence that prospective output that is ineffective and disadvantageous lead, as expected, to less support for carrying out negotiations behind closed doors. The ATE has the expected sign in both countries. When we estimate the p-value of the ATE via randomization inference, it is only statistically significant for respondents from Germany, not for respondents from the UK.

Also, our results provide no support for the expectation that prospective output that is ineffective and disadvantageous increase demands for higher process quality. Under conditions of poor outcome performance, respondents from both countries show even less support for the inclusion of ENGOs or scientists. The reason for this may be that when facing unfavorable prospective output, citizens may believe that involving additional actors might make it even harder to arrive at effective solutions. Conversely, we do not find evidence for the argument that high prospective outcome performance leads to greater tolerance of low process quality.[15] Very good prospective output hardly changes support for any of the seven process characteristics at all.

4.3. Does High Process Quality Make Citizens More Accepting of Poor Outcome Performance?

With experiment 3 we examine whether high/low process quality makes individuals more/less supportive of international environmental governance efforts characterized by ineffective and unfavorable output. Overall, the results are partly in line with our expectation. Low process quality of governance induces less support for "bad" outputs. However, we only observe a significant difference in means for the low process quality treatment, and not for the high process quality treatment.

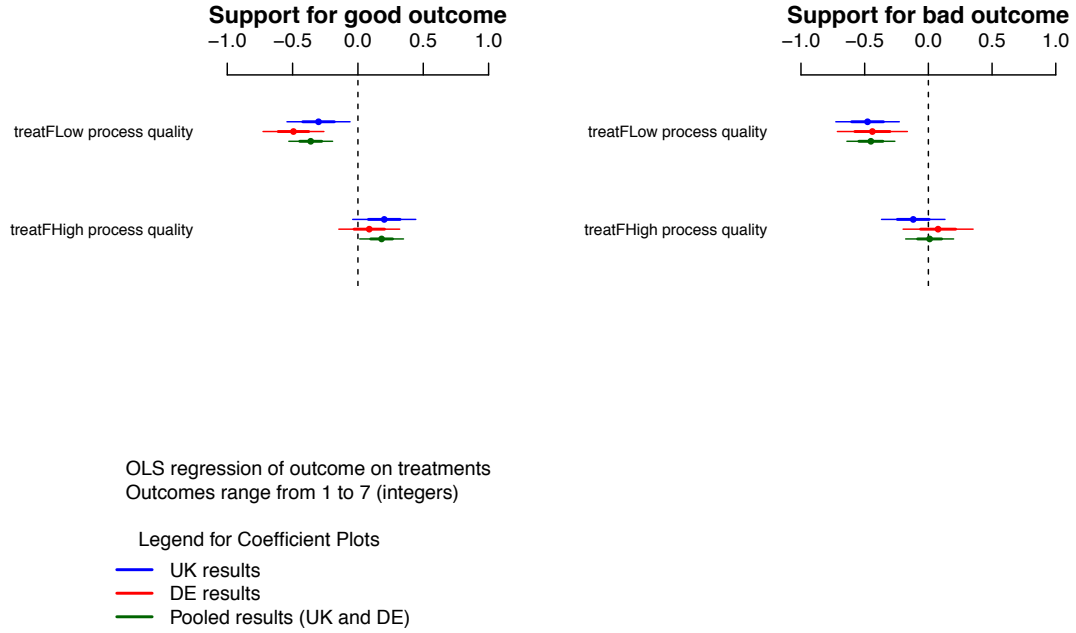
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14 We report these results in the appendix.

15 In our study design, low process quality means involvement of business groups, negotiations behind closed doors, and automatic domestic implementation subsequent to majority decision making at the international level. This setup is guided by empirical evidence showing that in the UK and Germany our survey participants do not like these three characteristics. In experiment 2, these characteristics receive less support than alternative ones. Also, we know from our manipulation checks in experiment 3 that an information treatment combining these three characteristics induces participants to regard the respective governance effort as undemocratic, unfair, and inappropriate. Finally, we know from experiment 1 that these three characteristics are among the least favored for the three relevant conjoint attributes.

Our manipulation checks back the causal interpretation of these results. Participants who received the high/low process quality treatment rated the governance process as more/less democratic, more/less fair, and more/less appropriate. They also considered the procedure as better/worse for their country and were more likely to describe the procedure as the wrong/right way to do things.

Figure 3: Results of experiment 3



The coefficient plots shown in Figure 3 summarize results from linear regressions of support (measured on a 7-point scale) on experimental group membership. We use sample weights that match each experimental group to the sample frame (national adult population). We also report results based on the pooled UK and Germany samples, estimating treatment effects without adding a country-dummy and without using sample weights. Robustness checks (results reported in the appendix) show that these findings are backed by the ATE derived from the IPW difference in means estimator and its p-value via randomization inference taking into account that treatments were assigned with equal probability within homogeneous subgroups defined by gender and age group.[16]

As expected, we find that low process quality decreases support for governance efforts characterized by low outcome performance. Contrary to expectations, however, high process quality does not increase support for governance efforts characterized by low outcome performance. The reason for this latter finding could be that the low process quality treatment induces a greater absolute shift in assessments of the procedure being

16 We report these results in the appendix.

democratic or undemocratic than the high process quality treatment. Moreover, this result is in line with the results of experiment 1, where we find that citizens tend to pay more attention to output than to process.

5. Discussion

While international governance efforts are also shaped by government representatives, national legislatures, international organizations, political and economic elites, interest groups, and the news media, mass public opinion plays an important role as well, particularly in democratic countries. Hence it is important to know what citizens think about international governance, in general terms and with respect to specific governance efforts.

When citizens form opinions on and evaluate international governance efforts they are, according to conventional wisdom, likely to pay attention to input (process) and output characteristics of such efforts. Consequently, the level of public support for international governance efforts is presumably a function both of input and output legitimacy. A considerable body of research addresses conceptual and theoretical issues of legitimacy in connection with international governance efforts. Yet there is very little empirical research on the extent to which the two facets of legitimacy, in absolute and relative terms, are relevant to public opinion formation in this area, and whether there are trade-offs or synergies between the two.

Based on three experiments embedded in nationally representative surveys in Germany and the United Kingdom we found that citizens pay attention both to input and output facets of international governance (which supports hypothesis 1), but that output appears to matter more. Moreover, while prospects of reaching effective/ineffective and favorable/unfavorable output in governance efforts does not significantly affect demand for improvements in process quality (hypotheses 2.1 and 2.2), we observe that citizens are less tolerant (supportive) of poor output performance when this coincides with weak process quality (hypothesis 3.2). Interestingly, these findings are very similar for both countries, despite differences in political, social, economic, and cultural circumstances.

Even though we do not find significant evidence for the opposite of the latter (high process quality making people more tolerant of poor output performance, hypothesis 3.1), we think that our findings do speak to debates about procedural reforms in international governance (e.g., Zürn 2004; Archibugi et al. 2012; Bernstein 2011; Reus-Smit 2007; Stevenson and Dryzek 2014). Citizens clearly pay attention to output performance, and probably more so than to input characteristics of international governance efforts. This implies that process improvements cannot compensate for poor output performance. Nonetheless, our results suggest that greater transparency of international governance processes, involvement of civil society groups other than business, and greater involvement of national legislatures, could still be useful; notably in the sense of making the mass public more tolerant (or patient) in situations where finding effective solutions to international governance problems is very slow and tedious. Various international environmental (but also other) challenges fall into this category, for instance climate change.

Further research could explore whether our main findings are relevant to other policy areas. To this end, our experimental design could be adapted to scenarios that focus on different policy areas that vary in terms of salience, emotional appeal, economic and

social implications, or the collective/public goods character of the issue. Examples include climate change, trade, immigration, arms control, or tax competition. Moreover, the research presented here does not explicitly address what could be called the "authority-legitimacy-gap", meaning the assumption that shifting decision-making authority from within the national realm to international governance institutions tends to undermine legitimacy. To examine this issue, experimental designs could treat participants with differing shifts in authority to international governance fora and then examine the implications for perceived legitimacy.

6. References

Anderson, C.J. & Reichert, M.S. (1995). Economic Benefits and Support for Membership in the E.U.: A Cross-National Analysis. *Journal of Public Policy 15*(03): 231–249.

Angrist, J.D. & Pischke, J.-S. (2009). *Mostly Harmless Econometrics: An Empiricist' s Companion*. *Princeton University Press*. Princeton.

Archibugi, D., Koenig-Archibugi, M. & Marchetti, R. (2012). *Global Democracy: Normative and Empirical Perspectives*. Cambridge: Cambridge University Press.

Aronow, P.M. & Middleton, J.A. (2013). A Class of Unbiased Estimators of the Average Treatment Effect in Randomized Experiments. *Journal of Causal Inference 1*(1): 135–154.

Aronow, P.M. & Samii, C. (2012). Ri: R Package for Performing Randomiza-tion-Based Inference for Experiments (R Package Version 0.9). https://CRAN.R-project.org/package=ri.

Avant, D.D., Finnemore, M. & Sell, S.K. (2010). *Who Governs the Globe?* New York: Cambridge University Press.

Banchoff, T.F. & Smith, M.P. (1999). *Legitimacy and the European Union: The Contested Polity*. London: Routledge.

Barbara, S. (1992). Measuring Political Legitimacy. *American Political Science Review 86*(1): 149–166.

Bechtel, M.M., Bernauer, T. & Meyer, R. (2012). The Green Side of Protectionism: Environmental concerns and Three Facets of Trade Policy Preferences. *Review of International Political Economy 19*(5): 837–866.

Beetham, D. (1991). *The Legitimation of Power*. Atlantic Highlands, NJ: Humanities Press International.

Bernauer, T. & Gampfer, R. (2013). Effects of Civil Society Involvement on Popular Legitimacy of Global Environmental Governance. *Global Environmental Change 23*(2): 439–449.

Bernstein, S. (2011). Legitimacy in Intergovernmental and Non-State Global Governance. *Review of International Political Economy 18*(1): 17–51.

Blondel, J., Sinnott, R. & Svensson, P. (1998). *People and Parliament in the European*

Union: Participation, Democracy, and Legitimacy. Clarendon Press: Oxford University Press.

Bodansky, D. (2013). Legitimacy in Intergovernmental and Non-state Global Governance. In J. L. Dunoff & M. A. Pollack (eds.), *Interdisciplinary Perspectives on International Law and International Relations: The State of the Art*. Cambridge: Cambridge University Press.

Boomgaarden, H.G., Schuck, A.R.T., Elenbaas, M. & de Vreese, C.H. (2011). Mapping EU Attitudes: Conceptual and Empirical Dimensions of Euroscepticism and EU Support. *European Union Politics 12*(2): 241–266.

Brams, S.J. (2008). *Mathematics and Democracy: Designing Better Voting and Fair-Division Procedures*. Princeton, NJ: Princeton University Press.

Brassett, J. & Tsingou, E. (2011). The Politics of Legitimate Global Governance. *Review of International Political Economy 18*(1): 1–16.

Buchanan, A. & Keohane, R.O. (2006). The Legitimacy of Global Governance Institutions. *Ethics & International Affairs 20*(4): 405–437.

Buntaine, M.T. (2015). Accountability in Global Governance: Civil Society Claims for Environmental Performance at the World Bank. *International Studies Quarterly 59*(1): 99–111.

Clark, I. (2005). *Legitimacy in International Society*. Oxford: Oxford University Press.

Claude, I.L. (1966). Collective Legitimization as a Political Function of the United Nations. *International Organization 20*(03): 367.

Dahl, R.A. (1999). Can International Organizations be Democratic? A Skeptic's View. In I. Shapiro & C. Hacker-Cordón (eds.), *Democracy's Edges*. Cambridge: Cambridge University Press.

De Fine Licht, J., Naurin, D., Esaiasson, P. & Gilljam, M. (2014). When Does Transparency Generate Legitimacy? Experimenting on a Context-Bound Relationship. *Governance 27*(1): 111–134.

Dellmuth, L.M. & Tallberg, J. (2014). The Social Legitimacy of International Organisations: Interest Representation, Institutional Performance, and Confidence Extrapolation in the United Nations. *Review of International Studies 41*(03): 451–475.

DELLMUTH, L.M. & TALLBERG, J. (2015). The Social Legitimacy of International Organisations: Interest Representation, Institutional Performance, and Confidence Extrapolation in the United Nations. *Review of International Studies 41*(03): 451–475.

Dellmuth, L.M. & Tallberg, J. (2016). Elite Communication and Popular Legitimacy in Global Governance. Available at SSRN.

Diekmann, A. & Jann, B. (2000). Sind Die Empirischen Ergebnisse Zum Umweltverhalten Artefakte? Ein Beitrag Zum Problem Der Messung von Umweltverhalten. *Umweltpsychologie 4*(1): 64–75.

Doherty, D. & Wolak, J. (2012). When Do the Ends Justify the Means? Evaluating Procedural Fairness. *Political Behavior 34*(2): 301–323.

Esaiasson, P., Gilljam, M. & Persson, M. (2012). Which Decision-Making Arrangements Generate the Ltrongest legitimacy Beliefs? Evidence from a Randomised Field Experiment. *European Journal of Political Research 51*(6): 785–808.

Falk, R. & Strauss, A. (2001). Toward Global Parliament. *Foreign Affairs 80*(1): 212–221.

Gerber, A.S. & Green, D.P. (2012). *Field Experiments: Design, Analysis, and Interpretation*. New York, London: W. W. Norton & Company.

Grieco, J., Powell, R. & Snidal, D. (1993). The Relative-Gains Problem for International Cooperation. *American Political Science Review 87*: 729–743.

Grigorescu, A. (2007). Transparency of International Organizations: The Roles of Member States, International Bureaucracies and Nongovernmental Organizations. *International Studies Quarterly 51*(3): 625–648.

Grigorescu, A. (2015). *Democratic Intergovernmental Organizations? Normative Pressures and Decision-Making Rules*. New York: Cambridge University Press.

Gronau, J. & Schmidtke, H. (2016). The Quest for Legitimacy in World Politics – International Institutions' Legitimation Strategies. *Review of International Studies 42*(03): 535–557.

Hainmueller, J., Hopkins, D. & Yamamoto, T. (2014). Cjoint: Causal Inference in Conjoint Analysis: Understanding Multi-Dimensional Choices via Stated Preference Experiments (R Package Version 2.0.4). https://CRAN.R-project.org/package=cjoint.

Held, D. & Koenig-Archibugi, M. (2005). *Global Governance and Public Accountability*. Oxford: Blackwell Publishing.

Hibbing, J.R. (2001). Process Preferences and American Politics: What the People Want Government to Be. *American Political Science Review 95*(01): 145–153.

Hibbing, J.R. & Theiss-Morse, E. (2002). *Stealth Democracy: Americans' Believes About How Government Should Work*. New York: Cambridge University Press.

Hooghe, L. & Marks, G. (2003). Unraveling the Central State, but How? Types of Multi-Level Governance. *The American Political Science Review 97*(2): 233–243.

Hooghe, L. & Marks, G. (2005). Calculation, Community and Cues: Public Opinion on European Integration. *European Union Politics 6*(4): 419–443.

Hooghe, L. & Marks, G. (2014). Delegation and Pooling in International Organizations. *Review of International Organizations 10*(3): 305–328.

Hurd, I. (1999). Legitimacy and Authority in International Politics. *International Organization 53*(2): 379–408.

Johnson, T. (2011). Guilt by Association: The Link between States' Influence and the Legitimacy of Intergovernmental Organizations. *Review of International Organizations 6*(1): 57–84.

Jones, D., Huscher, J., Myllyvirta, L., Gierens, R., Flisowska, J., Gutmann, K., … Azau, S. (2016). *Europe's Dark Cloud: How Coal-Burning Countries Are Making Their*

Neighbors Sick. Brussels.

Keohane, R.O. & Nye, J.S. (2003). Redefining Accountability for Global Governance. In *Governance in a Global Economy*.

Lavenex, S. (2013). Globalization and the Vertical Challenge to Democracy. In H. Kriesi, S. Lavene, F. Esser, J. Matthes, M. Bühlmann & D. Bochsler (eds.), *Democracy in the Age of Globalization and Mediatization*. Houndmills: Palgrave Macmillan.

Lenz, T., Bezuijen, J., Hooghe, L. & Marks, G. (2015). Patterns of International Organization Task Specific vs . General Purpose. *Politischen Vierteljahresschrift Special issue 49*: 131–156.

Lidskog, R. & Elander, I. (2010). Addressing Climate Change Democratically. Multi-Level Governance, Transnational Networks and Governmental Structures. *Sustainable Development 18*(1): 32–41.

MacDonald, T. (2012). Citizens or Stakeholders? Exclusion, Equality and Legitimacy in Global Stakeholder Democracy. In D. Archibugi, M. Koenig-Archibugi & R. Marchetti (eds.), *Global Democracy: Normative and Empirical Perspectives*. Cambridge: Cambridge University Press.

McLaren, L.M. (2002). Public Support for the European Union: Cost/Benefit Analysis or Perceived Cultural Threat? *The Journal of Politics 64*(02): 551–566.

Mutz, D.C. (2006). *Hearing the Other Side: Deliberative Versus Participatory Democracy*. Cambridge: Cambridge University Press.

Neblo, M. a., Esterling, K.M., Kennedy, R.P., Lazer, D.M.J. & Sokhey, A.E. (2010). Who Wants To Deliberate—And Why? *American Political Science Review 104*(03): 566–583.

O'Brien, R., Goetz, A.M., Scholte, J.A. & Williams, M. (2000). *Contesting Global Governance: Multilateral Institutions and Global Social Movements*. Cambridge: Cambridge University Press.

Ostrom, E. (1990). *Governing the Commons*. Cambridge: Cambridge University Press.

Papadopoulos, Y. (2010). Accountability and Multi-level Governance: More Accountability, Less Democracy? *West European Politics 33*(5): 1030–1049.

Paterson, M. (2010). Legitimation and Accumulation in Climate Change Governance. *New Political Economy 15*(3): 345–368.

Powell, R. (1991). Absolute and Relative Gains in International Relations Theory. *American Political Science Review 85*(4): 1303–1320.

Reus-Smit, Christian. 2007. International Crises of Legitimacy. International Politics 44 (2):157–174.

Rohrschneider, R. (2002). The Democracy Deficit and Mass Support for an EU-Wide Government. *American Journal of Political Science 46*(2): 463.

Scharpf, F. (1999). *Governing in Europe: Effective and Democratic?* Oxford University Press.

Scharpf, F.W. (1997). Economic Integration, Democracy and the Welfare State. *Journal*

of European Public Policy 4(1): 18–36.

Schmidt, V.A. (2013). Democracy and Legitimacy in the European Union Revisited: Input, Output and 'Throughput'. *Political Studies 61*(1): 2–22.

Scholte, J.A. (2007). Civil Society and the Legitimation of Global Governance. *Journal of Civil Society 3*(3): 305–326.

Scholte, J.A. (2011). *Building Global Democracy? Civil Society and Accountable Global Governance*. Cambridge: Cambridge University Press.

Spilker, G., Bernauer, T. & Umaña, V. (2016). Selecting Partner Countries for Preferential Trade Agreements: Experimental Evidence From Costa Rica, Nicaragua, and Vietnam. *International Studies Quarterly 52*: 747–772.

Steffek, J. (2003). The Legitimation of International Governance: A Discourse Approach. *European Journal of International Relations 9*(2): 249–275.

Steffek, J. (2015). The Output Legitimacy of International Organizations and the Global Public Interest. *International Theory 7*(02): 263–293.

Stevenson, H. & Dryzek, J.S. (2014). *Democratizing Global Climate Governance*. *Democratizing Global Climate Governance*. Cambridge: Cambridge University Press.

Tallberg, J., Sommerer, T., Squatrito, T. & Jönsson, C. (2013a). *The Opening Up of International Organizations: Transnational Access in Global Governance*. Cambridge: Cambridge University Press.

Tallberg, J., Sommerer, T., Squatrito, T. & Jönsson, C. (2013b). Explaining the Transnational Design of International Organizations. *International Organization forthcomin*(2014): 741–774.

Tyler, T.R. (2006). *Why People Obey the Law*. New Haven, CT: Yale University Press.

Tyler, T.R., Smith, R.J., J., B.H. & Huo, Y.J. (1997). *Social Justice in a Diverse Society*. Boulder, Colo.: Westview Press.

Zaum, D. (2013). *Legitimating International Organizations*. Oxford: Oxford University Press.

Zisis, I. (2015). Democracy in the Age of Globalization and Mediatization. *European Politics and Society* 1–3.

Zürn, M. (2000). Democratic Governance Beyond the Nation-State: The EU and Other International Institutions. *European Journal of International Relations 6*(2): 183–221.

Zürn, M. (2004). Global Governance and Legitimacy Problems. *Government and Opposition*.