Center for European, Governance and Economic Development Research
cege

Discussion Papers

Number 94 – January 2010

On Commitment Levels and Compliance Mechanisms – Determinants of Participation in Global Environmental Agreements

Thomas Bernauer
Anna Kalbhenn
Vally Koubi
Gabi Ruoff

GEORG-AUGUST-UNIVERSITÄT GÖTTINGEN

ISSN: 1439-2305

On Commitment Levels and Compliance Mechanisms

Determinants of Participation in Global Environmental Agreements

Thomas Bernauer, Anna Kalbhenn, Vally Koubi, Gabi Ruoff

Center for Comparative and International Studies (CIS)
ETH Zurich
Email: thbe0520@ethz.ch

Abstract

We argue that participation in international agreements is influenced by their design characteristics, notably commitment levels, measured by the specificity of obligations, and compliance mechanisms, measured by monitoring, enforcement, assistance, and dispute settlement provisions in treaties. We submit that specific obligations as well as monitoring and enforcement have a negative, and assistance and dispute settlement a positive effect on participation. These arguments are tested on a new dataset that includes information on ratifications of more than 200 global environmental agreements in 1950-2006. We find that specific obligations, assistance, and dispute settlement have the expected effects. Surprisingly, our results show that the presence (or absence) of monitoring and enforcement has no effect on participation. The latter finding suggests that monitoring and enforcement through mechanisms operating outside of treaties rather than through treaty obligations themselves are likely to play a significant role.

Draft: January 25, 2010

Paper presented at the 2010 Political Economy of International Organizations meeting held at Georgetown University, 28-30 January 2010

1. Introduction

We contribute to an emerging literature that focuses on a critical stage in the formation of international regimes, namely the stage where countries formally decide on whether or not to participate in the respective regime. Legally binding international agreements, usually labeled as treaties, conventions, protocols and the like, are the backbone of most international regimes. A major challenge democratic and in many instances also non-democratic governments face once they have negotiated and signed a legally binding international agreement concerns ratification. In abstract terms, ratification means that the principal approves an act of its agent through which the latter seeks to legally bind the principal. Ratification of international agreements usually involves a formal decision by the legislature (principal) that authorizes the government (agent) to legally commit the country to the respective international agreement. Not every international agreement requires ratification, but the large majority of agreements that constitute international regimes in fact do.

The failure of US Congress to ratify the Kyoto Protocol is one prominent example, but there are also many other cases in which legislatures have refused to support international bargaining outcomes. More generally, even a cursory look at key international agreements in areas such as trade, finance/investment, arms control, human rights, or the environment, suggests that there is strong variation of ratification behavior within and between international agreements.

The existing literature concentrates on the process of designing international agreements (e.g. Koremenos, et al. 2000; Abbott and Snidal 2000), on the implications of ratification for international cooperation (Iida 1993, 1996; Martin. 2000; Rosendorff and Milner. 2001; Schneider and Cederman. 1994), and on the effectiveness or efficiency of international regimes (e.g. Mitchell 1994; Bernauer 1995). Only very few studies have thus far focused on the ratification process (e.g. Congleton. 1992; Fredriksson and Gaston. 2000; Neumayer. 2002a,b; Beron, et al. 2003; Roberts et al. 2004; Cole 2005; Fredriksson and Ujhelyi 2006; von Stein. 2008; Bernauer et al 2009). Those studies focus

on explanatory factors pertaining to country characteristics and, in very few cases, also on interdependent behavior, that is, how ratification by one country or group of countries affects the ratification behavior of other countries.

In this paper we add to the emerging literature on ratification behavior by examining how fundamental treaty design characteristics affect ratification behavior. Building on the rational design of international institutions and the compliance and enforcement literatures we argue that participation in international agreements, measured in terms of ratification behavior, is influenced by commitment levels and compliance mechanisms. We submit that commitment levels, measured by the specificity of treaty targets, as well monitoring and enforcement provisions have a negative effect on participation, whereas assistance and dispute settlement provisions have a positive effect. We empirically test these arguments on a new dataset that includes information on ratification behavior vis-à-vis more than 200 global environmental agreements.

We find that the specificity of obligations as well as assistance and dispute settlement provisions have the expected effects. Surprisingly, we find that the presence or absence of monitoring and enforcement mechanisms in treaties has no effect on participation. We interpret this finding in the sense that monitoring and enforcement through mechanisms operating outside of treaties rather than through treaty obligations themselves are likely to play a significant role. The underlying reasoning is the following. Our results show that countries are more reluctant to join agreements that set forth specific obligations. If the insignificant effect of monitoring and enforcement observed in our analysis indicated per se that the risk of costly detection and punishment of non-compliance was very low or absent, we should arguably not observe the negative effect of specificity of obligations. The fact that there is such a negative effect suggests that non-compliance is still costly, but that the risk of detection and punishment does not depend on formal mechanisms set up within the respective treaty.

The second section of the paper develops the theoretical arguments on commitment levels and compliance mechanisms and states the hypotheses to be tested. The third section defines the variables and presents the research design. The fourth

section presents the results. Section five discusses the research and practical implications of our findings.

2. Theory and Hypotheses

International agreements can be characterized along many dimensions, not least because such dimensions are analytical constructs. The existing normative and positive literatures on international treaty design deal with a large range of design features, most notably commitment level, monitoring, enforcement, dispute settlement mechanisms, organizational structures, and decision-making rules. In this paper we are most interested in commitment levels and compliance mechanisms, which have also been emphasized in the rational design of institutions and compliance literatures, but will also control for the effects of other design features in the empirical analysis.

2.1 Commitment Levels

Many observers of international politics have noted a trend towards stronger legalization over the past few decades. States have formed a vast array of international legal arrangements in attempts to solve collective action problems and advance mutual interests. Such legal arrangements aim at stabilizing expectations, reducing transaction costs, providing or facilitating monitoring, settling disputes, increasing audience costs of commitments, providing focal points, and increasing reputational costs and benefits related to conformity of behavior with legal rules. Although both the international relations and international law literatures agree on the necessity of legal rules in international governance, there is no consensus regarding the degree to which international rules should be legalized in order to successfully solve international problems.

As noted by Abbott and Snidal (2000: 422), legalization is not binary. That is, international rules/laws are not simply present or absent in a given policy area. Rather, the degree of their legalization varies from hard law to soft law. They distinguish between hard and soft law according to three dimensions: obligation, precision, and delegation.[1] In this context, obligation means that states are legally bound by the regime and therefore subject to scrutiny under the rules and procedure of international law (Abbott et al. 2000). Precision means that the regime's "rules unambiguously define the conduct they authorize, require, or proscribe" (p.401). Delegation means that third parties are granted authority to implement, interpret, and apply the rules, and that a dispute resolution mechanism and an amendment process exist. When only one of the three elements is emphasized the law is seen as soft.

In contrast to the notions of legalization just discussed, international law scholars tend to argue that "legality is best understood as a binary, rather than a continuous attribute" (Raustiala 2005: 586). They argue that hard law creates legally binding obligations for states, whereas soft law creates only political or moral obligations. Soft law, however, has come to imply not only non-legally binding agreements, but also legally binding agreements that lack features deemed necessary for an accord to be "hard law", such as precision of obligations or enforcement mechanisms. Consequently, for these scholars "hard law" can vary significantly in its substance and structure. Substance refers to the precision of the agreement and the obligations imposed on the contracting parties by the agreement; and structure refers to the provisions for monitoring and enforcing the commitment(s) the agreement contains. Chinkin (1989:851), for example, argues that "the use of a treaty form does not of itself ensure a hard obligation. […] If a treaty is to be regarded as "hard", it must be precisely worded and specify the exact obligations undertaken or the rights granted."[2]

[1] Note that Abbott and Snidal (2000) define legalization in terms of key characteristics of rules and procedures, and not in terms of their effects.

[2] In this paper, we use the term "hard law" with reference to any treaty that imposes well defined and significant obligations and creates procedures to monitor and enforce these obligations; and "soft law" to describe treaties that are weak in precision of obligations and/or enforcement measures.

Both international relations and international law scholars agree, however, that international treaties vary to a great extent in terms of the precision and depth of obligations as well as compliance mechanisms set forth therein. Some treaties do not require states to make any changes in their policies, whereas others require major changes. For example, the UN Framework Convention on Climate change (FCCC) has imposed only minor obligations on states, primarily obligations concerning reporting and review, whereas the Kyoto Protocol contains clearly specified quantitative emission targets that a specific group of countries must reach by a specific year.

Downs et al. (1996: 383) argue that "a treaty's *depth* is the extent to which [the agreement] requires states to depart from what they would have done in its absence." Consequently, a country considering whether or not to formally join an international agreement will compare its current policies/practices with those required by the agreement. If the agreement does not express any specific demands or if the requirements of the agreement are consistent with the country's policies/practices the costs of participation will be small. If the country's policies/practices are distant from the ones required by the treaty the costs of joining the treaty are likely to be high.[3]

Costs of this kind include not only implementation costs, but also costs related to loss of flexibility, that is, the loss of ability to respond to unanticipated shocks as well as special domestic circumstances without compromising existing institutional arrangements (Koremenos 2001; Koremenos 2005; Koremenos, et al. 2000; Rosendorff and Milner. 2001; von Stein. 2008). In addition, more precise obligations lead to more and better information regarding the distributional effects of an international agreement. Hence they can generate distributional conflict and make participation in international agreements difficult (Goldstein and Martin 2000). Finally, treaties that require clearly visible, substantial changes in policies also generate credibility and reputation costs if a country fails to fulfill or reneges on its obligations in the future (Martin 2000; Simmons 1993,

[3] Downs et al. (1996) argue that sovereignty considerations lead states to commit to international agreements when they have already adopted the relevant policies; the higher the congruence between a country's policy and the international treaty, the lower its policy costs in committing to the treaty are. Hathaway (2007) and Goodliffe and Hawking (2006) examine countries' willingness to ratify a human rights treaty and the Convention Against Torture respectively. They find evidence supporting the Downs et al. argument.

2000). As noted by Lipson (1991: 518), "states are naturally reluctant to make long-term bargains behind this veil of ignorance".

Consequently, countries should be more likely to ratify international treaties with imprecise, weak obligations because such treaties give them the opportunity to adapt international commitments to the respective country's particular needs. Such treaties also grant more flexibility in implementing particular commitments and thus allow countries to remain sovereign. Rosendorff and Milner (2001) argue that without "escape clauses" countries would not have ratified certain multilateral trade agreements, and Koremenos (2001, 2005) notes that the participation of certain risk-averse states in treaties in several policy-areas was mainly due to their flexibility provisions. In the same vein, von Stein (2008) finds evidence that one of the Kyoto Protocol's flexibility mechanisms (carbon sinks) had a positive effect on ratification behavior of industrialized countries vis-à-vis the Protocol.

The arguments discussed so far lead to our first hypothesis to be tested:

Hypothesis 1: International agreements that create specific obligations are ratified by fewer countries.

2.2 Compliance Mechanisms

International agreements differ considerably in terms of their compliance mechanisms. In this paper we use a broad notion of compliance mechanisms that draws on the diverse strands of the international relations literature on compliance. We consider both traditional monitoring and enforcement measures intended to ascertain compliance of countries that have joined the agreement as well as measures meant to attract new treaty members and support countries' compliance efforts. Specifically, we focus on monitoring, enforcement, and assistance mechanisms.

Many, but by no means all, international agreements provide for monitoring and enforcement mechanisms. Strong monitoring and enforcement measures are widely thought to promote compliance with agreements: they increase the credibility of

commitments and reputation associated with reneging on commitments; hence they serve to prevent opportunistic behavior and decrease post agreement costs. However, agreements that delegate authority for such purposes to an international or supranational body are often perceived by states as a threat to their sovereignty and freedom to act.[4] In particular, as noted by Abbott and Snidal (2000), delegation of monitoring authority makes it more difficult for states to interpret the respective agreement in a self-serving or biased manner. This makes states reluctant to delegate authority to international or supranational monitoring and enforcement bodies.

Similarly, Downs et al. (1996) argue that states avoid agreements that have strong enforcement mechanisms. Goldstein and Martin (2000) suggest that international agreements should incorporate only some flexibility in their enforcement procedures since too little enforcement may encourage opportunism and too much may deter cooperative deals all together. Cole (2005) argues that states ratify international treaties with monitoring mechanisms only when the compliance costs are low.

These arguments lead to the following hypothesis.

Hypothesis 2: International agreements with monitoring and enforcement mechanisms are ratified by fewer countries.

We have argued above that states are less willing to ratify international agreements that are costly to implement. Policy-makers do, of course, know this when negotiating/designing agreements and in many cases have tried to affect cost/benefit calculations of potential ratifiers by offering treaty-mandated positive incentives, most notably technical and financial assistance (e.g. Abbott and Snidal 1998).

This argument leads to the following hypothesis.

Hypothesis 3: International agreements that include provisions for technical and financial assistance are ratified by more countries.

[4] Goldstein and Martin (2000) examine the effect of WTO legalization on trade liberalization and argue that in light of uncertainty regarding the costs of trade agreements at the domestic level, "legalized procedures that apply high, deterministic penalties for not compliance could backfire leading to an unraveling of the process of liberalization".

Assistance provisions may, obviously, bear on cost/benefit calculations of states concerning commitment levels as well as monitoring and enforcement. For instance, agreements with stronger obligations are more likely to attract ratifications if they offer assistance. Similarly, assistance may compensate for negative participation effects of monitoring and enforcement mechanisms. For these reasons we view assistance as one element of compliance mechanisms and will, in the following sections, empirically examine the joint effects of obligations and sticks (carrots).

Finally, we are interested in how dispute settlement mechanisms affect participation. States incorporate dispute settlement procedures in some (but by no means all) agreements to strengthen the credibility of commitments and enhance compliance with and thus the value of these agreements (e.g. Guzman 2002; Smith 2000). Several authors have argued that dispute settlement procedures can enhance compliance by clarifying legal rules and the meaning of an agreement in disputes over how to interpret its terms in particular cases (e.g. Chayes and Chayes 1993, Guzman 2002). In addition, dispute settlement procedures can help mitigate problems of information regarding the implementation of an agreement. Hence they can increase transparency and reduce transaction costs (Smith 2000; Rosendorff 2005).

Dispute settlement procedures may, however, also deter participation because they tend to decrease governments' policy discretion and control over disputes and their outcomes (Smith 2000; Morris 2001). Morris (2001:15) argues that "…states are particularly unwilling to enter into broad commitments to adjudicate future disputes, the content and contours of which cannot be foreseen." While the loss of policy discretion and control over potential future disputes may negatively affect participation, governments may still be willing to ratify agreements that include dispute settlement provisions in order to obtain a credible (because of a dispute settlement procedure) commitment by other countries to comply with the agreement. Indeed, Rosendorff (2005) for example shows that preferential trade agreements (PTAs) that include dispute settlement procedures are more acceptable to a wider variety of countries.

These arguments suggest that the effect of dispute settlement mechanisms on treaty ratification is theoretically ambiguous. However, we start by assuming a positive effect.

Hypothesis 4: Agreements including dispute settlement mechanisms are ratified by more countries.

3. Research Design and Variables

We test the hypotheses developed in the previous section on a new dataset that includes information on ratification behavior vis-à-vis more than 200 global environmental agreements in the time-period 1950 to 2006. We have chosen global environmental agreements for two reasons. First, by restricting the analysis to one policy-area we are able to limit unit-heterogeneity at least to some extent and are thus able to take care of remaining heterogeneity quite efficiently by means of a limited set of control variables. At the same time, there is sufficient variation on all key explanatory variables in the analysis. Second, our analysis requires a sample of treaties that can, in principle, attract participants (ratifying countries) from exactly the same population of countries in any given year. Global environmental treaties, which are open for ratification by all countries in the international system, meet this criterion and also meet our interest in obtaining a rather large sample (in our case 208).

Our **dependent variable** is the number of ratifications per global environmental agreement at the end of our time-period of analysis, that is, how many ratifications a given agreement has attracted by the year 2006. This implies that the analysis is cross-sectional. The cross-sectional design is motivated by the fact that we are interested in the effects of treaty design on ratification behavior. Hence our key explanatory variables vary across treaties, but not across time or countries.

The ratification data was retrieved from CIESIN (2006) and Mitchell (2002-2008). Our sample includes global environmental treaties and protocols to those treaties,

but exclude amendments to treaties or protocols. For example, we include both the UN Framework Convention on Climate Change and the Kyoto Protocol). Protocols are usually not fully independent of treaties. However, there are sufficient institutional/design differences between the large majority of treaties and related protocols to warrant inclusion of both in our sample. For example, the Vienna framework convention for protecting the stratospheric ozone layer does not include specific reduction targets for ozone depleting substances, and it does not provide for assistance; but subsequent protocols to this convention include different such measures. In contrast, amendments to treaties are often minor adjustments that in most cases do not introduce changes that would change the values of our key explanatory variables. To examine whether our results are robust to potential problems of non-independent observations we run all statistical models with two samples, one that includes treaties and protocols (n=208), and one that includes treaties (n=145). As shown in the descriptive statistics (see Appendix), the number of ratifications per treaty/protocol varies from 1 to 180.

Since we are dealing with count data (number of countries that have ratified a given treaty by the end of the period of analysis) we assume a negative binomial process with the number of years a treaty has been open for ratification as exposure time. The latter means that we control for the fact that treaties that were concluded earlier have had more time to attract ratifications. We use the negative binomial rather than a poisson specification because of overdispersion.

The **independent variables** in hypotheses 1-4 are coded by means of a content-analysis of treaty texts. The coding instructions are available from the authors on request. The explanatory variable in Hypothesis 1, **obligation**, captures whether a treaty contains ambiguous or no specifications pertaining to standards or goals to be achieved, or whether it quantifies standards or goals, for example in the form of emission targets. It is coded 1 if the treaty includes quantitative targets and 0 otherwise. The first explanatory variable in Hypothesis 2, **monitoring**, is a dummy variable indicating whether or not the treaty includes monitoring provisions. The second explanatory variable in Hypothesis 2, **enforcement**, is also a dummy variable indicating whether or not the treaty includes enforcement provisions. The explanatory variable in Hypothesis 3, **assistance**, indicates whether member countries are to be granted technological and/or financial assistance to

meet the treaty's goals. It is coded 1 if such assistance provisions are included in the treaty, and 0 otherwise. Since international treaties often provide preferential assistance for developing countries, we distinguish between assistance that is aimed at all member countries of a treaty and assistance that is aimed only at developing countries. The explanatory variable in Hypothesis 4, **dispute settlement**, indicates whether an agreement includes dispute settlement provisions. It is coded 1 if it includes such provisions, and 0 otherwise.

We control for several other factors that have been discussed in the rational design of international institutions and compliance literatures and that may, in addition to our explanatory variables, also affect ratification behavior. Two dummy variables capture decision-making rules: **majority** and **unanimity**. They take the value one if decisions of the highest treaty-related body are taken by majority, respectively unanimity, and 0 otherwise. Drawing on Koremenos et al. (2001), Zamora (1980), and Palmer (1992) we expect unanimity voting to affect ratification positively, and majority voting to affect ratification negatively. **Secretariat** consists of two dummy variables, one measuring whether a treaty establishes its own, treaty-specific secretariat, the other indicating whether the treaty associates itself with an existing secretariat (e.g. by delegating this task to UNEP). For both dummy variables the baseline category (0) is that a treaty does not provide for any secretariat. **Technical/scientific body** is a variable indicating the existence or establishment of scientific and/or technical body. It takes the value of 1 if such an organ are provided for, and 0 otherwise. **Meetings** is an indicator for the degree of institutionalization; this dummy variable measures whether or not an agreement foresees regular meetings of the treaty's parties or its administrative bodies. Drawing on Abbott and Snidal (1998) and Sandford (1994), we expect the latter three control variables to affect ratification positively.

Besides these additional treaty design characteristics we also control for environmental issue characteristics. **Global public good** indicates whether an agreement deals with a global public good or a national or sub-national public good. It is coded 1 if the treaty deals with internationally shared natural resources or ecosystems, and 0 if there is explicit reference to national territory/waterways, domestic animals, etc. An additional variable deals with those agreements for which the distinction between global and

domestic public goods is not sufficiently clear. This variable, **global/domestic public good**, is coded 1, and 0 otherwise. In line with the literature on global public goods (e.g. Barrett 2003) we expect that the free-rider problem will make countries more reluctant to join agreements that seek to produce such goods. Finally, we use several dummy variables to control for specific issue areas that treaties deal with. In particular, we include dummies for the following issue areas: **pollution**, **species**, **nuclear**, and **habitat**, with treaties dealing with agricultural issues serving as the baseline category.

Finally, as mentioned further above, we control for exposure time, meaning the number of years a treaty has been open for ratification, because older treaties have had more time to attract ratifications than more recent agreements.

Descriptive statistics for all variables can be found in Table A.3 in the appendix.

4. Results

We begin with a discussion of the main results of our analysis, followed by an analysis of combined effects of stringency of obligations, monitoring, enforcement, and assistance as well as a discussion of how robust our findings are.

4.1 Main Results

Table 1 displays the main results. The second column shows the negative binomial coefficients (beta). Column three shows the exponent of these coefficients (exp(beta)), and the last column indicates percentage changes to facilitate quantitative interpretation of our results.

The coefficient on the specificity of obligations (obligation) is negative and statistically significant. It thus supports Hypothesis 1. In terms of substantive effects, the model predicts 31% less ratifications for treaties including specific obligations (when all other variables are held constant). Surprisingly, the coefficients for both monitoring and enforcement are not statistically significant. The empirical analysis does, therefore, not

support hypothesis 2. We return to this finding at several points below. Hypothesis 3 receives strong support. The coefficients for overall assistance and assistance to developing countries are positive and highly significant; and their effect is also very strong in substantive terms. Assistance increases participation by 75%, and assistance to developing countries increases participation by a factor of almost seven. Hypothesis 4 also receives support, though the coefficient for dispute settlement is significant only at the 10% level. However, agreements that include dispute settlement receive 29% more ratifications, and the effect is more significant and stronger for sample of agreements that excludes protocols (Table A.1 in the appendix). Table A.1 in the appendix shows that the results are consistent across the sample including treaties and protocols, and the sample excluding protocols.

Table 1: Main Results

	coefficient (beta)	*exp(beta)*	*%*
obligation	-0.38**	0.69	-31.3
	(0.17)		
monitoring	0.07	1.07	7.4
	(0.18)		
enforcement	0.08	1.09	8.8
	(0.16)		
assistance	0.56***	1.75	75.2
	(0.21)		
assistance to developing countries	2.07***	7.92	692.0
	(0.23)		
dispute settlement	0.25*	1.29	28.5
	(0.15)		
secretariat, own	-0.62**	0.54	-46.4
	(0.27)		
secretariat, existing	-0.23	0.79	-20.6
	(0.23)		
meetings	-0.20	0.82	-18.3
	(0.21)		
scientific/technical body	0.30	1.35	35.4
	(0.19)		
majority	0.20	1.22	22.0
	(0.22)		
unanimity	0.17	1.19	18.6
	(0.23)		
global public good	-0.67***	0.51	-49.0
	(0.18)		
global/domestic public good	-0.70**	0.50	-50.5
	(0.31)		
pollution	-0.26	0.77	-22.8
	(0.17)		

species	-0.63***	0.53	-46.5
	(0.17)		
nuclear	-0.09	0.91	-8.5
	(0.22)		
habitat	-0.42***	0.66	-34.2
	(0.16)		
Constant	1.20***		
	(0.26)		
Observations	208		
alpha	0.73		
	(0.07)***		
Log likelihood	-876.6		
LR chi2(11)	157.7		
Prob > chi2	0.00		
Negative binomial regression. Exposure: age of treaty. Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%			

As to the control variables, treaties establishing their own secretariats appear to be less attractive; the ratification rate of those treaties is 46% lower. One interpretation of this result could be that agreements establishing a new secretariat are also those with an ambitious agenda and are therefore more burdensome for countries. As could be expected with a view to the large literature on public goods, agreements dealing with global public goods attract fewer countries. The coefficients for both indicators for public goods are negative and significant. The ratification rate of agreements dealing with global public goods is 50% lower. Finally, agreements on species and habitat appear to be less attractive than other agreements.

The overall model statistics indicate that our approach is appropriate. Alpha is statistically significantly larger than zero. We thus have to reject the null hypothesis of no over-dispersion, which implies that the negative binomial model is the adequate model specification.

4.2 Combined Effects of Treaty Design Characteristics

The effects of specificity of obligations and monitoring and enforcement might be mutually enforcing. That is, monitoring and enforcement of obligations, to the extent the latter are specific, is likely to generate higher implementation costs and higher non-compliance costs for countries that join the respective treaty. In contrast, those costs are

likely to be smaller in the case of agreements with specific obligations but no monitoring and enforcement mechanisms.

To examine such potential effects we estimated the predicted ratification rates for different combinations of monitoring or enforcement and specificity of obligations (Table 2). The second and fifth rows of Table 2 show the predicted ratification rates when all other variables in the model are set to zero (this setting would, for example, characterize a treaty focusing on a domestic public good and including no dispute settlement mechanism). The third and sixth rows show the ratification rates when all other variables are set to one (this setting would, for example, characterize a treaty with dispute settlement and a scientific/technical body).

Table 2: Combined Effects of Specificity of Obligations, Monitoring, Enforcement

	monitoring=1 obligation=1 (125 cases)	monitoring=1 obligation=0 (21 cases)	monitoring=0 obligation=1 (35 cases)	monitoring=0 obligation=0 (30 cases)
all other vars 0	2.4446	3.5605	2.2754	3.314
all other vars 1	2.0256	2.9502	1.8854	2.746
	enforcement=1 obligation=1 (62 cases)	enforcement=1 obligation=0 (3 cases)	enforcement=0 obligation=1 (98 cases)	enforcement=0 obligation=0 (48 cases)
all other vars 0	2.4756	3.6056	2.2754	3.314
all other vars 1	2.0256	2.9502	1.8618	2.7116

Note: ratification rate or incident rate, in this table, means the expected number of times the event (ratification) will occur in a given period of time (in our case, one year).

As expected, Table 2 shows that ratification rates are higher for treaties with neither monitoring/enforcement nor specific obligations than for treaties with both specific obligations and monitoring/enforcement. When one of the two regime design features is present and the other is absent, we observe some counter-intuitive effects. Treaties without specific obligations but with monitoring/enforcement are the most attractive in terms of ratification rates, and even more attractive than treaties with neither specific obligations nor monitoring/enforcement. Moreover, treaties with specific obligations but no monitoring/enforcement are the least attractive. However, these non-

intuitive results should be interpreted with caution because of the very small number of treaties in our sample that involve no specific obligations but include monitoring/enforcement provisions.

As mentioned at the end of the theory section, the specificity of obligations and assistance should be looked at in combination as well because assistance could offset the costs imposed by specific treaty obligations. To test this argument we have again calculated predicted ratification rates for combinations of the two variables. As shown in Table 3, treaties with assistance provisions but no specific obligations are most attractive, though very few such treaties exist. Interestingly, however, agreements with both specific targets and assistance are more attractive than agreements without the two elements. We interpret this observation as indicating that assistance is mandated by treaties to support the implementation of costly obligations. This effect is, not surprisingly, stronger if we run these estimates for assistance to developing countries.

Table 3: Combined Effects of Obligations and Assistance

	assist_all=1 obligation=1 (16 cases)	assist_all =1 obligation=0 (9 cases)	assist_all =0 obligation=1 (144 cases)	assist_all =0 obligation=0 (46 cases)
all other vars 0	3.9876	5.8078	2.2754	3.314
all other vars 1	2.0256	2.9502	1.1558	1.6834

	assist_dev=1 obligation=1 (18 cases)	assist_dev =1 obligation=0 (4 cases)	assist_dev =0 obligation=1 (142 cases)	assist_dev =0 obligation=0 (51 cases)
all other vars 0	18.021	26.247	2.2754	3.314
all other vars 1	2.0256	2.9502	0.25575	0.37249

Note: ratification rate or incident rate, in this table, means the expected number of times the event (ratification) will occur in a given period of time (in our case, one year).

4.3 Robustness of Results

As mentioned above, our results are robust across two different samples, one including "stand-alone" global environmental agreements as well as related protocols (but excluding amendments), the other including only the main agreements.

However, a more fundamental, conceptual criticism of our findings could be that international agreements are, a priori, designed in ways that accommodate most countries' interests. In the most extreme case, treaties may simply reflect lowest common denominator bargaining outcomes. If this were the case, our empirical approach might produce biased estimates because we have not explicitly accounted for the factors that lead to specific bargaining outcomes and how those outcomes then influence ratification behavior. We do not know of any large-N empirical work including both the bargaining and ratification process in one model. We submit, however, that our results are unlikely to be biased for at least two reasons.

First, if international agreements were, as the neorealist school of thought in international relations tends to argue, only „frozen interests", we should not observe such strong variation in ratification behavior across agreements (see descriptive statistics in the appendix). In other word, if negotiators were willing and able to design treaties so that these treaties accommodate most or even all potential member countries' (and also legislatures') interests, we should see only little or even no variation in ratification rates between different treaties later on.[5] In most international negotiations we know of, a large majority or even all bargaining parties must accept/adopt a treaty text before the ratification phase can begin. If the bargaining process thus acted as an effective filter through which only those agreement acceptable to the large majority of negotiating countries could pass why do not all treaties that make it through this filter eventually attract a similar number of countries?[6] Following a similar logic we should not observe statistically significant and substantively important effects of our key independent

[5] Ratification behavior may, of course, differ across countries, for example due to differences in institutional constraints (e.g. ratification procedures in parliament) or implementation costs. But such differences generate variation in ratification behavior across countries, rather than across treaties.

[6] Note that our analysis is cross-sectional and we control for exposure time. Hence our results are not affected by whether some agreements may attract ratifications faster than others. It is, of course, possible that treaties on some issues tend to attract more (or less) countries because problem pressure is more evenly spread across a large number of countries. For example, a treaty protecting polar bears may be open for ratification by all countries in the international system. But fewer countries may be interested in ratifying this agreement than the UN convention on biodiversity because the polar bears issue is probably of less immediate concern to many countries than the biodiversity issue. But even in this rather extreme example it is not obvious that say African countries should be slower in ratifying the former agreement because the costs of doing so are likely to be very low for these countries. Nevertheless, our analysis takes care of this concern by controlling for issue characteristics.

variables if variation in ratification rates across treaties were driven primarily by factors that determine bargaining outcomes.

Second, neorealist scholars will probably argue that bargaining outcomes are unlikely to be congruent with every participant country's preferences (see first point), but are more likely to correspond to what powerful countries want. That is, less powerful countries may accept bargaining outcomes and thereby allow for the ratification phase to begin, but only because of political or other pressure by more powerful countries. The empirical implication of this argument is that, to the extent more powerful countries are more likely to obtain the bargaining outcomes they want, they should be more likely to ratify international agreements in whose negotiation they have participated.

In most general terms, the two aforementioned points also imply that the coefficients in our models could be biased if we did not control for variables that could be driving both the bargaining and the ratification outcome. Power and level of development (income) are arguably the only serious candidate variables of this kind. Hence we end by examining the possibility that the effect of our key independent variables is conditional on countries' bargaining power. To that end, we estimate our model for eight different samples, split according to a country's population or income, two distinct proxies for power and capacity. By considering the number of ratifications for different groups of countries (e.g. the top 10% in terms of income), we control for whether the coefficients change when looking at specific subgroups of countries only. If the results differed significantly across sub-samples this could indicate that specific types of countries might have the potential to control the bargaining process.

Table 4 shows that our main findings survive in the different sub-samples[7], indicating that treaty design characteristics are indeed important determinants of ratification behavior. This conclusion is supported by Table A.2 in the appendix, which shows the correlations between ratification rates in the sub-samples. This table shows that ratification rates in the various income and population groups are highly correlated. That is, ratification behaviour does not vary much between more and less powerful (in terms of population and income) countries.

[7] The only exception is the coefficient of the specificity of obligations variable, which becomes insignificant in four out of eight sub-samples.

Table 4: Robustness Test for Different Country Samples

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	10% most populous countries	10% least populous countries	80% in the middle	25% least populous countries	10% richest countries	10% poorest countries	80% in the middle	25% poorest countries
obligation	-0.49***	-0.30	-0.37**	-0.40*	-0.32	-0.32	-0.40**	-0.35
	(0.19)	(0.26)	(0.18)	(0.23)	(0.23)	(0.39)	(0.18)	(0.35)
assistance all	0.62***	0.52	0.54**	0.41	0.37	1.01**	0.61***	0.96**
	(0.23)	(0.34)	(0.22)	(0.29)	(0.28)	(0.49)	(0.22)	(0.46)
assistance dev. countries	1.82***	2.53***	2.01***	2.33***	1.56***	3.14***	2.08***	2.99***
	(0.25)	(0.37)	(0.23)	(0.30)	(0.31)	(0.47)	(0.23)	(0.45)
monitoring	0.22	-0.03	-0.00	0.05	-0.04	0.59	-0.00	0.36
	(0.19)	(0.27)	(0.18)	(0.24)	(0.23)	(0.42)	(0.18)	(0.37)
enforcement	-0.02	0.02	0.07	0.12	0.18	-0.27	0.06	-0.33
	(0.19)	(0.26)	(0.17)	(0.22)	(0.22)	(0.39)	(0.17)	(0.36)
dispute settlement	0.07	0.28	0.31**	0.33	0.15	0.38	0.29*	0.65*
	(0.17)	(0.25)	(0.15)	(0.21)	(0.20)	(0.39)	(0.15)	(0.35)
secretariat, own	-0.77***	-1.12***	-0.56**	-0.63*	-0.72**	-0.79	-0.59**	-0.63
	(0.29)	(0.42)	(0.27)	(0.36)	(0.36)	(0.60)	(0.27)	(0.53)
secretariat, existing	-0.47**	-0.35	-0.16	-0.07	-0.30	-0.33	-0.20	-0.32
	(0.24)	(0.35)	(0.23)	(0.32)	(0.29)	(0.51)	(0.24)	(0.47)
meetings	-0.18	-0.46	-0.15	-0.47*	-0.02	-1.19**	-0.17	-1.03**
	(0.22)	(0.31)	(0.22)	(0.28)	(0.27)	(0.46)	(0.22)	(0.43)
Scie/tech body	0.41*	0.23	0.33*	0.24	0.15	0.99**	0.34*	0.88**
	(0.22)	(0.31)	(0.20)	(0.25)	(0.26)	(0.40)	(0.19)	(0.36)
majority	0.38	0.30	0.09	0.23	0.13	-0.04	0.17	0.02
	(0.24)	(0.35)	(0.23)	(0.30)	(0.29)	(0.50)	(0.23)	(0.46)
unanimity	0.16	0.14	0.10	-0.05	0.54*	-1.34**	0.05	-1.49***
	(0.26)	(0.36)	(0.24)	(0.31)	(0.32)	(0.52)	(0.24)	(0.45)
global public good	-0.65***	-0.69**	-0.69***	-0.76***	-0.54**	-1.11***	-0.72***	-1.20***
	(0.20)	(0.29)	(0.19)	(0.24)	(0.24)	(0.39)	(0.19)	(0.37)
glob/dom public good	-1.02***	-0.53	-0.67**	-0.58	-0.69*	-0.69	-0.74**	-0.94
	(0.34)	(0.48)	(0.31)	(0.41)	(0.42)	(0.67)	(0.31)	(0.62)
pollution	-0.05	-0.37	-0.26	-0.30	-0.32	-0.19	-0.23	-0.34
	(0.19)	(0.27)	(0.18)	(0.23)	(0.24)	(0.36)	(0.17)	(0.34)
species	-0.20	-0.99***	-0.65***	-1.01***	-0.55**	-0.56	-0.63***	-0.64
	(0.19)	(0.29)	(0.18)	(0.25)	(0.23)	(0.43)	(0.18)	(0.39)
nuclear	0.19	-0.41	-0.04	-0.29	-0.07	0.25	-0.02	0.29
	(0.23)	(0.33)	(0.22)	(0.29)	(0.28)	(0.47)	(0.22)	(0.45)
habitat	-0.46**	-0.69**	-0.44***	-0.46**	-0.59***	-0.35	-0.44***	-0.27
	(0.19)	(0.27)	(0.17)	(0.22)	(0.22)	(0.39)	(0.16)	(0.35)
Constant	-1.12***	-0.99**	0.93***	-0.20	-0.43	-1.50***	0.87***	-0.44
	(0.28)	(0.39)	(0.26)	(0.34)	(0.35)	(0.58)	(0.26)	(0.53)
Observations	208	208	208	208	208	208	208	208
alpha	0.61	1.22	0.77	1.11	1.12	2.26	0.75	2.44
Log likelihood	-461.1	-368.8	-821.7	-538.6	-566.8	-283.9	-800.6	-409.5
LR chi2(11)	110.0	90.91	146.8	121.0	56.88	89.71	158.2	102.5
Prob > chi2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Negative binomial regression. Exposure: age of treaty. Standard errors in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%

5. Conclusion

The formation of international regimes is usually not complete when formal international bargaining comes to an end. International regimes can only get off to an effective start once bargaining outcomes, which in most cases are formalized through a legally binding treaty, are ratified by the negotiators' home countries. We contribute to the emerging literature that seeks to account for variation in ratification behavior. While other work has concentrated on the effects of country characteristics and contingent behavior on ratification we focus on the implications of treaty characteristics. To that end we have developed and tested three hypotheses centering on commitment levels (specificity of obligations) and compliance mechanisms (monitoring, enforcement, assistance). The empirical testing was done with a new dataset containing information on ratification behavior vis-à-vis more than 200 global environmental treaties.

Our main finding is that both the specificity of obligations and assistance provisions in treaties have the expected (negative and positive, respectively) effects. Surprisingly, we find that the presence or absence of monitoring and enforcement mechanisms in treaties has no effect on ratification behavior. We interpret this finding in the sense that monitoring and enforcement provided by actors and mechanisms outside of treaties are likely to play a significant role. The underlying reasoning is the following. Our results show that countries are more reluctant to join agreements that set forth specific obligations. If the insignificant effect of monitoring and enforcement observed in our analysis indicated *per se* that the risk of costly detection and punishment of non-compliance was very low or absent, we should arguably not observe a negative effect of specificity of obligations. The fact that there is such a negative effect suggests that non-compliance is still costly, but that the risk of detection and punishment may emanate from mechanisms that do not depend on formal mechanisms set up within the respective treaty.

Appendix

Table A.1: Principal Model, Excluding Protocols

	beta	exp(beta)	%
obligation	-0.375	0.688	-31.2
	(0.178)**		
assistance all	0.554	1.74	74.0
	(0.245)**		
assistance developing countries	2.108	8.232	723.2
	(0.269)***		
monitoring	0.270	1.309	30.9
	(0.184)		
enforcement	-0.131	0.877	-12.3
	(0.191)		
dispute settlement	0.345	1.413	41.3
	(0.159)**		
majority	0.348	1.416	41.6
	(0.235)		
unanimity	-0.056	0.946	-5.4
	(0.230)		
secretariat, own	-0.481	0.618	-38.2
	(0.284)*		
secretariat, existing	-0.066	0.937	-6.3
	(0.236)		
scientific/technical body	0.348	1.416	41.6
	(0.212)		
meetings	-0.386	0.68	-32.0
	(0.213)*		
global public good	-0.758	0.469	-53.1
	(0.193)***		
global/domestic public good	-0.429	0.651	-34.9
	(0.366)		
pollution	-0.351	0.704	-29.6
	(0.185)*		
species	-0.757	0.469	-53.1
	(0.200)***		
nuclear	-0.116	0.891	-10.9
	(0.236)		
habitat	-0.190	0.827	-17.3
	(0.174)		
Constant	1.114		
	(0.271)***		
Observations	145		
alpha	0.61		
	(0.071)***		

Log likelihood	-610.23		
LR chi2(11)	137.83		
Prob > chi2	0.00		

Negative binomial regression. Exposure: age of treaty. Standard errors in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%

Table A.2: Correlation Between Ratifications in Different Subsamples

	all countries	10% least populous countries	10% most populous countries	80% in the middle	25% least populous countries	10% poorest countries	10% richest countries	80% in the middle	25% poorest countries
All countries	1.00								
10% least populous countries	0.93	1.00							
10% most populous countries	0.91	0.81	1.00						
80% in the middle	0.996	0.91	0.90	1.00					
25% least populous countries	0.97	0.97	0.84	0.96	1.00				
10% poorest countries	0.90	0.83	0.77	0.90	0.91	1.00			
10% richest countries	0.82	0.76	0.79	0.82	0.75	0.57	1.00		
80% in the middle	0.996	0.92	0.92	0.99	0.97	0.89	0.79	1.00	
25% poorest countries	0.92	0.84	0.78	0.91	0.92	0.99	0.59	0.91	1.00

Table A.3: Descriptive Statistics, Sample Including Treaties and Protocols

obligation	Freq.	Percent	Cum.
0	55	25.58	25.58
1	160	74.42	100.00
assistance_all	Freq.	Percent	Cum.
0	190	88.37	88.37
1	25	11.63	100.00
assistance_dev	Freq.	Percent	Cum.
0	193	89.77	89.77
1	22	10.23	100.00
monitoring	Freq.	Percent	Cum.
0	65	30.81	30.81
1	146	69.19	100.00
enforcement	Freq.	Percent	Cum.
0	146	69.19	69.19
1	65	30.81	100.00
Dispute settlement	Freq.	Percent	Cum.
0	95	44.19	44.19
1	120	55.81	100.00
majority	Freq.	Percent	Cum.
0	101	46.98	46.98
1	114	53.02	100.00
unanimity	Freq.	Percent	Cum.
0	159	73.95	73.95
1	56	26.05	100.00
secretariat_own	Freq.	Percent	Cum.
0	151	70.23	70.23
1	64	29.77	100.00
secretariat_existing	Freq.	Percent	Cum.
0	121	56.28	56.28
1	94	43.72	100.00
scientific/techn. body	Freq.	Percent	Cum.
0	158	73.49	73.49
1	57	26.51	100.00
meeting	Freq.	Percent	Cum.
0	58	26.98	26.98
1	157	73.02	100.00

global public good	Freq.	Percent	Cum.
0	66	30.70	30.70
1	149	69.30	100.00
glob/dom public good	Freq.	Percent	Cum.
0	198	92.09	92.09
1	17	7.91	100.00
pollution	Freq.	Percent	Cum.
0	118	54.88	54.88
1	97	45.12	100.00
species	Freq.	Percent	Cum.
0	141	65.58	65.58
1	74	34.42	100.00
nuclear	Freq.	Percent	Cum.
0	186	86.51	86.51
1	29	13.49	100.00
habitat	Freq.	Percent	Cum.
0	165	76.74	76.74
1	50	23.26	100.00

References

Abbott, K.W., Keohane, R., Moravcsik, A., Slaughter, A.-M., and Snidal, D. 2000. The Concept of Legalization. *International Organization*. 54(3): 401-419.

Abbott, K.W., and Snidal, D. 2000. Hard and Soft Law in International Governance. *International Organization*. 54(3): 421-456.

Abbott, K.W., and Snidal, D. 1998. Why States Act through Formal International Organizations. *Journal of Conflict Resolution* 42(1): 2-32.

Baxter R.R. 1980. International Law in "Her Infinite Variety". *The International and Comparative Law Quarterly* 29(4): 549-566.

Bernauer, T., Kalbhenn, A., Koubi, V., and Ruoff, G. 2009. A Comparison of International and Domestic Sources of Global Governance Dynamics. *CIS Working Paper*.

Beron, K.J., Murdoch, J.C., and Vijverberg, W.P.M. 2003. Why Cooperate? Public Goods, Economic Power, and the Montreal Protocol. *The Review of Economics and Statistics*. 85(2): 286-297.

CIESIN (2006), 'Environmental Treaties and Resource Indicators (ENTRI)', available at: http://sedac.ciesin.columbia.edu/entri/, date accessed: 13 December 2006.

Chayes, Abram and Antonia Handler Chayes. On Compliance. *International Organizations* 47(2): 175-205.

Chinkin, Christine M. 1989. The Challenge of Soft Law: Development and Change in International Law. International and Comparative Law Quarterly 38(4): 850-

Cole, Wade M. 2005. Sovereignty Relinquished? Explaining Commitment to the International Human Rights Covenants, 1966-1999. *American Sociological Review* 70: 472-495.

Congleton, R. 1992. Political Institutions and Pollution Control. *The Review of Economics and Statistics*. 74(3): 412-421.

Downs, G., Rocke, D.M., and Barsoom, P. 1996. Is the Good News about Compliance Good News for Cooperation? *International Organization*. 52(3): 379-406.

Fearon, James D. 1998. Bargaining, enforcement and International Cooperation. *International Organizations* 52(2): 269-305.

Fredriksson, P.G., and Gaston, N. 2000. Ratification of the 1992 Climate Change Convention: What Determines Legislative Delay? *Public Choice*. 104(3-4): 345-368.

Fredriksson, P.G., and Ujhelyi, G. 2006. Political Institutions, Interest Groups, and the Ratification of International Environmental Agreements. *Working Paper. Houston, Texas: Department of Economics: University of Houston*.

Goldstein, Judith and Lisa Martin. 2000. Legalization, Trade Liberalization and domestic Politics. *International Organization* 54(3): 603-632.

Goodliffe, Jay and Darren G. Hawkins. 2006. Explaining Commitment: States and the Convention Against Torture. *Journal of Politics* 68(2): 358-371.

Guzman, Andrew T. 2005. The Design of International Agreements. *The European Journal of International Law* 16(4): 579-612.

Guzman, Andrew T. 2002. The Cost of Credibility: Explaining Resistance to Interstate Dispute Resolution Mechanisms. *Journal of Legal Studies* XXXI (June): 303-326.

Hathway, Oona A. 2007. Why Do Countries Commit to Human Rights Treaties? *Journal of Conflict Resolution* 51(4): 588-621.
Iida, K. 1993. When and How Do Domestic Constraints Matter? Two-Level Games with Uncertainty. *Journal of Conflict Resolution*. 37(2): 403-426.
Iida, K. 1996. Involuntary Defection in Two-Level Games. *Public Choice*. 89(2): 283-303.
Koremenos, B. 2001 Loosening the Ties that Bind: A learning Model of Agreement Flexibility. *International Organization*. 55(2): 289-325.
Koremenos, B. 2005. Contracting Around International Uncertainty. *American Political Science Review*. 99: 549-565.
Koremenos, B., Lipson, C., and Snidal, D. 2000. The Rational Design of International Institutions. *International Organization*. 55(4): 761-799.
Lipson, Charles. 1991. Why are Some Agreements Informal? *International Organization* 45(4): 495-538.
Martin, L.L. (2000). *Democratic Commitments: Legislatures and International Cooperation*. Princeton, NJ: Princeton University Press.
Mitchell, R.B. 1994. Regime Design Matters: Intentional Oil Pollution and Treaty Compliance. *International Organization*. 48(3): 425-458.
Mitchell, R.B. (2002-2008). International Environmental Agreements Database Project (Version 2007.1). *Available at: http:/iea.uoregon.edu/*.
Morris, Madeline. 2001. High Crimes and Misconceptions: The ICC and Non-party States. Law and Contemporary Problems 64 (January): 13-66.
Neumayer, E. 2002a. Do Democracies Exhibit Stronger International Environmental Commitment? A Cross-Country Analysis. *Journal of Peace Research*. 39(2): 139-164.
Neumayer, E. 2002b. Does Trade Openness Promote Multilateral Environmental Cooperation? *World Economy*. 25 (6): 815-832.
Palmer, Geoffrey. 1992. New ways to Make International Environmental Law. *The American Journal of International Law* 86(2): 259-283.
Raustiala, Kal. 2005. Form and Substance in International Agreements. *The American Journal of International Law* 99(3): 581-614.
Roberts, J.T., Park, B.C., and Vasquez, A.A. 2004. Who Ratifies Environmental Treaties and Why? Institutionalism, Structuralism and Participation by 192 Nations in 22 Treaties. *Global Environmental Politics*. 4(3): 22-64.
Rosendorff, Peter, B. 2005. Stability and Rigidity: Politics and Designof the WTO's Dispute Settlement Procedure. *American Political Science Review* 99(3): 389-400.
Rosendorff, P.B., and Milner, H.V. 2001. The Optimal Design of International Trade Institutions: Uncertainty and Escape. *International Organization*. 55(Fall): 829-857.
Sandford, Rosemary A. 1994. International Environmental Treaty Secretariats: Stage-hands or Actors. In Helge Ole Bergesen and Georg Parmann (eds) *Green Globe Yearbook of International Co-operation on Environment and Development 1994*. Oxford: oxford University Press, pp. 17-29.
Schneider, G., and Cederman, L.-E. 1994. The Change of Tide in Political Cooperation: A Limited Information Model of European Integration. *International Organization*. 48: 633-662.

Simmons, B.A. 1993. Credibility, Costs, and Institutions: Cooperation on Economic Sanctions. *World Politics*. 45(3): 406-432.

Simmons, B.A. 2000. International law and state behavior: Commitment and compliance in international monetary affairs. *American Political Science Review*. 94(4): 819-835.

Smith, McCall James. 2000. The Politics of Dispute Settlement Design: Explaining Legalism in Regional Pacts. *International Organizations* 54(1): 137-180.

Von Stein, J. 2008. The International Law and Politics of Climate Change. *Journal of Conflict Resolution*. 52(2): 243-268.

Zamora, Stephen. 1980. Voting in International Economic Organizations. *The American Journal of International Law* 74(3): 566-608.

Bisher erschienene Diskussionspapiere

Nr. 94: Bernauer, Thomas; Kalbhenn, Anna; Koubi, Vally; Ruoff, Gabi: On Commitment Levels and Compliance Mechanisms – Determinants of Participation in Global Environmental Agreements, Januar 2010

Nr. 93: Cho, Seo-Young: International Human Rights Treaty to Change Social Patterns – The Convention on the Elimination of All Forms of Discrimination against Women, Januar 2010

Nr. 92: Dreher, Axel; Nunnenkamp, Peter; Thiel, Susann; Thiele, Rainer: Aid Allocation by German NGOs: Does the Degree of Public Refinancing Matter?, Januar 2010

Nr. 91: Bjørnskov, Christian; Dreher, Axel; Fischer, Justina A. V.; Schnellenbach, Jan: On the relation between income inequality and happiness: Do fairness perceptions matter?, Dezember 2009

Nr. 90: Geishecker, Ingo: Perceived Job Insecurity and Well-Being Revisited: Towards Conceptual Clarity, Dezember 2009

Nr. 89: Kühl, Michael: Excess Comovements between the Euro/US dollar and British pound/US dollar exchange rates, November 2009

Nr. 88: Mourmouras, Alex, Russel, Steven H.: Financial Crises, Capital Liquidation and the Demand for International Reserves, November 2009

Nr. 87: Goerke, Laszlo, Pannenberg, Markus: An Analysis of Dismissal Legislation: Determinants of Severance Pay in West Germany, November 2009

Nr. 86: Marchesi, Silvia, Sabani, Laura, Dreher, Axel: Read my lips: the role of information transmission in multilateral reform design, Juni 2009

Nr. 85: Heinig, Hans Michael: Sind Referenden eine Antwort auf das Demokratiedilemma der EU?, Juni 2009

Nr. 84: El-Shagi, Makram: The Impact of Fixed Exchange Rates on Fiscal Discipline, Juni 2009

Nr. 83: Schneider, Friedrich: Is a Federal European Constitution for an Enlarged European Union Necessary? Some Preliminary Suggestions using Public Choice Analysis, Mai 2009

Nr. 82: Vaubel, Roland: Nie sollst Du mich befragen? Weshalb Referenden in bestimmten Politikbereichen – auch in der Europapolitik – möglich sein sollten, Mai 2009

Nr. 81: Williamson, Jeffrey G.: History without Evidence: Latin American Inequality since 1491, Mai 2009

Nr. 80: Erdogan, Burcu: How does the European Integration affect the European Stock Markets?, April 2009

Nr. 79: Oelgemöller, Jens; Westermeier, Andreas: RCAs within Western Europe, März 2009

Nr. 78: Blonski, Matthias; Lilienfeld-Toal, Ulf von: Excess Returns and the Distinguished Player Paradox, Oktober 2008

Nr. 77: Lechner, Susanne; Ohr, Renate: The Right of Withdrawal in the Treaty of Lisbon: A game theoretic reflection on different decision processes in the EU, Oktober 2008

Nr. 76: Kühl, Michael: Strong comovements of exchange rates: Theoretical and empirical cases when currencies become the same asset, Juli 2008

Nr. 75: Höhenberger, Nicole; Schmiedeberg, Claudia: Structural Convergence of European Countries, Juli 2008

Nr. 74: Nowak-Lehmann D., Felicitas; Vollmer, Sebastian; Martinez-Zarzoso, Inmaculada: Does Comparative Advantage Make Countries Competitive? A Comparison of China and Mexico, Juli 2008

Nr. 73: Fendel, Ralf; Lis, Eliza M.; Rülke, Jan-Christoph: Does the Financial Market Believe in the Phillips Curve? – Evidence from the G7 countries, Mai 2008

Nr. 72: Hafner, Kurt A.: Agglomeration Economies and Clustering – Evidence from German Firms, Mai 2008

Nr. 71: Pegels, Anna: Die Rolle des Humankapitals bei der Technologieübertragung in Entwicklungsländer, April 2008

Nr. 70: Grimm, Michael; Klasen, Stephan: Geography vs. Institutions at the Village Level, Februar 2008

Nr. 69: Van der Berg, Servaas: How effective are poor schools? Poverty and educational outcomes in South Africa, Januar 2008

Nr. 68: Kühl, Michael: Cointegration in the Foreign Exchange Market and Market Efficiency since the Introduction of the Euro: Evidence based on bivariate Cointegration Analyses, Oktober 2007

Nr. 67: Hess, Sebastian; Cramon-Taubadel, Stephan von: Assessing General and Partial Equilibrium Simulations of Doha Round Outcomes using Meta-Analysis, August 2007

Nr. 66: Eckel, Carsten: International Trade and Retailing: Diversity versus Accessibility and the Creation of "Retail Deserts", August 2007

Nr. 65: Stoschek, Barbara: The Political Economy of Enviromental Regulations and Industry Compensation, Juni 2007

Nr. 64: Martinez-Zarzoso, Inmaculada; Nowak-Lehmann D., Felicitas; Vollmer, Sebastian: The Log of Gravity Revisited, Juni 2007

Nr. 63: Gundel, Sebastian: Declining Export Prices due to Increased Competition from NIC – Evidence from Germany and the CEEC, April 2007

Nr. 62: Wilckens, Sebastian: Should WTO Dispute Settlement Be Subsidized?, April 2007

Nr. 61: Schöller, Deborah: Service Offshoring: A Challenge for Employment? Evidence from Germany, April 2007

Nr. 60: Janeba, Eckhard: Exports, Unemployment and the Welfare State, März 2007

Nr. 59: Lambsdoff, Johann Graf; Nell, Mathias: Fighting Corruption with Asymmetric Penalties and Leniency, Februar 2007

Nr. 58: Köller, Mareike: Unterschiedliche Direktinvestitionen in Irland – Eine theoriegestützte Analyse, August 2006

Nr. 57: Entorf, Horst; Lauk, Martina: Peer Effects, Social Multipliers and Migrants at School: An International Comparison, März 2007 (revidierte Fassung von Juli 2006)

Nr. 56: Görlich, Dennis; Trebesch, Christoph: Mass Migration and Seasonality Evidence on Moldova's Labour Exodus, Mai 2006

Nr. 55: Brandmeier, Michael: Reasons for Real Appreciation in Central Europe, Mai 2006

Nr. 54: Martínez-Zarzoso, Inmaculada; Nowak-Lehmann D., Felicitas: Is Distance a Good Proxy for Transport Costs? The Case of Competing Transport Modes, Mai 2006

Nr. 53: Ahrens, Joachim; Ohr, Renate; Zeddies, Götz: Enhanced Cooperation in an Enlarged EU, April 2006

Nr. 52: Stöwhase, Sven: Discrete Investment and Tax Competition when Firms shift Profits, April 2006

Nr. 51: Pelzer, Gesa: Darstellung der Beschäftigungseffekte von Exporten anhand einer Input-Output-Analyse, April 2006

Nr. 50: Elschner, Christina; Schwager, Robert: A Simulation Method to Measure the Tax Burden on Highly Skilled Manpower, März 2006

Nr. 49: Gaertner, Wulf; Xu, Yongsheng: A New Measure of the Standard of Living Based on Functionings, Oktober 2005

Nr. 48: Rincke, Johannes; Schwager, Robert: Skills, Social Mobility, and the Support for the Welfare State, September 2005

Nr. 47: Bose, Niloy; Neumann, Rebecca: Explaining the Trend and the Diversity in the Evolution of the Stock Market, Juli 2005

Nr. 46: Kleinert, Jörn; Toubal, Farid: Gravity for FDI, Juni 2005

Nr. 45: Eckel, Carsten: International Trade, Flexible Manufacturing and Outsourcing, Mai 2005

Nr. 44: Hafner, Kurt A.: International Patent Pattern and Technology Diffusion, Mai 2005

Nr. 43: Nowak-Lehmann D., Felicitas; Herzer, Dierk; Martínez-Zarzoso, Inmaculada; Vollmer, Sebastian: Turkey and the Ankara Treaty of 1963: What can Trade Integration Do for Turkish Exports, Mai 2005

Nr. 42: Südekum, Jens: Does the Home Market Effect Arise in a Three-Country Model?, April 2005

Nr. 41: Carlberg, Michael: International Monetary Policy Coordination, April 2005

Nr. 40: Herzog, Bodo: Why do bigger countries have more problems with the Stability and Growth Pact?, April 2005

Nr. 39: Marouani, Mohamed A.: The Impact of the Mulitfiber Agreement Phaseout on Unemployment in Tunisia: a Prospective Dynamic Analysis, Januar 2005

Nr. 38: Bauer, Philipp; Riphahn, Regina T.: Heterogeneity in the Intergenerational Transmission of Educational Attainment: Evidence from Switzerland on Natives and Second Generation Immigrants, Januar 2005

Nr. 37: Büttner, Thiess: The Incentive Effect of Fiscal Equalization Transfers on Tax Policy, Januar 2005

Nr. 36: Feuerstein, Switgard; Grimm, Oliver: On the Credibility of Currency Boards, Oktober 2004

Nr. 35: Michaelis, Jochen; Minich, Heike: Inflationsdifferenzen im Euroraum – eine Bestandsaufnahme, Oktober 2004

Nr. 34: Neary, J. Peter: Cross-Border Mergers as Instruments of Comparative Advantage, Juli 2004

Nr. 33: Bjorvatn, Kjetil; Cappelen, Alexander W.: Globalisation, inequality and redistribution, Juli 2004

Nr. 32: Stremmel, Dennis: Geistige Eigentumsrechte im Welthandel: Stellt das TRIPs-Abkommen ein Protektionsinstrument der Industrieländer dar?, Juli 2004

Nr. 31: Hafner, Kurt: Industrial Agglomeration and Economic Development, Juni 2004

Nr. 30: Martinez-Zarzoso, Inmaculada; Nowak-Lehmann D., Felicitas: MERCOSUR-European Union Trade: How Important is EU Trade Liberalisation for MERCOSUR's Exports?, Juni 2004

Nr. 29: Birk, Angela; Michaelis, Jochen: Employment- and Growth Effects of Tax Reforms, Juni 2004

Nr. 28: Broll, Udo; Hansen, Sabine: Labour Demand and Exchange Rate Volatility, Juni 2004

Nr. 27: Bofinger, Peter; Mayer, Eric: Monetary and Fiscal Policy Interaction in the Euro Area with different assumptions on the Phillips curve, Juni 2004

Nr. 26: Torlak, Elvisa: Foreign Direct Investment, Technology Transfer and Productivity Growth in Transition Countries, Juni 2004

Nr. 25: Lorz, Oliver; Willmann, Gerald: On the Endogenous Allocation of Decision Powers in Federal Structures, Juni 2004

Nr. 24: Felbermayr, Gabriel J.: Specialization on a Technologically Stagnant Sector Need Not Be Bad for Growth, Juni 2004

Nr. 23: Carlberg, Michael: Monetary and Fiscal Policy Interactions in the Euro Area, Juni 2004

Nr. 22: Stähler, Frank: Market Entry and Foreign Direct Investment, Januar 2004

Nr. 21: Bester, Helmut; Konrad, Kai A.: Easy Targets and the Timing of Conflict, Dezember 2003

Nr. 20: Eckel, Carsten: Does globalization lead to specialization, November 2003

Nr. 19: Ohr, Renate; Schmidt, André: Der Stabilitäts- und Wachstumspakt im Zielkonflikt zwischen fiskalischer Flexibilität und Glaubwürdigkeit: Ein Reform-ansatz unter Berücksichtigung konstitutionen- und institutionenökonomischer Aspekte, August 2003

Nr. 18: Ruehmann, Peter: Der deutsche Arbeitsmarkt: Fehlentwicklungen, Ursachen und Reformansätze, August 2003

Nr. 17: Suedekum, Jens: Subsidizing Education in the Economic Periphery: Another Pitfall of Regional Policies?, Januar 2003

Nr. 16: Graf Lambsdorff, Johann; Schinke, Michael: Non-Benevolent Central Banks, Dezember 2002

Nr. 15: Ziltener, Patrick: Wirtschaftliche Effekte des EU-Binnenmarktprogramms, November 2002

Nr. 14: Haufler, Andreas; Wooton, Ian: Regional Tax Coordination and Foreign Direct Investment, November 2001

Nr. 13: Schmidt, André: Non-Competition Factors in the European Competition Policy: The Necessity of Institutional Reforms, August 2001

Nr. 12: Lewis, Mervyn K.: Risk Management in Public Private Partnerships, Juni 2001

Nr. 11: Haaland, Jan I.; Wooton, Ian: Multinational Firms: Easy Come, Easy Go?, Mai 2001

Nr. 10: Wilkens, Ingrid: Flexibilisierung der Arbeit in den Niederlanden: Die Entwicklung atypischer Beschäftigung unter Berücksichtigung der Frauenerwerbstätigkeit, Januar 2001

Nr. 9: Graf Lambsdorff, Johann: How Corruption in Government Affects Public Welfare – A Review of Theories, Januar 2001

Nr. 8: Angermüller, Niels-Olaf: Währungskrisenmodelle aus neuerer Sicht, Oktober 2000

Nr. 7: Nowak-Lehmann, Felicitas: Was there Endogenous Growth in Chile (1960-1998)? A Test of the AK model, Oktober 2000

Nr. 6: Lunn, John; Steen, Todd P.: The Heterogeneity of Self-Employment: The Example of Asians in the United States, Juli 2000

Nr. 5: Güßefeldt, Jörg; Streit, Clemens: Disparitäten regionalwirtschaftlicher Entwicklung in der EU, Mai 2000

Nr. 4: Haufler, Andreas: Corporate Taxation, Profit Shifting, and the Efficiency of Public Input Provision, 1999

Nr. 3: Rühmann, Peter: European Monetary Union and National Labour Markets, September 1999

Nr. 2: Jarchow, Hans-Joachim: Eine offene Volkswirtschaft unter Berücksichtigung des Aktienmarktes, 1999

Nr. 1: Padoa-Schioppa, Tommaso: Reflections on the Globalization and the Europeanization of the Economy, Juni 1999

Alle bisher erschienenen Diskussionspapiere zum Download finden Sie im Internet unter: http://www.uni-goettingen.de/de/60920.html.