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# Which States Enter into Treaties, and Why?

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## WHICH STATES ENTER INTO TREATIES, AND WHY?

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*Abstract*. Treaties are the primary source of international law. But little is known about which countries enter into treaties, which forms the treaties take, and which subjects they address. We present an exploratory analysis of a unique dataset of roughly 50,000 treaties ratified since 1946. We hypothesize that states enter treaties in order to obtain public goods but that the transaction costs of negotiating and enforcing treaties also limit the value of treaties. Simple predictions are that larger and richer states should benefit more from cooperation: therefore, they should be parties to more treaties. Older, less corrupt, and (again) larger states should face lower transaction costs and should belong to more treaties. Consistent with this prediction, these states enter into more bilateral treaties and "closed" multilateral treaties, but universal multilateral treaties where the benefits of cooperation are more attenuated and the costs of negotiation are low for small states.

One of the most striking trends in international relations since World War II has been the proliferation of treaties. States have entered more than 45,000 bilateral treaties and 8,000 multilateral treaties since World War II, including more than 600 multilateral treaties sponsored by the United Nations. Although there are no reliable data on treaties prior to World War II, there is no doubt that the rate of treaty-making, at least among the most active states, has increased dramatically since then. Why do some states enter so many treaties while others enter into so few?

The standard answer to this question is that states enter treaties in order to obtain gains from cooperation. But this answer is only the beginning of the analysis. Not only do some states enter more treaties than others, some enter certain types of treaties (trade, human rights) more than others. Some states prefer multilateral treaties to bilateral treaties; among states that enter multilateral treaties, some issue reservations more than others. States entering bilateral treaties choose different treaty partners and choose different number of treaties to make with each partner. The simple assertion that treaty-making occurs when it generates gains for the participating states is insufficient to explain variations across these dimensions of treaty-making.

Many empirical regularities of treaty-making remain almost entirely unknown. Basic facts, such as which types of treaties countries most commonly enter and which types of countries engage in the most treaty-making – let alone what are the consequences of treaty-making – have not been established. Political scientists have begun to analyze treaty activity in a serious empirical fashion only in the past few years. So far, the literature has focused on compliance with treaties (e.g., Simmons 2006) and not on signature and ratification.[2] Although political scientists have long been interested in particular treaty regimes, including why states enter them and how they operate, they have not exploited treaty databases in order to reveal large-scale regularities in treatymaking. International law scholars have generally concerned themselves with the normative implications of treaty-making. Many believe that states should contribute to the development of international law by entering treaties, especially multilateral treaties (see, e.g., Blum 2006 for a discussion). But this scholarship proceeds largely without empirical evidence.

This paper begins to fill the gap in our understanding of when treaty-making occurs and which forms it takes by providing a foundational set of facts. Drawing on a variety of sources, we develop a database of treaty-making since 1946. It includes the treaties each country has entered into, the dates of entry, the subject matter and form (e.g., bilateral or multilateral) of each treaty, dates of signature and ratification, reservations, and related data. In this paper, we explore the cross-sectional features of these data. Among other things, we document which countries and regions engage in the most treaty-making. We decompose treaty-making by subject area and form: bilateral and multilateral. We also consider which countries are most likely to lodge reservations against multilateral treaties.

Our investigation is not purely descriptive, however. We make several predictions about the pattern of treaty-making and test these predictions. We argue that states enter treaties in order to obtain public goods, but that negotiating and enforcing treaties are costly—that is, they involve transaction costs. When a state decides whether to enter a treaty, it compares the benefit from the public good and the transaction costs. As the potential public goods increase, and as transaction costs decline, a state is more likely to enter a treaty, all else equal.

The paper proceeds as follows. Section I presents our stylized conceptual framework and our basic empirical conjectures. Section II describes our data and its sources, and presents key summary statistics that reveal the basic patterns in treaty-making by geography and treaty subject. Sections III presents our empirical results, and Section IV offers our tentative conclusions and directions for future work.

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[2] Exceptions include Vreeland (2008) who studies why dictatorships join the Convention Against Torture. Also, the economics of trade literature examines the impact of trade treaties (e.g., Rose 2004; Von Stein 2005; Goldstein et al., 2007) and the determinants of trade policy (e.g., Mansfield and Reinhardt, 2003; Mansfield et al., 2002). There is also a related literature on the factors that determine whether states enter international organization (e.g., Mansfield and Pevehouse, 2006).

## I. Conceptual Framework: Public Goods and Transaction Costs

*Public goods and state size.* A standard prediction is that states enter into treaties to secure gains from cooperation. These gains typically take the form of public goods. We follow the familiar assumptions that the geographic boundaries of a state are fixed,[3] and that one of the functions of a state is the provision of public or collective goods, such as internal policing, external defense, regulation of industry, enforcement of contracts and property rights, and the provision of a social safety net. A large state takes advantage of economies of scale, and so can provide large-scale public goods more cheaply than small states can.

The advantage of the treaty is that it allows governments to produce different public goods at different scales. Consider an example in which environmental quality and the size of economic markets are public goods. If environmental regulation is best performed at the state level, while the optimal size for economic markets would be at the two-state level, then the two states can remain separate, regulate the environment separately, and create a two-state market through a trade treaty. When populations are heterogeneous, and so the optimal scale for most public goods is relatively low, smaller states can more effectively supply the low-scale public goods while using treaties to supply the higher-scale public goods. This logic implies that treaty-making and state size are *substitutes*, and thus that smaller states belong to more treaties than larger states do.[4] Small states must enter treaties in order to produce the public goods that large states can produce internally.

This prediction, that the number of states increases as the cost of treaty-making declines, has some support in recent history. Contemporaneous with the proliferation of treaties has been the fragmentation of states. In 1945, there were fewer than 80 states; today there are almost 200. Some scholars attribute the fragmentation of states to globalization. Alesina and Spolaore (2003) claim that a more benign international trade and security environment contributed to this trend.

Note, however, that the prediction is not as clear as it might first seem. First, the analysis in this paper examines a cross-section of countries, and we do not observe movements over time in the number of treaties, particularly movements in response to merger and break-up events. If variations in the extensive margin of state sizes are not observed, it is unlikely that substitution effects can be detected. In addition to this observational difficulty, a new literature argues that large states have advantages in governing because the fixed costs of government can be spread across the larger population (Mulligan

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[3] Alesina and Spolaore (2003) and Spolaore and Warcziag (2005) present analyses in which borders are treated as endogenous, but they do not consider the possibility of treaties.

[4] This logic has a strong analogy to Coase's (1937) theory of the firm. Treaty-making activity may be a rough proxy for cooperation between states, analogous to the choice of a firm to contract with other firms rather than expand by purchasing other firms or hiring employees. At the extreme, we could imagine thousands of states cooperating by treaty.

& Shleifer 2005). If this argument is correct, it may be that larger states will enter more treaties because treaty-making itself has high fixed costs, and larger states can spread this cost over a larger population. Larger states not only can maintain larger foreign ministries to negotiate and monitor treaties; they can also more effectively retaliate if treaty partners violate a treaty. According to this view, state size and treaty-making are *complements*.

Even if the larger countries do not have the advantage of lower fixed costs of treaty-making, they may offer higher net benefits of scale with the result that they enter into more treaties. If small states gain more from entering treaties with larger states than with other small states, then large states could end up belonging to more treaties. Consider, for example, a large state L and three small states S1, S2, and S3. If each of the three small states seeks access to a larger economic market, and if the cost of concluding a treaty varies little with country size, then a treaty with L would promise the largest net benefits. A treaty with L would grant access to a larger market than a treaty with either of the smaller countries, and it would do so at roughly the same cost. Were each of the small states to pursue a treaty with the larger state, then L would belong to three treaties, while S1, S2, and S3 would each belong to only one treaty.[5] This example produces two predictions: (1) larger states enter into more treaties; and (2) many treaties should arise between large states and small states, as well as between large states, and few treaties between small states. Thus, there are plausible reasons to expect the opposite of the Coasean prediction.

*Other transaction costs measures.* If states obtain benefits by entering treaties, they also face transaction costs. Treaties are highly costly both to negotiate and to enforce. Negotiation costs are familiar from the law and economics literature on contracts. Treaties, like contracts, describe the obligations of parties extending into the future. Because the future is difficult to predict, resources must be spent in anticipating possible contingencies that increase the cost or reduce the benefits of treaty compliance. For example, a trade treaty that reduces tariff barriers might create no problems today, when domestic producers who compete with imports are prosperous, but might create political problems in the future, if a recession throws these producers' employees out of work. Adding detail to the treaty—such as conditional obligations—requires further effort. And, throughout, parties must bargain over how the surplus created by the treaty should be divided, which can give rise to bluffing, impasses, and other costs.

Enforcement costs are also significant. Each party must monitor the other in order to guard against treaty violations. Monitoring can be extremely difficult, and even after the violation is detected, the cost of enforcement is high. Because self-help is the only remedy, a state must deprive itself of the benefits of the cooperative relationship in order to sanction

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[5] Moreover, if larger states regularly engaged in more treaties than smaller states, the costs of establishing treaties may fall for large states. That is, there may be economies of scale in treaty-making, and if so, it provides another reason why larger countries may enter into more treaties.

the violator. Retaliation further interferes with the production of the public good in the short term.

Transaction costs are, of course, difficult to measure. We consider two measures: corruption level and age. We conjecture that non-corrupt governments will, all else equal, want to avoid entering treaties with corrupt governments. Corruption raises the cost of treaty-making in at least two ways. It may be necessary to make illicit payments in order to induce a corrupt government to agree to a treaty, and the costs of enforcing a treaty with a corrupt government may be higher given the danger that corrupt officials can be bribed to violate treaty obligations. This approach to reverses the causal direction of Sandholtz and Gray (2003), who argue that international integration reduces corruption.

With regard to a country's age, older countries face lower transaction costs than newer countries do. Older countries, we conjecture, have more established customs, norms, and political institutions, which allow for smoother operation of the government, and hence cheaper negotiation, monitoring, and enforcement of treaties. Thus, older states may be party to more treaties than younger states are.

*Types and Forms of Treaties.* State size and transactions costs may influence the form of treaty-making in addition to the frequency of treaty-making. We distinguish three types of treaty-making: (1) bilateral treaties; (2) multilateral treaties deposited with the Secretary General of the United Nations, which call "open" multilateral treaties or U.N. multilateral treaties; and (3) other multilateral treaties that are not deposited with the Secretary General, and which we call "closed" or non-U.N. multilateral treaties. Bilateral treaties are simply treaties between two states. Multilateral treaties deposited with the Secretary General are treaties that have been sponsored by a United Nations organ such as the General Assembly or a UN regional commission. Under UN rules, these treaties are supposed to be of more general interest to the international community; they include the major human rights treaties, the Geneva Conventions, the Kyoto protocol, and the like.[6] Generally, these treaties are open to all countries in the world, or to all countries in a particular region. Closed multilateral treaties reflect more parochial or regional concerns; these include trade agreements and military alliances. The North American Free Trade Agreement (NAFTA) between Canada, Mexico, and the United States is an example of a closed multilateral treaty.

Each type of treaty presents a potentially different combination of costs and benefits to state. An analogy to standard-form contracts makes these differences apparent. Bilateral treaties and closed multilateral treaties are unlike standard-form contracts in that the particular parties negotiate them and tailor them to their specific needs. A plausible assumption is that negotiating and drafting bilateral treaties and closed multilateral treaties involve high transactions costs because of their specificity. In contrast, open multilateral

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[6] See United Nations 2006, § 2.3.

6

treaties are closer to standard-form contracts. The transactions costs of negotiating open multilateral treaties may be high because more countries potentially participate in the drafting. But a goal of these treaties is often universal adoption, and once negotiated, the marginal cost of adding another member is low. Bilateral and closed multilateral treaties do not have do not have the same advantage of ex-post adjustments in participation. The marginal cost of a new partner to a bilateral or multilateral treaty is high because all participants must renegotiate the treaty.

States may enter open multilateral treaties subject to reservations that limit their obligations under these treaties. A plausible explanation for this practice is that reservations enable states to deviate from one-size-fits-all treaty obligations without obtaining advantages over non-reserving states, whose own obligations toward reserving states are reduced in reciprocal fashion (Parisi and Sevcenko 2002; Swaine 2006). States enter multilateral treaties in order to reduce the transaction costs of negotiating dozens of bilateral treaties, but the ability to reserve ensures that states whose interests are not adequately reflected in the treaty itself are not forced to an all-or-nothing choice between ratifying an unattractive treaty or opting out. International lawyers fear that this practice weakens international institutions and limits the development of international law, at least with respect to major standard-setting treaties such as human rights treaties.

Variation in the costs and benefits of treaty forms suggests that states' preferred treaty forms will differ. States that enter into bilateral and closed multilateral treaties most often are apt to be those with the largest gains from and lowest costs to individualized contracting. Open multilateral treaties should not correlate with country size because their ambition of global membership minimizes the cost of adding additional members. But to the extent that reservations to open multilateral treaties are a form of individualized contracting or opting out, states with lower transactions costs and larger sizes may be more likely to lodge reservations.

In sum, we advance four main empirical predictions:

● Larger states enter into more treaties. (A competing hypothesis is that larger states enter into fewer treaties).
● States with lower transactions costs, as proxied by a more advanced age and a lower degree of corruption, enter into more treaties.
● The frequency with which countries enter into U.N. treaties should not depend on a state's size.
● Smaller countries and countries with higher transactions costs should be less likely to enter into bilateral treaties or multilateral treaties outside of the U.N. framework.

**II. Data**

A. Treaty Types

*Sources of treaties.* Our data set consists of treaties that states have entered since 1946. For bilateral treaties and multilateral treaties other than those sponsored by a United Nations organ, we rely on the Washington Treaty Index.[7] The WTI database is more comprehensive than the United Nations Treaty Series, which other scholars have used. The UNTS consists of treaties that states have voluntarily registered with the UN Secretariat.[8] The WTI consists of the UNTS treaties plus many thousands of treaties that states have not registered with the Secretariat. The superior comprehensiveness of the WTI is partly offset by the fact that data collection stopped in the 1990s, whereas the UNTS has been kept up to date. We use the WTI because even with these limitations it contains many thousands more treaties than the UNTS does. For multilateral treaties sponsored by a United Nations organ, we rely on the UN multilateral treaties database. This database is complete, and includes much useful information about reservations and other treaty actions as well.

Bilateral treaties can be decomposed by the type of treaty partner: those between two states, and those between a state and a multinational organization. Our bilateral data set consists of 38,186 bilateral treaties between states and 8,513 bilateral treaties between one state and an international organization. Our multilateral UN treaty data set consists of 667 multilateral treaties. The average such treaty has about 32 parties. Our multilateral non-UN treaty data set consists of 6,258 treaties; the average such treaty has about 4 parties.

*Omission of treaties and inclusion of void and minor treaties.* States are legally obligated to register all treaties with the United Nations. Treaties that are not registered cannot be invoked before an organ of the United Nations. Nonetheless, it is clear that all states do not register all treaties (Blum 2006). States might refrain from submitting secret treaties or treaties that other states might object to; they might also simply neglect to submit treaties. The compilers of the WTI tried to adjust for this problem by soliciting unregistered treaties directly from governments; however, we do not know whether these efforts might have been affected by bias. We have found some anomalies by cross-checking registrations of parties to the same treaty. It appears that the countries with higher per capita income and more honest governments report more often. We can fix this problem to some extent but not completely. If the U.S. and Costa Rica are parties to a treaty that the U.S. registers but Costa Rica fails to register, we assume that the treaty is valid and both states are parties to it. But if two poor states both fail to register the treaty, our results will be biased. In addition, the UN data base counts an initial treaty ratified at time 1 and a mutual withdrawal at time 2 as two treaties rather than zero treaties, which is troublesome; more troublesome, treaties that have fallen into desuetude, minor treaties, and major treaties are all given equal weight.

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[7] See the World Treaty Index, http://db.lib.washington.edu/wti/wtdb.htm. See Pearson 2001.

[8] See United Nations Treaty Collection, http://untreaty.un.org/English/treaty.asp. See Kohona 2002.

*Omission of treaty-substitutes.* The data set omits non-treaty agreements, which are often functionally similar or even identical to real treaties. Many such agreements are made between ministries or departments of governments of different states rather than officially by the governments themselves, but as far as we know they are no less likely to be complied with. For example, the U.S. Department of Energy lists dozens of agreements that it has made with similar ministries in more than fifty other states.[9] These agreements might be appropriately counted as treaties for purpose of our analysis, but we have no way to find them systematically. However, we also have no reason to think that states' official treaty-making is unrepresentative of their lower-level agreements.

*Quasi-states.* Many treaties in the WTI and the UNTS data sets do not involve sovereign states but dependencies of states. We exclude these treaties from our regressions.

*New, old, and successor states.* When a state divides, typically but not always one of the new states can be identified as the continuing version of the old state, while the other states are treated as originating with the division. The old state's treaties are mainly allocated to the continuing state, but they might also be inherited by the others. For example, Russia inherited the treaties of the Soviet Union; Kazakhstan did not. In some cases, as when Czechoslovakia divided into the Czech and Slovak republics, the treaties must be allocated on an ad hoc basis. This point is of importance when trying to determine the age of states in our data set, and we use various methods for handling these problems (including running regressions with and without the problematic states).

*Timing.* Our cross-sectional dataset reflects social, economic, and demographic information on states from approximately 1980 to 2000. Because between-state variation is much greater than longitudinal, within-state variation during this period, we do not think it matters that all of the information is not from the same year. States that came into this existence during this period were dropped from the regressions.

B. Summary Statistics on Treaties

*Geography.* Table 1.A presents averages for the number of treaties states joined and the level of membership in those treaties. The averages are taken across continents to provide insight into the geographic distribution of treaties.[10]

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[9] U.S. Department of Energy, Bilateral International Agreements, https://ostiweb.osti.gov/iaem/country-frame_bi.html.

[10] Note that the method of calculation implies the double-counting of bilateral treaties between states. If Canada has a treaty with Tanzania, the treaty enters the data twice—once as a Canadian treaty and a second time as a Tanzanian treaty. For bilateral treaties between a state and a non-state organization, there is no double counting. Averages are taken across continents, and non-state organizations are not coded as having any particular geography. When averages area taken across continents, the organization's tallies are therefore excluded from the calculations.

Column (1) shows the average number of bilateral treaties countries have ratified. The magnitude of the variation across continents is enormous. The average for North America is more than ten times that of Africa. The North American average is driven by the United States, which is party to 7,181 bilateral treaties;. The next most active nation, France, is party to 3,707 bilateral treaties. The third most active, Spain, is party to 2,527 bilateral treaties, and China is the fourth most active with 2,490 bilateral treaties. North America has nearly five times the average number of bilateral treaties with states as the second-ranked continent (Europe). The average state has entered 463 bilateral treaties.

Column (2) reports similar averages for bilateral treaties between states and organizations. Again, North America has the highest average. The level of these averages is much lower than those in column (1), which indicates that treaties between a state and an organization are less frequent than treaties between two states. The difference is particularly striking in continents with mostly developed countries. In North America, the values in columns (1) and (2) differ by almost an order of magnitude, and in Europe, the average number of bilateral treaties with non-state partners is about 11% of the average number of bilateral treaties with state partners. Among the developing world, the gap is not quite as large. For example, in Africa, the average number of bilateral treaties with non-state partners is about half of the average number of bilateral treaties with state partners. This is consistent with the larger role international organizations play in developing economies.

Column (3) shows the number of "closed" or non-UN multilateral treaties joined by the average state, or the number of such multilateral treaties that a state has ratified. Column (4) reports the average number of partners belong to the non-UN multilateral treaties that states in a given continent join. For example, imagine that every state on continent X belonged to two non-UN multilateral treaties, one of which had 50 members and the other had 100 members. In this instance, the average number of treaty partners states on continent X would have for the UN multilateral treaties which they joined would be 75. This measure gives an indication of whether states are joining non-UN multilateral treaties that many other states are joining.

As with bilateral treaties, North America – and specifically the United States – dominates the number of closed multilateral treaties joined. Europe is not far behind with 568 closed multilateral treaties joined on average, and again, African countries belong to relatively few closed multilateral treaties. In addition, the number of closed multilateral treaties joined appears inversely related to the average membership in the closed multilateral treaties joined. For example, comparing columns (3) and (4), African countries join on average fewer non-UN multilateral treaties (171 versus 327 for all countries). But the non-UN treaties which African countries join tend to be the treaties with the widest subscriptions. The treaties that Latin American countries join have on average 50 other countries as members, compared with 39 for all countries. Europe and North America

exhibit the opposite pattern. Countries on these continents join on average more non-UN multilateral treaties (569 and 672, respectively), and on average, the non-UN treaties European countries join tend to have fewer participants (30 for both). States that join few closed multilateral treaties appear to join the more popular or more widely subscribed multilateral treaties, while states that join many closed multilateral treaties appear to join some less popular or less widely subscribed multilateral treaties.

Columns (5) and (6) repeat the exercise for closed or non-UN multilateral treaties. Just as with closed multilateral treaties, an inverse relationship between number of treaties joined and average treaty membership emerges among open multilateral treaties. States in North America and Europe join the most open multilateral treaties but these treaties have a smaller number of members on average. In contrast, states in Africa join relatively few open multilateral treaties, but these treaties have relatively high average membership. Asian countries are outliers in this pattern; they join relatively few closed multilateral treaties and these treaties have a low average membership.

But the averages for non-UN multilateral treaties contrast with the averages for UN treaties in three ways. First, the variation is much less than that of bilateral treaties. The averages range from a high of 173 in Europe to a low of 84 in Latin America. The more modest geographic variation in open multilateral treaties is likely due to the fact that there is a limited number of UN multilateral treaties available for states to join while the number of bilateral and closed multilateral arrangements states may concoct among themselves is potentially infinite. Second, the average number of non-UN multilateral treaties joined is, on most continents, roughly double that of the UN multilateral treaties joined. Third, the average number of members to the non-UN multilateral treaties is between a half to a third of the average for UN treaties. States tend to belong to more closed multilateral treaties than open multilateral treaties, but each closed multilateral treaty has on average fewer members than open multilateral treaties do.

The last two columns of Panel A consider the frequency with which states advance reservations against UN treaties. Column (7) shows that the average number of UN multilateral treaties that states on each continent have joined with reservations. The global average is 25 relative to an average 114 UN treaties joined, or about 22% of the average number of UN treaties joined. Countries in Europe and Latin America are the outliers. European countries lodge reservations to an average of 36 of the multilateral treaties it joins, while the average Latin American country does so to only 19 multilateral treaties. In percentage terms, the average European country issues reservations in 44% of the multilateral treaties it joins, and the average Latin American country issues reservations in only 17%.

The final column of Panel A displays the average number of partners in the multilateral UN treaties that are ratified with reservations. For every continental average, the

11

treaties against which countries advance reservations have more members than the multilateral treaties that garner no reservations. Treaties for which a country issues a reservation have on average fifteen more member countries than the average of all multilateral treaties the country joins. This difference is consistent with the view that the ability to lodge a reservation makes a treaty acceptable to a larger number of states.

*Treaty subjects.* Panel B of Table 1 displays average characteristics of treaties by their subject area. The unit of analysis here is a treaty, unlike in Panel A where it was countries. The columns report the number of treaties, with the exception of column (4) which reports the average number of member states per treaty.

Columns (1) through (3) show that despite the considerable attention that treaties on human rights, refugees, and cultural issues receive, they comprise an exceedingly small share of the total number of treaties. This pattern persists across the types of treaty forms – bilateral between states, bilateral between a state and a non-state entity, and closed multilateral. Instead, the three types of treaties that we classify as "economic" – international trade and development, transportation and communication, and fiscal matters – collectively represent the most common subject of a treaty. Economic treaties comprise a majority of bilateral treaties, irrespective of whether the partner is a state or non-state entity, and also a majority of closed multilateral treaties. Trade treaties, a subcategory of economic treaties, account for a plurality of bilateral treaties between states and of closed multilateral treaties. They constitute a majority of bilateral treaties with non-state entities, which is consistent with many of these treaties involving trade associations and development organizations.

In terms of their membership, closed multilateral treaties have relatively modest memberships. The average number of states joining each closed multilateral treaty is four, and the average varies little by subject matter.

The remaining columns of Panel B turn attention to the subjects of UN multilateral treaties. The number of such treaties (667) is about a tenth the number of closed multilateral treaties (6,258), and it is about a fiftieth the number of bilateral treaties (38,186). Again, the share of UN treaties pertaining to high-salience issues, such as human rights, refugees, and education and culture, is quite small. Economic treaties account for 32% of UN multilateral treaties, but unlike bilateral and closed multilateral arrangements, UN multilateral treaties rarely address the issues of trade and development. Instead, most of the economic UN multilateral treaties address issues of transportation and communication. Also, UN multilateral treaties address a wider diversity of topics. More than half of the UN treaties were so difficult to classify that we placed them in the catchall category of "other."

Regarding membership in UN multilateral treaties, column (6) shows that economic treaties have been ratified by roughly the same average number of countries – about 30 – as other types of treaties. An exception is the economic subcategory trade and development

which has only 23 members on average. Some of the non-economic categories, such as the treaties pertaining to refugees and civil and criminal litigation, have a higher average number of members.

The final two columns of Panel B address the relationship between reservations in UN multilateral treaties and their subject areas. Column (7)shows that the incidence of reservations to economic treaties is approximately the same as it is among all multilateral treaties on deposit with the United Nations. That rate is about 13%. The rate is considerably higher among some of the non-economic categories. Over 50% of treaties governing civil and criminal litigation have at least one member country that has lodged a reservation, and the rate is 40% or more for treaties governing refugees, and education and cultural matters.

The final column of the panel shows that multilateral treaties receiving at least one reservation have a higher average membership than other multilateral treaties. Overall, these treaties have on average twenty more member countries than the average membership of all multilateral treaties. For treaties in some of the non-economic categories, the gap is even larger. The membership of diplomatic and consular treaties, human rights treaties, and refugee treaties is more than double when those treaties have received at least one reservation.

## III. Regression Analysis

To control for the multiple factors potentially influencing treaty-making, we analyze the data with cross-sectional regressions of the form

$$Y_i = P_i\alpha + X_i\beta + \varepsilon_i,$$

where $Y_i$ is a measure of treaties into which state i has entered. Typically, $Y_i$ is the number of treaties of a particular type that country i has entered, or the fraction of treaties that country i with a particular characteristic has entered.[11] $P_i$ is the population of state i, $X_i$ is a vector of other independent variables for state i, and $\varepsilon_i$ is an error term. The independent variables include (logs) of population and real GDP per capita. Ethnolinguistic diversity measures the heterogeneity of a population along ethnic and linguistic lines: a higher measure means greater diversity. Consistent with our discussion of transactions costs, we include an index of corruption perception and the (log of a) state's age. The corruption perception index reflects the degree of corruption: a *lower* score indicates *greater* corruption. The number of contiguous countries are included as a control variable because it seems likely that a state will have more treaties if it has more neighbors. In view of the legal origins literature (La Porta, et al. 1998),

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[11] For regressions on the number of treaties, the dependent variables are effectively count data. For that reason, we also estimated Poisson regressions, and the results were qualitatively similar. For the sake of simplicity in this exploratory analysis, only OLS estimates are reported here.

we include indicators for common law, religious law, and civil law (which is omitted from the regressions as it provides the baseline). Continent dummies are also included.[12]

*All Treaties and Bilateral Treaties.* Panel A of Table 2 reports OLS estimates on all treaties and bilateral treaties. Column (1) reports the relationship between state characteristics and the (log of the) number of treaties of any type that the state has ratified, and column (2) conducts a similar exercise for the (log of) bilateral treaties. Both population and per-capita income correlate strongly with the number of treaties of any type and the number of bilateral treaties a state enters. The number of bilateral treaties and treaties of all types also rise with the age of a state and the honesty of its government (i.e., as corruption declines). These estimates are consistent with the "demand-side" predictions that larger states and states with lower transactions costs will enter into more treaties. First, less corrupt countries are more desirable trading partners, because contract formation and enforcement is less costly with more honest partners. Illicit side payments are less necessary and cheating on economic bargains are less frequent where corruption is less prevalent. Second, countries with large internal markets are desirable trading partners for smaller countries whose own domestic markets have more modest scale. Relationships between treaty-making and the other explanatory variables are weaker. The number of contiguous states appears unrelated to the number of treaties joined. The degree of ethnolinguistic diversity in a state and its possessing a legal origin other than the civil law have positive associations with the total number of treaties entered. But these correlations are not statistically significant.

These results show that larger and richer countries enter into more treaties of all sorts as well as into more treaties in bilateral form. But does bilateral treaty-making account for a larger share of such states' treaties? To assess this possibility, the dependent variable in the regression reported in column (3) is the fraction of a state's treaties that are bilateral. The United States is an outlier according to this measure as well. Forty-five percent of the average country's treaties are bilateral, but 87% of the United States' treaties are bilateral. The strongest correlates of a higher share of bilateral treaties are the size of a country's population and its age. These estimates imply that as a state's population size grows and as it ages, it will enter into more treaties of all types but will enter into disproportionately more bilateral treaties. Other characteristics do not show statistically significant relationships with the percentage of bilateral treaties. For example, while richer states enter into more treaties, they appear to enter into more treaties of all types; the fraction of bilateral treaties does not rise substantially as a state becomes wealthier. These results provide a partial confirmation of the prediction about state size, transactions costs, and the choice of treaty form.

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[12] For our dependent variable, we use the total number of treaties states had joined by 2000. The population and real GDP per capita data are the averages of 1980 and 2000. Because most of the variation in the data are cross-sectional, the specific years that we use do not matter. In alternative specifications, we add year fixed effects, which do not have a significant impact on our results. We also control for the stock of treaties, which also do not have a significant impact on our results.

The United States is an outlier with extraordinary number of treaties, and for that reason, the regressions in the last three columns repeat those in the first three but exclude the United States. (Panels B and C, discussed below, also probe the robustness of the estimates to the exclusion of the United States.) These results show that none of the conclusions hinge on the United States.

*Multilateral Treaties.* Panel B of Table 2 turns attention to multilateral treaty-making. In the regression in column (1), the dependent variable is the (log of the) number of open or UN multilateral treaties a state has entered, and in column (2), it is the (log of the) number of closed or non-UN multilateral treaties a state has entered. Both types of multilateral treaty-making feature a strong positive correlation with a state's income level. But other state characteristics exhibit sharply different relationships with the two forms of multilateral treaties.

With the exception of income level, none of the observed characteristics of a state correlate significantly with the number of UN multilateral treaties it joins. Particularly striking in view of its strong relationship with other forms of treaty-making is the lack of a correlation between population size and UN multilateral treaties. Although too much importance should not be attached to R-squares, it is striking that the explanatory variables account for a much smaller proportion of the variation in the number of UN treaties a state joins than that of the other types of treaties joined. The absence of other strong correlations here should perhaps not be surprising because multilateral treaties deposited at the UN generally open their membership to all countries. This openness may result in a diverse set of countries joining, in which case membership is unlikely to be associated with any particular state characteristics. In addition, multilateral treaties are vulnerable to free-riding, so they may not be as effective as bilateral treaties at generating cooperative surpluses; however, they might solve coordination problems. The evidence for compliance with one type of multilateral treaty—the human rights treaty—is mixed (compare Hathaway 2002, Neumayer 2007, Simmons 2006), but then the question arises why states would enter multilateral treaties if they expected each other to free ride. If multilateral treaties are less important, or mainly symbolic, they are not likely to be correlated with country characteristics.

Results from an examination of the fraction of multilateral treaties that are closed confirm these patterns. Column (3) shows estimates from a regression on this variable. Larger states, older states, and states with less corrupt governments have a higher share of their multilateral treaties in closed form. The number of contiguous states correlates with a lower incidence of non-UN multilateral treaty-making. Per-capita income does not correlate with a higher share of non-UN multilateral treaties. A state's participation in both UN and

non-UN multilateral treaties rises with its income level, and the rise appears proportional across the two forms of multilateral treaties.

Again, the United States' treaty-making is atypical along these dimensions. The average state makes 65% of its multilateral treaties outside of the UN or in closed form, while for the United States, this figure is 91%. But the estimates from the remaining columns of Panel B confirm that these patterns are not driven by the United States' unusual treaty-making practices.

*Reservations to UN Multilateral Treaties.* Panel C of Table 2 reports regressions in which the number of reservations advanced in UN multilateral treaties and the fraction of such treaties joined with reservations are the dependent variables. When a state joins a multilateral treaty subject to a reservation, it limits its obligations under the treaty. The perspective developed here suggests that larger states might have more reservations than smaller states because larger states gain less from multilateral treaties than smaller states do, given that larger states are in a better position to produce public goods internally. Large states might enter into more multilateral treaties because they have more treaty-making capacity, and the additional reservations might reflect the fact that they are outvoted by more numerous small countries on particular treaty issues during treaty negotiations.

The estimates in Panel C fail to support these hypotheses. The size of a state's population does not correlate with the number of reservations or the incidence of reservations among the UN treaties joined. With the possible exception of a state's income level, which correlates weakly with the number of reservations, none of the observed state characteristics exhibits a close relationship with reservations.

In the only statistical study of reservations—a study limited to the six major human rights treaties—Neumayer (2007) finds that liberal democracies that join human rights treaties issue reservations more frequently than nondemocracies do. Together with evidence that liberal democracies have better human rights records, Neumayer's results suggest that liberal democracies issue reservations because they take their treaty obligations more seriously than nondemocracies do (see Goldsmith and Posner 2005). In results not reported here in order to conserve space, we tested this hypothesis using our data set and adding the Polity IV variable for liberal rights. We found, consistent with Neumayer's results, that more liberal states were more likely to issue at least one reservation conditional on entering a multilateral treaty (at the 10% level); however, liberal states were no less likely to enter multilateral treaties. These results suggest either that treaties are more likely to reflect the interests of authoritarian states than those of liberal states, so that liberal states need to use reservations to adjust their obligations; or that treaties are taken more seriously by liberal

16

states, and they enter reservations because otherwise governments cannot simply order courts to ignore treaty obligations.

Columns (3) and (4) repeat the exercise excluding the United States, and the estimates are almost unchanged. Moreover, with regard to reservations, the United States is not an outlier. The average country lodges reservations in 24% of the UN treaties it joins, and the United States does so in 21%.

*Economic Treaties.* Panel D provides an initial view of the variation in treaty-making patterns by treaty subject matter. It presents estimates from regressions in which the dependent variables are the percentage of treaties that pertain to economic subjects. Column (1) presents estimates for the share of all treaties that pertain to economic topics, and the remaining columns consider the incidence of this subject within each of the three major treaty forms. The regression in column (1) shows that more populous, less corrupt, older, and lower income countries have a higher fraction of their treaties relating to economic issues.

The remaining columns show that population correlates with the frequency of economic treaty-making irrespective of the form of the treaty. The share of bilateral and non-UN multilateral treaties that address economic issues rises sharply with a state's population. While it is not statistically significant, the sign and magnitude of the point estimate implies that this pattern persists in UN multilateral treaty-making as well.

The negative relationship between the share of economic treaty-making and a state's income level arises almost exclusively from bilateral treaties. This estimate is consistent with the idea that wealthier countries may have less need to enter into economic bilateral treaties because they have already achieved a high degree of economic success and thus focus their bilateral treaty-making on other topics. As seen in previous tables, wealthier countries enter into more treaties – of all types – than poorer countries. But the fraction of treaties that pertain to non-economic subjects expands more rapidly as a state's income rises. Thus, while richer countries have more economic bilateral treaties, they account for a smaller share of their bilateral treaty-making.

Another feature of economic treaty-making that appears due to almost entirely economic treaty-making in the bilateral context is the correlation with corruption. More honest governments have a high fraction of bilateral treaties pertaining to economic issues.


**IV. Conclusion**

The empirical regularities of treaty-making – such as which states enter into treaties most often and which forms the treaties take – are poorly understood. This absence of research on treaty-making is surprising given the central role of treaties in international relations. This paper takes a first step at filling in this gap by generating a set of simple predictions about treaty-making and testing those predictions against a data set of every bilateral and multilateral treaty recorded since 1946. We find patterns of treaty-making largely consistent with these predictions. Larger and wealthier states should benefit more from cooperation, and should afford the costs of tailoring treaties to specific partners. These states enter into more treaties and enter into more bilateral and closed multilateral treaties, and in particular, larger states are more likely to enter bilateral and closed multilateral treaties that pertain to economic matters. Older and less corrupt states should be more reliable treaty partners, and they enter into more bilateral treaties and "closed" multilateral treaties. Membership in treaties sponsored by the United Nations does not correlate with country size, which is consistent with the U.N.'s goal of widespread participation, and low per-country transaction costs in negotiating these treaties.

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<u>Appendix: Variable Definitions and Sources</u>

**All treaties.** Sum of the number of bilateral and multilateral treaties a country has joined since 1946. Authors' calculation from the number of bilateral and multilateral treaties.

**Bilateral treaties**. Tallies of the number of bilateral treaties ratified by each state since 1946. Authors' tabulations from the Washington Treaty Index, http://db.lib.washington.edu/wti/wtbd.htm. *See* Section II for a complete description of how these tabulations were made.

**Multilateral treaties**. Tallies of countries' ratification of each multilateral treaties on deposit with the United Nations since 1946. Authors' tabulations from the United Nations Treaty Collection, available at http://untreaty.un.org/English/treaty.asp. *See* Section II for a complete description of how these tabulations were made.

**Non-UN multilateral treaties**. Tallies of the number of bilateral treaties ratified by each state since 1946. Authors' tabulations from the Washington Treaty Index, http://db.lib.washington.edu/wti/wtbd.htm. *See* Section II for a complete description of how these tabulations were made.

**Economic and non-economic treaties**. The authors coded both bilateral and multilateral treaties according to the 35 United Nations treaty subject categories on the basis of each treaty's title. Treaties pertaining to (1) trade and development; (2) transportation and communication; and (3) fiscal matters were grouped as economic, and the remaining 32 categories were grouped as noneconomic.

**Population**. Natural logarithm of the country's average population between 1980 and 2000. Authors' calculations of data from Alan Heston, Robert Summers, and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income, and Prices at the University of Pennsylvania, September 2006, available at http:pwt.econ.upenn.edu/.

**Real GDP per capita.** Natural logarithm of the country's average real gross domestic product (GDP) per capita between 1980 and 2000. The data are deflated to a base year of 1996 using a Laspeyres index. Authors' calculations of data from Alan Heston, Robert Summers, and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income, and Prices at the University of Pennsylvania, September 2006, available at http:pwt.econ.upenn.edu/.

**Growth rate of real GDP per capita**. Change in natural logarithm of a country's average real GDP per capita from 1980 to 2000. Authors' calculations of data from Alan Heston, Robert Summers, and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income, and Prices at the University of Pennsylvania, September 2006, available at http:pwt.econ.upenn.edu/.

**Government Inefficiency**. Average ratio of government expenditures to gross domestic product between 1980 and 2000. Authors' calculations of data from Alan Heston, Robert Summers, and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income, and Prices at the University of Pennsylvania, September 2006, available at http:pwt.econ.upenn.edu/.

**Ethnolinguistic diversity.** An index of ethnolinguistic fractionalization with values between 0 and 1. Higher values indicate a higher degree of fractionalization. The data source is Alberto Alesina, Arnaud Devleeshauwer, William Easterly, Sergio Kurlat, and Romain Wacziarg, 2003, "Fractionalization," <u>Journal of Economic Growth</u> 8(2): 155-94 (June); available at http://www.stanford.edu/~wacziarg/downloads/fractionalization.xls.

**Corruption perception index**. A composite index measuring the degree of perceived corruption in a country. It takes values between 1 and 7, with higher values indicating a more transparency and less corruption. The values for 2006 are used. The data source is Internet Center for Corruption Research. The data are available at http://www.iccg.org/downloads/CPI_2006.xls.

**Number of contiguous states** The sum of the number of states with contiguous borders. Data source: Central Intelligence Agency, 2006, CIA World Factbook Washington, DC: Government Printing Office. Available at https://www.cia.gov/cia/download.htm.

**Age of the country** The number of years since a country's independence. This figure is capped at 350 years. Authors' calculations from Central Intelligence Agency, 2006, CIA World Factbook Washington, DC: Government Printing Office. Available at https://www.cia.gov/cia/download.htm.

**Degree of political rights**. These data are taken from Center for International Development and Conflict Management, Polity IV Project, available at http://www.cidcm.umd.edu/polity/data/.

**Common or religious law country.** These classifications are taken from the classification of the Faculty of Law, Civil Law Section, University of Ottawa, available at http://www.droitcivil.uottawa.ca/world-legal-systems/eng-monde.php.

**Degree of political globalization.** This measure is the KOF Index of Political Globalization. The source is Dreher (2006), available at http://www.kof.ch/globalization/.

**Democracy**. From Polity IV.

Table 1. Summary Statistics on Treaties (Standard Errors in Parentheses)

A.        By Continent

| Continent | Average Number of State Partners in Bilateral Treaties per State (1) | Average Number of Non-State Partners in Bilateral Treaties per State (2) | Average Number of non-UN Multilateral Treaties Joined per State (3) | Average Number of Members per non-UN Multilateral Treaty (4) |
|---|---|---|---|---|
| Africa | 211.54 (22.39) | 100.00 (11.06) | 171.74 (16.77) | 49.71 (1.62) |
| Asia (excluding Southeast Asia) | 586.78 (312.43) | 109.56 (58.63) | 174.67 (71.58) | 25.90 (3.15) |
| Southeast Asia | 693.42 (138.92) | 218.25 (49.01) | 290.80 (32.40) | 41.65 (1.11) |
| Latin America | 368.17 (78.26) | 93.83 (16.55) | 236.12 (23.80) | 43.32 (1.83) |
| North America | 3,210.33 (1,985.90) | 354.00 (119.54) | 672.33 (159.90) | 30.15 (4.98) |
| Europe | 770.94 (147.62) | 86.68 (16.22) | 568.55 (83.18) | 30.01 (1.46) |
| Mideast | 592.43 (79.16) | 137.14 (21.95) | 256.13 (49.79) | 38.72 (2.88) |
| **World** | **462.96 (72.55)** | **116.30 (10.66)** | **326.59 (28.34)** | **39.30 (1.08)** |

Table 1. Summary Statistics on Treaties (Standard Errors in Parentheses)
A.       By Continent (cont.)

| Continent | Average Number of UN Treaties Joined per State (5) | Average Number of Treaty Partners per UN Treaty Joined (6) | Average Number of UN Treaties Joined with Reservations per State (7) | Average Number of Treaty Partners per UN Treaty Joined with Reservations (8) |
|---|---|---|---|---|
| Africa | 90.36 (8.64) | 112.22 (3.65) | 20.43 (1.63) | 128.70 (3.96) |
| Asia (excluding Southeast Asia) | 84.67 (7.98) | 108.40 (3.85) | 21.67 (1.5) | 118.63 (4.37) |
| Southeast Asia | 110.92 (9.07) | 101.67 (4.25) | 22.92 (1.42) | 117.55 (4.16) |
| Latin America | 83.92 (3.96) | 114.46 (1.96) | 19.42 (.76) | 132.39 (2.38) |
| North America | 113.00 (8.96) | 98.81 (2.99) | 26.33 (3.18) | 110.84 (4.63) |
| Europe | 172.90 (11.43) | 82.45 (3.30) | 36.45 (2.23) | 95.54 (4.16) |
| Mideast | 104.43 (13.18) | 102.83 (6.19) | 23.43 (1.91) | 116.22 (3.93) |
| **World** | **113.76 (5.26)** | **102.58 (1.89)** | **25.12 (1.00)** | **117.64 (2.14)** |

Table 1. Summary Statistics on Treaties

B. By Subject Matter of Treaty (Means and in Parentheses Standard Errors, unless otherwise specified)

| Selected Treaty Subject Matters | Bilateral Treaties between States: Number and Percentage of Total | Bilateral Treaties between State and Non-State Entity: Number and Percentage of Total | Number of non-UN Multilateral Treaties: Number and Percentage of Total | Average Number of Members per non-UN Multilateral Treaty |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Diplomatic & Consular Relations | 2,480 (6.8%) | 449 (5.3%) | 266 (4.25%) | 3.6 (0.4) |
| Human Rights | 7 (0.0%) | 23 (0.3%) | 107 (1.71%) | 9.5 (1.8) |
| Refugees | 19 (0.0%) | 8 (0.1%) | 72 (1.15%) | 4.3 (0.8) |
| Education & Culture | 3,259 (8.5%) | 336 (3.9%) | 229 ( 3.66%) | 2.6 (0.3) |
| Civil & Criminal Litigation | 848 (2.2%) | 96 (1.1%) | 167 (2.67%) | 2.1 (0.3) |
| **Economic:** | 21,935 (57.4%) | 6,198 (72.8%) | 3,156 (50.4%) | 4.2 (0.2) |
| (1) International Trade & Development | 12,946 (33.9%) | 5,373 (63.1%) | 2,189 (34.98%) | 3.7 (0.2) |
| (2) Transportation & Communication | 4,022 (10.5%) | 303 (3.6%) | 597 (9.54%) | 6.0 (0.5) |
| (3) Fiscal Matters | 4,967 (13.0%) | 522 (6.1%) | 370 (5.91%) | 3.8 (0.5) |
| All Other Categories | 9,640 (25.0%) | 1,405 (16.5%) | 2,261 (36.13%) | 4.4 (0.3) |
| **Total** | **38,186 (100.0%)** | **8,513 (100.0%)** | **6,258 (100%)** | **4.2 (.03)** |

Table 1. Summary Statistics on Treaties (Standard Errors in Parentheses)

B.　　　By Subject Matter of Treaty (Means and in Parentheses Standard Errors, unless otherwise specified) (cont.)

| Selected Treaty Subject Matters | Number of UN Multilateral Treaties: Number and Percentage of Total | Average Number of Members per UN Multilateral Treaty | Fraction of UN Multilateral Treaties Where a State Joined with Reservations | Average Number of Members per UN Multilateral Treaty Having Reservations |
|---|---|---|---|---|
| | (5) | (6) | (7) | (8) |
| Diplomatic & Consular Relations | 31 (4.6%) | 43.9 (10.7) | .129 (.061) | 91.5 (41.9) |
| Human Rights | 19 (2.8%) | 28.7 (12.0) | .368 (.114) | 74.1 (25.2) |
| Refugees | 5 (2.8%) | 62.2 (30.3) | .400 (.245) | 123.0 (42.0) |
| Education & Culture | 9 (0.7%) | 34.9 (18.7) | .444 (.176) | 70.0 (36.0) |
| Civil & Criminal Litigation | 16 (2.4%) | 44.4 (16.8) | .563 (.128) | 60.4 (23.7) |
| **Economic:** | 212 (31.8%) | 30.0 (3.0) | .127 (.023) | 49.9 (10.3) |
| (1) International Trade & Development | 20 (3.0%) | 22.9 (9.0) | .200 (.092) | 68.3 (35.6) |
| (2) Transportation & Communication | 190 (28.5%) | 31.0 (3.2) | .121 (.024) | 46.3 (10.7) |
| (3) Fiscal Matters | 2 (0.3%) | -- | -- | -- |
| All Other Categories | 375 (56.2%) | 31.5 (2.2) | .101 (.016) | 37.1 (6.9) |
| **Total** | **667 (100.0%)** | **32.1 (1.7)** | **.136 (.013)** | **51.7 (5.8)** |

Table 2: Ordinary Least Squares Regressions: Treaties as a Function of Country Characteristics

A. Total Treaties and Bilateral Treaties

| | Log Treaties | All Log Bilateral Treaties | % of Treaties are Bilateral | Log Bilateral Treaties | Log Bilateral Treaties | % of Treaties are Bilateral |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Log Population | .290*** | .436*** | 5.273** | .282** | .427** | 5.273** |
| | (.044) | (.074) | (1.340) | (.046) | (.074) | (1.340) |
| Log Real GDP per capita | .175** | .212* | .578 | .168** | .205* | .578 |
| | (.071) | (.115) | (2.189) | (.071) | (.116) | (2.189) |
| Ethnolinguistic diversity | .108 | -.002 | -5.793 | .110 | .001 | -5.793 |
| | (.198) | (.265) | (5.507) | (.197) | (.265) | (5.507) |
| Corruption perception index | .097** | .125** | .323 | .098** | .127** | .323 |
| | (.037) | (.058) | (1.022) | (.037) | (.058) | (1.022) |
| Number of contiguous countries | -.012 | -.007 | .440 | -.009 | -.004 | .440 |
| | (.023) | (.034) | (.644) | (.023) | (.034) | (.644) |
| Log age of the country | .379** | .548** | 6.283** | .384** | .127** | 6.283** |
| | (.098) | (.160) | (2.525) | (.100) | (.058) | (2.525) |
| Common Law Country | .168* | .041 | -1.548 | -.153* | -.004 | -1.548 |
| | (.095) | (.151) | (3.000) | (.095) | (.034) | (3.000) |
| Religious Law Country | .108 | .121 | 2.201 | .111 | .124 | 2.201 |
| | (.139) | (.197) | (3.556) | (.141) | (.199) | (3.556) |
| Including U.S.? | Yes | Yes | Yes | No | No | No |
| R-square | .8143 | .8002 | .6743 | .8045 | .7911 | .6743 |
| N | 114 | 114 | 114 | 113 | 113 | 113 |

Note: Each regression also includes a constant and fixed effects for continents whose coefficients are not reported to conserve space. ** denotes coefficients significant at the 5% level, and * denotes coefficients significant at the 10% level. Coefficients and in parentheses standard errors.

Table 2 (cont.): Ordinary Least Squares Regressions: Treaties as a Function of Country Characteristics

B. Multilateral Treaties

| | Log UN Multilateral Treaties | Log Non-UN Multilateral Treaties | % of Multilateral Treaties are non-UN | Log UN Multilateral Treaties | Log Non-UN Multilateral Treaties | % of Multilateral Treaties are non-UN |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Log Population | .012 | .245** | 4.049** | .018 | .252** | 4.113** |
| | (.073) | (.053) | (1.233) | (.075) | (.054) | (1.267) |
| Log Real GDP per capita | .141** | .177** | .873 | .146** | .183** | .928 |
| | (.072) | (.087) | (1.971) | (.072) | (.087) | (1.940) |
| Ethnolinguistic diversity | .050 | .290 | 4.647 | .048 | .289 | 4.631 |
| | (.212) | (.271) | (6.183) | (.210) | (.272) | (6.209) |
| Corruption perception index | .027 | .123** | 1.922* | .027 | .122** | 1.912* |
| | (.038) | (.051) | (1.157) | (.038) | (.051) | (1.160) |
| Number of contiguous countries | .017 | -.050* | -1.352** | .015 | -.052 | 1.370** |
| | (.019) | (.030) | (.688) | (.019) | (.030) | (.685) |
| Log age of the country | .175 | .378** | 5.856** | .172 | .375** | 5.825** |
| | (.142) | (.098) | (2.352) | (.143) | (.098) | (2.359) |
| Common Law Country | .134 | .081 | -2.071 | .144 | .093 | -1.1953 |
| | (.122) | (.116) | (2.755) | (.123) | (.116) | (2.774) |
| Religious Law Country | .070 | .026 | .195 | .068 | .024 | .171 |
| | (.210) | (.164) | (3.755) | (.209) | (.163) | (3.755) |
| Including U.S.? | Yes | Yes | Yes | No | No | No |
| R-square | .2488 | .7115 | .5073 | .2506 | .7069 | .4994 |
| N | 114 | 114 | 114 | 113 | 113 | 113 |

Note: Each regression also includes a constant and fixed effects for continents whose coefficients are not reported to conserve space. ** denotes coefficients significant at the 5% level, and * denotes coefficients significant at the 10% level. Coefficients and in parentheses standard errors.

Table 2 (cont.): Ordinary Least Squares Regressions: Treaties as a Function of Country Characteristics

C. Reservations on UN Multilateral Treaties

| | Log Reservations | % of UN Multilateral Treaties Having Reservations | Log Reservations | % of UN Multilateral Treaties Having Reservations |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Log Population | .018 (.054) | .652 (1.092) | .026 (.056) | .720 (1.128) |
| Log Real GDP per capita | .103* (.068) | -.765 (.935) | .110* (.067) | -.707 (.936) |
| Ethnolinguistic diversity | -.023 (.177) | -1.689 (2.354) | -.025 (.174) | -1.705 (2.372) |
| Corruption perception index | .016 (.032) | -.396 (.416) | .015 (.032) | -.407 (.422) |
| Number of contiguous countries | .014 (.014) | -.114 (.270) | .012 (.015) | -1.340 (.273) |
| Log age of the country | .139 (.100) | -2.044 (2.131) | .135 (.101) | -2.079 (2.149) |
| Common Law Country | .112 (.105) | -.732 (1.164) | .127 (.106) | -.607 (1.163) |
| Religious Law Country | .003 (.152) | 2.813 (3.008) | .000 (.152) | -2.839 (3.032) |
| Including U.S.? | Yes | Yes | No | No |
| R-square | .2931 | .0923 | .3007 | .0971 |
| N | 114 | 114 | 113 | 113 |

Note: Each regression also includes a constant and fixed effects for continents whose coefficients are not reported to conserve space. ** denotes coefficients significant at the 5% level, and * denotes coefficients significant at the 10% level. Coefficients and in parentheses standard errors.

Table 2 (cont.) Ordinary Least Squares Regressions: Treaties as a Function of Country Characteristics

D. Economic Treaties

| | % of Treaties Economic | % of Treaties Bilateral and Economic | % of Treaties UN and Multilateral Economic | % of Treaties Non-UN and Multilateral Economic |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Log Population | 2.187** | .957* | .794 | 1.519** |
| | (.572) | (.740) | (.654) | (.734) |
| Log Real GDP per capita | -3.710** | -6.566** | -.555 | .175 |
| | (1.140) | (1.449) | (1.148) | (1.557) |
| Ethnolinguistic diversity | 1.603 | 4.179 | 1.554 | 3.286 |
| | (3.281) | (3.057) | (3.230) | (5.112) |
| Corruption perception index | 1.449** | 1.141** | .670 | .861 |
| | (.518) | (.563) | (.463) | (.546) |
| Number of contiguous countries | -.447 | -.921** | -.509* | -.281 |
| | (.292) | (.361) | (.263) | (.388) |
| Log age of the country | 2.673** | 1.215 | .611 | 2.829** |
| | (1.075) | (1.161) | (1.189) | (1.314) |
| Common Law Country | .860 | 1.159 | .223 | 3.100 |
| | (1.583) | (1.709) | (1.926) | (2.417) |
| Religious Law Country | 2.618 | 2.796 | 5.098* | -.326 |
| | (3.470) | (2.921) | (2.743) | (5.834) |
| R-square | .6379 | .5684 | .3160 | .3608 |
| N | 114 | 114 | 114 | 114 |

Note: Each regression also includes a constant and fixed effects for continents whose coefficients are not reported to conserve space. ** denotes coefficients significant at the 5% level, and * denotes coefficients significant at the 10% level.

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