Green for the Right reasons? How government ideology shapes preferences over climate change negotiations in the Global South

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Abstract

Research on the drivers of foreign policy regarding climate change negotiations has extensively delved into the effects of risks and mitigation costs, as well as the relevance of interest groups such as civil society organizations or carbon-intensive industries. However, the role of governments’ ideological orientation has been neglected in most quantitative studies. Building upon an original dataset consisting of 1194 statements at the Conference of the Parties within multilateral climate change negotiations from 2010 to 2018, this paper addresses the impact of government ideology on the negotiating position of developing countries. Despite previous academic work that assert that left-wing governments are more likely to adopt pro-environment stances, I argue that this is only the case in developed countries. Results suggest that the effect of ideology is different in the Global South, where right-wing pluralist governments are more likely to adopt ambitious positions in climate change negotiations than left-wing executives as well as populist leaders.

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1 Introduction

What is the effect of government ideology on the level of ambition in climate change foreign policies? The academic literature suggests that there is a positive association between left-wing ideology and the adoption of ambitious environmental policies. This can be attributed to a combination of material and ideational factors. Lower-income sectors, which constitute the main base of support for the left, are often more affected by environmental problems than middle and upper classes. Furthermore, leftist ideologies tend to prioritize environmental justice as a critical issue. Finally, left-wing governments tend to be more interventionist in the economy than pro-market governments, which allows them to more easily implement environmental policies. Empirical studies have analyzed various environmental issues at different levels of analysis and found supportive evidence for this hypothesis.

However, this explanation faces some limitations when traveling outside the Global North. Some developing countries actually show the opposite correlation. In the days prior to the 2015 Paris Agreement, Mauricio Macri, a center-right leader, took office as the new president of Argentina, replacing the left-wing peronist Cristina Fernández de Kirchner. Within hours of taking office, Macri appointed a former environmentalist as the new Head of Delegation to Paris and gave new instructions to the negotiating team, which included explicit support for the global goal of limiting warming to 1.5 degrees Celsius and a more cooperative position regarding commitments from the Global South. Months later, the new government withdrew from the Like Minded Developing Countries group and reaffirm its shift in negotiations (Bueno, 2018). In Morocco, the pro-market reforms implemented by King Mohammed VI since the early 2000s have been accompanied by a cooperative environmental foreign policy that has become a hallmark of the country’s soft power and international strategy since then (Nicolai, 2022). The inclusion of climate issues as a distinctive feature of foreign policy was also observed during the right-wing government of Felipe Calderón in Mexico, which, for example, included the organization of the 16th Conference of the Parties in Cancun (Sosa-Núñez, 2015).

I argue that government ideology operates differently in the Global South. While leftist governments in developed countries have tended to adopt more ambitious positions
in climate negotiations, the opposite have been observed in the Global South, where right-wing pluralist executives have generally taken a more proactive stance. The argument can be summarized in two steps.

Firstly, the left in developing countries lack strong incentives to be ambitious in climate change negotiations. Climate policies tend to have disperse benefits but concentrated costs, which often affect non-competitive sectors of the economy and low-skilled labor. Furthermore, left-leaning parties in the Global South often perceive a trade-off between development and environmental protection that makes it challenging to adopt policies with potential high social and economic costs. Consequently, ambitious international commitments in climate change may be perceived as menacing by left-wing supporters in developing countries.

Secondly, right-wing governments in the Global South may view climate negotiations as an opportunity to enhance their participation in international politics and gain both reputational and material benefits. Climate change negotiations became a suitable arena to signal great powers as a responsible player of the global liberal order. As a consequence, right-leaning pluralist governments in the Global South use climate politics as a way to modernize their economies and attract investment. In sum, while left-wing governments in the Global South may lack incentives to prioritize climate policies, right-wing governments can find in these policies a way to enhance their international status and advance their economic goals.

I tested my argument through mixed effects regression analysis of an original corpus of 1194 speeches at the High-Level Segments of the annual Conferences of the Parties (COPs) of the UN Framework Convention on Climate Change (UNFCCC) between 2010 and 2018. This period includes nine conferences and is marked by the almost complete reformulation of the rules of global climate governance. Findings support the proposed hypothesis. In developing countries, right-wing pluralist governments tend to make more cooperative statements in international climate change negotiations than left-wing pluralist governments and both right and left populists. Conversely, in the Global North, the left-leaning and pluralist leaders are more inclined to take ambitious positions. These results challenge much of the theoretical and empirical literature on the relationship between ideology and climate policy, and they raise new questions for the future.
2 Ideology and Climate Action

2.1 The Left and the Environment

The heterogeneous effects of ideology in the Global North and South have been previously explored in International Political Economy (see Pinto, 2013). Governments’ ideology is a key variable in this discipline that indicates the actors represented in ruling coalitions, which is essential for identifying sectors that receive more space in decision-making processes since leaders must respond to actors who allowed them to achieve and maintain power (De Mesquita et al., 2003). Two ideal types of government coalitions exist, primarily defined by the distributive consequences of internationalization. Internationalization refers to the process of opening markets, capital, international investments, technology, security regimes, institutions, and values that reduces purely domestic aspects of politics (Solingen, 2001, 2003; Solingen & Gourevitch, 2017). Internationalist coalitions, located to the right on the economic values axis, seek to reduce tariff barriers, increase trade, attract foreign investment, and reduce public spending, constituting pro-market governments. In contrast, coalitions that view internationalization as a threat aim to protect vulnerable sectors of their economies, focus on the domestic market, and are more inclined towards public spending and state intervention in the economy. These governments are located to the left on the ideological spectrum concerning their economic values. The academic literature has typically observed this second type of coalition as more prone to environmental action.

The role of ideological orientation in environmental values and policies has been widely studied in academic literature. In general terms, the existing consensus points out that left-wing ideologies are more inclined towards environmental concern and action. This association is observed even when different levels of analysis are considered, such as public opinion, political parties, or government coalitions. In this regard, different studies show that people who identify with left-wing ideologies or parties exhibit higher levels of environmental concern and are more likely to prioritize these factors over economic objectives (Guber, 2013; Neumayer, 2004). As the main global environmental problem and challenge, individual positions on climate change have also been addressed in academic literature. At this point, empirical evidence suggests that holding a left-wing ideology is
associated both with greater concern about the issue and with a greater belief in climate science (Egan & Mullin, 2017; Kvaloy et al., 2012; McCright & Dunlap, 2011; McCright et al., 2016). Along the same lines, the study of the relationship between right-wing ideology and climate denialism has also been exhaustively addressed in the literature, including both individual behavior and media representation (McCright & Dunlap, 2011; Painter & Gavin, 2016).

Studies that have addressed the issue at the level of political actors have found similar results. Analyses of party manifestos have observed that left-leaning sectors have been more inclined to give greater centrality to environmental issues and climate change (Carter et al., 2017; Farstad, 2016, 2017). Various authors have also found positive evidence that links left-leaning governments with more ambitious environmental and climate policies (Cadoret & Padovano, 2016; Kammerlander & Schulze, 2021; Wen et al., 2016). Moreover, several studies have found favorable evidence that left-leaning governments tend to negatively affect levels of greenhouse gas emissions and favor energy efficiency (Chang et al., 2015; Garmann, 2014; Tobin, 2017; Wang et al., 2022). In terms of foreign policy, Böhmelt (2022) found that left-leaning democratic governments also tend to design more ambitious and hard-law international environmental agreements.

Overall, the theoretical argument in favor of the link between the left and environmental action is based on three causal mechanisms. Firstly, environmental problems tend to affect more working-class and lower-income sectors, typically represented by left-wing parties (Bremner et al., 2010; Neumayer, 2003). Not only do problems such as access to clean water, air pollution, or susceptibility to natural disasters positively correlate with poverty, but these sectors also have fewer resources to adapt or overcome the problems these situations generate. Secondly, environmental movements have historically been linked to the left, both in programmatic and ideological terms (Carter, 2013). While the first causal mechanism emphasized the aligned incentives of the left and the environmental agenda, this second one points to the convergence in terms of political values. Thirdly, solving environmental problems requires states to intervene directly in the economy, appealing to a set of policies that are naturally more in line with the values of left-wing or pro-state politicians. Depending on the environmental problem being faced, public policies may increase production costs through new taxes or standards or seek to modify consumer behavior patterns. The implementation of new environmental policies or the
The theoretical consensus within the field of study appears to be broad, encompassing various levels of analysis, ranging from individuals to government, as well as different aspects related to the environment, including values, perceptions, and political action. In the case of studies focused on climate issues, no specific particularities have been found in this area, nor are there significant differences in explanations of domestic and foreign policies based on ideology. ¹

The central argument of this paper goes against the theoretical consensus: in the case of international negotiations on climate change, ideology matters, but not necessarily in the way that previous literature has specified, since the effect is conditional on the place from which the problem is observed. Climate policy is not viewed in the same way from the Global South as it is from the Global North, and consequently it is not incorporated into different political cleavages in a similar manner.

To advance this argument, the first step is to problematize the empirical literature presented previously. In this regard, it is observed that statistical studies have almost exclusively focused on developed countries, neglecting the Global South. Much of the literature bases its conclusions on the effect of ideology in European Union countries or, occasionally, members of the Organization for Economic Cooperation and Development (OECD), leaving out the rest of the states. Moreover, some studies that include cases from the Global South have seen their results affected, as they find that the effects of left-wing ideology on environmental policies are not as robust or are conditional on other factors (Kammerlander & Schulze, 2021; Lewis et al., 2019). Previous research even suggest that ideology could work in the opposite direction at the individual level in the Global South. In an analysis of individual perceptions in 19 countries, Nawrotzki (2012) found that while the hypothesis of the correlation between left-wing values and environmental concerns is

¹Some few studies question this consensus, arguing that ideological division does not actually have explanatory power, and that it is more easily addressed through the presence of green parties in the political arena (Jensen & Spoon, 2011; Leinaweaver & Thomson, 2016; Mourao, 2019; Schulze, 2014). It should be noted that this does not necessarily invalidate the association between a left-leaning ideological position and greater concern for the environment, as green parties consistently align themselves to the left on the economic axis, even if there are internal differences (Carter, 2013).
observed in developed countries, exactly the opposite happens in the developing world: people who perceive themselves as being on the right side of the ideological spectrum tend to show greater concern for the environment.

Moreover, qualitative literature on foreign policy analysis provides evidence that right-wing governments may have incentives to be cooperative in climate matters. In this sense, several countries have shown higher levels of climate ambition in multilateral negotiations during pro-market governments that liberalized the economy and sought greater commercial openness. In these cases, the literature observes that climate foreign policy was a tool to show international alignment with central countries and project an image of responsibility to political and economic actors at a global level. The case of Carlos Menem’s government in Argentina, which included the announcement of voluntary commitments by the country even when it was not expected that developing countries would do so, is paradigmatic in this sense (Below, 2015). Other more subtle cases, such as India’s gradual departure from Nehruvian developmentalism to interpret the climate challenge and accommodation to international rules during the late 1990s and early 2000s, also account for this (Stevenson, 2011).

2.2 Unpacking the Climate Incentives of the Political Right

I argue that international negotiations on climate change generate incentives for some right-wing or pro-market governments in the Global South to become cooperative and, eventually, show greater ambition. The main argument is twofold: on the one hand, left-wing governments in developing countries do not face the same incentives as their counterparts in the Global North; on the other hand, right-wing governments find a window of opportunity to achieve objectives that go beyond climate cooperation. Thus, a necessary first step to advance the argument is to justify that the causal mechanisms that explain why the left is more inclined to environmental policies do not work in the Global South. The theoretical consensus, strongly based on the analysis of developed countries, observes three central points: the consequences of environmental problems on sectors represented by the left; a set of shared values between environmentalism and the left; and the need to intervene in the economy as a way to solve problems.
The first causal mechanism involves demands from the base. In this regard, climate policy presents different characteristics from other environmental issues. Unlike issues such as water pollution or waste management, climate change has usually dispersed, uncertain, and not immediately visible consequences on people’s lives. This does not mean that the negative consequences of climate change are not currently occurring, but they are less tangible in daily life than other environmental problems. In addition, climate action has a more diffuse and less immediate positive impact than other environmental actions such as providing clean water. In this sense, the absence of concentrated consequences undermines the political activation of the issue (Hovi et al., 2009). On the other hand, the costs of climate policies are concentrated, which makes resistance to ambitious policies more likely. In this regard, the costs of transitioning to a carbon-neutral economy will mainly impact sectors associated with polluting resources, such as the coal industry in the short and medium term, or sectors that are not internationally competitive and will not be able to cope with the necessary conversion to produce according to new environmental standards. Thus, a significant portion of the sectors that lose out with globalization will also be subject to losses with current and future climate policies.

This first point is also in line with the theoretical expectations of the post-materialist thesis, which posits that the existence of demands for policies beyond physical and economic security, such as environmental concerns, increases with wealth (Inglehart, 1995). Therefore, it is reasonable to expect that government coalitions whose support base comes from lower-income sectors, as well as those less competitive in a world that is moving towards decarbonization, prioritize economic concerns over environmental ones.

The second causal mechanism refers to environmental values. The idea of a trade-off between a healthy environment, on the one hand, and economic and social development, on the other, has had a strong historical presence in the discursive construction of the Global South, often being at the center of positions skeptical of environmental policies (Joshi, 2015; Najam, 2005a, 2005b; Williams, 2005). In empirical literature, evidence in favor of an Environmental Kuznets Curve, which postulates a positive correlation between economic growth and pollution in the initial stages of development, also favored the persistence of these ideas. Therefore, environmental values have often been problematic for

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2 The Environmental Kuznets Curve postulates that the relationship between development and environmental pollution has an inverted U-shaped form, increasing in the early stages and decreasing as...
left-wing governments in the Global South, as historically they have been seen as contrary to the goals of economic and social development.

A third element refers to the response to environmental problems. This point allows us to advance the argument about cooperative incentives for right-wing governments in the Global South: multilateral negotiations on climate change provide an opportunity for pro-market governments in developing countries to obtain benefits within and outside the international regime. On the one hand, climate policy has often been seen by right-wing governments in developing countries as an opportunity to attract foreign investment in sectors favored by the global energy transition. Countries with comparative advantages in renewable energy production have identified a gateway for international capital at this point. The Mexican case is a good example, as shown by the domestic debate over the regulation of renewable energies in the country (Rennkamp et al., 2017; Sosa-Núñez, 2015).

In addition, right-wing governments in the Global South also have strong incentives to cooperate based on the expectation of obtaining material and reputational gains that exceed the climate issue. In this sense, these governments have incentives to cooperate in areas of interest to central countries as a way of showing their alignment with the values of the global order (Solingen, 2001; Solingen & Gourevitch, 2017). The international context is characterized by a liberal order based on economic globalization, but also on political values such as collective security, the expansion of democracies, and fundamentally, multilateralism (Ikenberry, 2011, 2018). Thus, participation in the global order reinforces the actor’s good reputation, making it more transparent, predictable, and allowing it to obtain the “blessing of the international community” (Solingen, 1994, p.139). In this way, maintaining cooperative positions with central countries regarding international regimes shows a willingness to be a "responsible player" in the international arena, in a policy of seeking status, understood as the set of collective beliefs about a state’s positioning, its membership in a certain club, and its relative positioning within that club (see Larson et al., 2014).

It should be noted that these types of arguments have been common in the study of countries achieve high levels of development. See Grossman and Krueger (1995), Holtz-Eakin and Selden (1995), and Selden and Song (1994).
international politics, although they have not been systematically applied to climate policy. On the one hand, the literature on issue linkage has a long history in the discipline of international relations as one of the central dynamics of multilateral negotiations (Axelrod & Keohane, 1985; Haas, 1980; Keohane, 1982; McGinnis, 1986). In this sense, negotiations within each international regime cannot be understood in isolation from other areas in which states interact. Thus, countries can concede or accommodate the preferences of third parties in some areas of international policy with the goal or expectation of obtaining benefits in another area. This is particularly likely when the actor in question does not assign a high value to obtaining results of their preference in the first arena but does in other areas of negotiation, eventually obtaining side payments in other negotiations, or improving their general positioning within the current international order. This last idea is also in line with the incentives that developing states have to act according to reputational logics (Larson & Shevchenko, 2014). In empirical terms, the idea that developing states can cooperate in international regimes in order to improve their political reputation or to appear more reliable in economic terms has been studied in cases such as international regulation on nuclear proliferation (Solingen, 1994) or on human rights (Hafner-Burton & Tsutsui, 2005; Hafner-Burton et al., 2008; Risse et al., 1999).

The claim that right-wing governments in the Global South may seek reputational or secondary benefits in climate negotiations requires an additional step of demonstrating that this policy area is fertile ground for such signaling. This can indeed be observed at three levels that account for this characteristic. Firstly, environmental values, particularly the issue of climate, have been clearly incorporated into the primary institutions of the existing international order (Falkner & Buzan, 2017). This point reinforces the need for states from the Global South that propose a prestige policy to embrace this set of values and demonstrate activity within the negotiations. Secondly, climate negotiations have been characterized from the outset by the leadership of the European Union (Biedenkopf et al., 2022; Oberthür & Groen, 2017; Parker et al., 2017; Schreurs & Tiberghien, 2007), and during the Clinton and Obama administrations, also by the United States (Parker & Karlsson, 2018). Following the logic of a prestige policy, it is expected that developing countries with right-wing or pro-market governments will seek to align themselves more closely with the climate positions of the main actors in the Global North, particularly in agendas with strong leadership by the main Western centers of power. Thirdly, the
climate issue intersects with many other areas of international political economy, conditioning global trade relations or investment flows. The incorporation of climate clauses in preferential trade agreements is becoming increasingly common, as shown in the cases of the United States or the European Union (Jinnah, 2011; Jinnah & Lindsay, 2016; Jinnah & Morgera, 2013).

In contrast, left-wing coalitions are subject to opposing international incentives. Starting from a defensive position against the internationalization process, these actors strongly question the international order and seek to modify the rules of the game of international politics that perpetuate a perceived unjust status quo. It is worth noting that the discourse on inequality and justice also has a long historical trajectory among Southern countries (Braveboy-Wagner, 2009; Krasner, 1989). Therefore, these coalitions have strong incentives to demand more equitable conditions and rules in the climate regime, but not necessarily to move towards ambitious regulations in terms of emissions mitigation, as the potential cost to their bases, as well as in ideological terms, could be very high.

It should be noted, however, that not all right-wing governments are subject to this set of incentives. In this sense, it is necessary to differentiate between populist governments and those that are not. Several authors point to the existence of a “populist moment” in the climate debate, marked by the growth of extreme discourses that increased the politicization of the issue, as well as academic interest in these reactions (Marquardt & Lederer, 2022). The academic literature has addressed the phenomenon of the extreme right in developed countries and the attacks on climate science and policy, observing that the relationship between right-wing populist stances and climate denialism is maintained both at the level of public opinion (Huber et al., 2021; Kulin et al., 2021) and political actors (Selby, 2019; Vihma et al., 2021).

The argument of this paper is based on the premise that right-wing pro-market governments face positive incentives to cooperate on climate change as a result of the material and reputational benefits of actively participating in the liberal international order. However, the fact that right-wing populist governments present a discourse contrary to many of the central elements and institutions of the global order suggests that they will not behave in the same way as pluralistic right-wing governments in the climate arena.
The government of Jair Bolsonaro in Brazil is a clear example in this regard (Bastos Lima & Da Costa, 2021; Casarões & Barros Leal Farias, 2021).

The effect of populism on left-wing ideologies, on the other hand, is less clear as the results from the literature are not robust. In a study conducted on public opinion in the United States, Huber et al. (2020) observed that populist attitudes of respondents magnify the effects of ideology, amplifying environmental values among left-leaning individuals. When analyzing implemented public policies, the results are mixed or changing, as shown in the case of Ecuador during the Correa government (Kramarz & Kingsbury, 2022).

Based on the theoretical framework presented, it is possible to propose the following set of hypotheses:

- In the Global South, states with pluralist right-wing governments adopt more ambitious positions in multilateral negotiations on climate change than left-wing and populist governments.
- In the Global North, states with pluralist left-wing governments adopt more ambitious positions in multilateral negotiations on climate change than right-wing and populist governments.

3 Research Design

3.1 Preferences on Climate Change Negotiations

In the case of international climate politics between 2010 and 2018, preferences were particularly relevant due to the need for environmental governance reform after the Copenhagen Conference breakdown in 2009. Consequently, this period includes the negotiation of a new set of rules that resulted in the Paris Agreement (2015) and the Katowice Rulebook (2018). Following recent literature, this paper conceptualizes climate ambition in foreign policy based on the level of support for institutional designs with a high degree of legalization or hard law (see Böhmelt, 2022; Karlas, 2017). The concept of legalization
is based on observing the level of three key aspects of the rules: obligation, precision, and delegation (Abbott et al., 2000, 2002; Abbott & Snidal, 2000). The first of these aspects refers to the extent to which states must comply with certain norms. The greater the degree of obligation, the greater the scrutiny of peers or the institution itself over the behavior of each actor, exposing them to sanctions if the agreed-upon rules are not followed. Secondly, precision refers to the level of clarity with which the rules defining expected behavior are defined. The greater the precision in the rules, the easier it is to identify behaviors that comply with or violate the established norms. Conversely, ambiguous rules tend to facilitate actions outside institutional boundaries, given the difficulty of sanctioning them. Thirdly, delegation refers to the granting of powers and authority to third parties, so that they can implement the rules, generate new ones, monitor compliance, and eventually sanction transgression. However, since the climate governance scheme assumed a low level of delegation, preferences were focused mostly on the level of obligation and precision that international rules negotiated should have.

The measurement of states’ preferences in terms of the level of legalization sought for international climate regulations was based on an original corpus of speeches given by states and negotiation groups during the political segments of the annual COPs. In addition to the specific spaces where negotiations take place on particular aspects of the process, COPs have areas where states and negotiation groups can publicly express their general views on the process, interests, and objectives. This is mainly done through the High-Level Segments, but also through the Opening Plenaries and, in the case of COP 21, the Leaders’ Event. The summary of the number of speeches per year and actor type included in the corpus is presented in Table 1. The corpus offers a valuable resource for analyzing and understanding states’ preferences and positions on climate governance.

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<td>146</td>
<td>121</td>
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<td>214</td>
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<td>24</td>
<td>7</td>
<td>22</td>
<td>15</td>
<td>11</td>
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<td>170</td>
<td>128</td>
<td>149</td>
<td>229</td>
<td>148</td>
<td>137</td>
<td>76</td>
<td>1,355</td>
</tr>
</tbody>
</table>

Table 1: Statements per year

A central premise of this work is that these speeches provide insight into state
preferences as a result of three key characteristics. Firstly, the speeches made in these spaces are characterized by a broad approach to climate negotiations. This sets them apart from presentations and interventions within the different bodies and spaces of negotiation, which tend to focus on specific aspects or articles within agreements, making it difficult to infer the general position of the state. Secondly, the speeches are made by high-ranking political figures, including heads of state, heads of government, and ministers of foreign affairs, environment, or natural resources. Given their public nature and the political importance of the speakers, they are also prepared in advance and are in line with the general instructions of each country’s delegation, making them clear indicators of state preferences as they signal the main priorities and positions of the states on the most relevant negotiation issues. Thirdly, almost all states and groups in the negotiations participate in these spaces, allowing for observation of all actors within the negotiation.

In order to preprocess the Corpus, a series of standard steps were taken. To begin with, all the speeches were translated to English using neural machine translation, which, although not perfect, accurately captures the central concepts in the texts and has been shown to be compatible with bag-of-words methods, a common text mining approach that represents texts as a set of individual words, ignoring grammar and word order (De Vries et al., 2018). For speeches transcribed from meeting audios, the process was similar: automatic mechanisms were used to convert the audio to text in the original language of the speech, and then they were translated into English. Secondly, the dimensionality of the data was reduced. All stop words, 2-letter words, and numbers were removed. Words that added noise to the analysis and could generate fictitious associations between actors were also eliminated. These included all references to the names of countries and terms referring to ceremonial issues, such as greetings or congratulations. In the same vein, terms repeated in all speeches, such as “climate change” or “international” were removed. Terms that appeared in less than 10% of the observations were also removed to reduce the noise that rarely used words bring to the analysis. Thirdly, compound concepts consisting of more than one word, such as sustainable development, developing countries, or greenhouse gases, were merged. Finally, the number of terms was reduced through a stemming process, which removes the endings of words and thus combines different words such as “states” and “state”. As a result of this work, the original matrix of 22,549 words was reduced to 632 terms.
I use a combination of different content analysis techniques to analyze the term matrix and measure preferences. Firstly, I implemented a topic model using Latent Dirichlet Allocation (LDA), which allowed for the identification of topics present in the speeches. LDA is an unsupervised machine learning method that has become one of the most popular in political science for detecting underlying semantic networks (Blei et al., 2003). This type of analysis assumes that documents are composed of different proportions of latent topics that run throughout the corpus. The essential premise is that word co-occurrence refers to similar topics, and therefore it is possible to estimate the underlying semantic structures in the texts by identifying such patterns. Each term in the corpus has a probability of appearing in each of the topics, so each topic has a set of words that typically appear in it. This constitutes the first element of the topic model: the probability distribution of each term in relation to each of the topics, identified as \( P(w|t) \), with \( w \) being each word and \( t \) being each topic.

In the current analysis, a 20-topic analysis was conducted to capture most of the themes present in the speeches of states and negotiation groups. For example, there were topics on energy (characterized by terms such as energy, renewable, efficiency), typical problems faced by island states (must, island, small), scientific reports on the subject (increase, temperature, report), and vulnerability (impact, vulnerability, water). The main terms associated with each of the 20 topics are presented in Table 2.

Based on this information, it is then possible to calculate the prevalence of each topic per document, identified as \( P(t|d) \), which results in a probability vector for each speech. For example, the topic associated with forest issues (whose most probable terms are forest, resources, management) is more likely to appear in countries that have these resources and are consequently concerned with the issue, such as the Central African Republic, Suriname, or Indonesia. This probability vector can be interpreted as the probability of each document belonging to a given topic or as the probability of selecting a random term from that speech and it belonging to the topic in question. Under this second interpretation of the results, it is possible to assume that the probability distribution represents the proportion of the speech analyzed that refers to each of the semantic networks in question (Gurciullo & Mikhaylov, 2017). Thus, it is possible to identify the percentage of each speech that refers to each topic.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Most relevant words</th>
</tr>
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<tbody>
<tr>
<td>Topic 1</td>
<td>“human, planet, generat, respons, life”</td>
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<tr>
<td>Topic 2</td>
<td>“allow, fight, contribut, action, convent”</td>
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<tr>
<td>Topic 3</td>
<td>“energi, renew, effici, technolog, use”</td>
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<tr>
<td>Topic 4</td>
<td>“develop, plan, sustain, implement, strategi”</td>
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<tr>
<td>Topic 5</td>
<td>“increas, temperatur, report, level, need”</td>
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<tr>
<td>Topic 6</td>
<td>“emiss, reduc, greenhouse_gas, econom, take”</td>
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<tr>
<td>Topic 7</td>
<td>“need, progress, process, forward, deliv”</td>
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<td>“developing_countri, develop, technolog, developed_countri, convent”</td>
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<tr>
<td>Topic 9</td>
<td>“group, express, support, wish, made”</td>
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<tr>
<td>Topic 10</td>
<td>“forest, resourc, manag, area, redd”</td>
</tr>
<tr>
<td>Topic 11</td>
<td>“must, commit, ambit, bind, futur”</td>
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<tr>
<td>Topic 12</td>
<td>“kyoto_protocol, commit, decis, legal, period”</td>
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<tr>
<td>Topic 13</td>
<td>“must, island, small, vulner, time”</td>
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<tr>
<td>Topic 14</td>
<td>“time, know, today, just, togeth”</td>
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<tr>
<td>Topic 15</td>
<td>“implement, excel, minist, high, deleg”</td>
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<td>Topic 16</td>
<td>“effort, activ, effect, support, cooper”</td>
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<tr>
<td>Topic 17</td>
<td>“carbon, econom, low, opportun, green”</td>
</tr>
<tr>
<td>Topic 18</td>
<td>“financ, fund, adapt, green, support”</td>
</tr>
<tr>
<td>Topic 19</td>
<td>“mitig, support, adapt, enhanc, impact”</td>
</tr>
<tr>
<td>Topic 20</td>
<td>“impact, vulner, water, flood, affect”</td>
</tr>
</tbody>
</table>

Table 2: Most common words by Topic

After identifying the use of topics by each country, a list of terms associated with legalizing rules was compiled. This list included references to mandatory terms such as “legal”, “binding”, and “must”, as well as precise objectives such as the explicit mention of a maximum temperature increase of \(1.5^\circ C\) and general goals such as “carbon neutrality” or “zero emissions”. Finally, I calculated the probability of the set of terms included in the dictionary of appearing in each speech. This probability is called word per document probability and is calculated as follows:

\[
p(w|d) = \sum_{t=1}^{T} p(w|t)p(t|d) \quad (1)
\]

where \(p(w|d)\) is the probability of a word appearing in a document, \(p(w|t)\) is the
probability of a word appearing in a topic, \( p(t|d) \) is the probability of a topic appearing in a document, and \( T \) is the total number of topics.

For example, the probability of a speech mentioning the concept of 1.5\(^\circ\)C is the result of the sum of the products of the probability of the term appearing in each of the topics and the probability of that topic appearing in the document in question. The sum of the probability of each word per document yielded the final score for each country in each given year. The distribution of standardized values is presented in Figure 1.

### 3.2 Models and predictors

Since this study proposes the existence of heterogeneous effects between Northern and Global South states, I use Mixed Effects Regressions to differentiate the effects of the required predictors (Gelman & Hill, 2006). This model captures different intercepts and
predictors for each group, assuming that the estimators are not completely independent. Mixed effects regressions take an intermediate position between two extremes: complete pooling and no-pooling. The former assumes constant effects of each independent variable across observation groups, while the latter assumes complete independence of each predictor across groups. Mixed effects constitute a partial pooling approach, estimating predictor effects from two components: a fixed one identical for all observations, and a variable one that marks the difference between observation groups.

Starting from the country-year observation unit, the proposed models include two overlapping structures. The first structure clusters observations based on the unit of analysis and has two levels: country and group, the latter being defined as belonging to either the Global North or South. The second structure groups observations by year. Calculating group intercepts for countries and years allows for capturing unobserved heterogeneity. Additionally, including the North or South group allows for estimating differentiated effects for the ideology predictor.

The independent variable in this study is the government ideology, which was operationalized using the Global Leader Ideology Dataset (Herre, 2022). This dataset codes the ideology of world leaders between 1945 and 2020, allowing for the identification and differentiation of governments with pro-market or right-wing ideology from those pro-state or left-wing. To distinguish between populist and pluralist governments, two datasets were utilized: the V-Party Dataset (Varieties of Democracy (V–Dem) Project, 2020) and the Global Party Survey (Norris, 2020). Both datasets categorize various aspects of political parties or factions, including the distinction between populist and pluralist parties. All world leaders were coded according to their party or faction, and a binary variable was created to identify whether the government was prone to populism or not.

The models include control variables related to climate policies, such as material incentives, level of development, and type of regime. The structure of costs that states face is a crucial factor in determining the ambition of environmental policies, according to theoretical and empirical consensus. This raises two central issues: vulnerability to environmental problems and the potential cost of applying international regulations to address them (Sprinz & Vaahantoranta, 1994; Sprinz & Weiß, 2001). To measure vulner-
ability to climate change, data was taken from the Country Index of the Notre Dame
Global Adaptation Initiative (ND-GAIN, 2020), which measures vulnerability on a scale
of 0 to 100. The values were then converted to a scale of 0 to 1 for easier reading. The
potential costs of mitigation were operationalized using two measures. The first mea-
ure was greenhouse gas emissions intensity relative to Gross Domestic Product, which
indicates the potential cost of transitioning to a low-carbon economy. This calculation
was based on Climate Watch’s emissions database from the World Resources Institute
(World Resources Institute, 2020) and Gross Domestic Product values from the World
Development Indicators at purchasing power parity. The second measure was oil revenue
as an indicator of economic dependence on fossil fuels, measured as a percentage of Gross
Domestic Product to weigh the sector’s importance within national economies.

The level of development of countries has been a variable extensively examined
in the existing literature. As previously indicated, empirical evidence shows that coun-
tries with higher levels of development tend to adopt more ambitious policies, owing to
their greater resource availability and the mounting pressure from civil society. To oper-
ationalize this variable, I used the Gross Domestic Product per capita in current dollars
from the WDI database. Given the substantial variation in the values, including extreme
high values, I applied logarithmic transformation to include it in the models, a common
statistical technique in empirical studies.

Finally, previous studies have delved into the links between environmental policies
and democracy. Although empirical results have been mixed, it is necessary to control
for this factor in regression analysis. To this end, I used the Electoral Democracy Index
from the Varieties of Democracy database (Cobbledge et al., 2020). This index assesses the
respect for basic components of democracy such as fair and extensive electoral competition
for government selection and freedom of action for political and social organizations. The
theoretical range is between 0, representing extreme authoritarianism, and 1, representing
the highest possible level of democracy.
4 Results and Analysis

To test the main argument of this paper, three models were estimated, which vary in the way the variables of interest are included and modeled: ideology and populism. Model 1 models heterogeneous effects only for ideology, which means that only for this predictor will differentiated effects be estimated between developed and developing countries, while for the rest, populism and control variables, effects will be the same for all cases. Model 2 additionally includes differentiated effects also for the populism variable, assuming that it may function differently in the Global North and South. In Model 3, an interaction between ideology and populism is included, which is also calculated differently in the Global North and South. The results achieved are presented in Table 3.

The three models provide supporting evidence for the general hypothesis of this paper, that pro-market pluralist governments in the Global South exhibit higher levels of ambition in multilateral climate change negotiations than left-wing coalitions. The first two models estimate a positive coefficient for the variable “Right-wing (South)”, indicating that, holding other predictors constant, the effect is positive. It is noteworthy that the coefficients for “Populism”, whether calculated as a fixed effect for the entire sample (Model 1) or differentiated by group (Model 2), have negative effects of similar or greater magnitude than that of ideology, providing further evidence in favor of the hypothesis regarding differentiation between pluralist and populist right-wing. In developed countries, the results are also consistent with expectations, as both “Right-wing” and “Populism” estimates are negative and statistically significant in both models.

Model 3, which includes an interaction with mixed effects by group, provides evidence that allows for a clearer differentiation between coalition types. The estimated effect for the “Right-wing” predictor reflects the expected effect of a right-wing government in relation to a left-wing government when the value of “Populism” is 0. Thus, the results support the hypothesis that pluralist right-wing governments exhibit more ambition in negotiations. The negative and statistically significant interaction for Global South countries shows that the effect of right-wing ideology is completely nullified when it comes to a populist government. Regarding Global North countries, this third model raises some doubts about the ideological hypothesis for this set of states. For pluralist governments,
### Table 3: Regression Outputs.

<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambition on Regime’s Legalization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right-wing (South)</td>
<td>0.078***</td>
<td>0.113***</td>
<td>0.309***</td>
</tr>
<tr>
<td></td>
<td>(0.028)</td>
<td>(0.055)</td>
<td>(0.054)</td>
</tr>
<tr>
<td>Right-wing (North)</td>
<td>−0.099**</td>
<td>−0.139*</td>
<td>−0.098</td>
</tr>
<tr>
<td></td>
<td>(0.042)</td>
<td>(0.079)</td>
<td>(0.087)</td>
</tr>
<tr>
<td>Populist</td>
<td>−0.177**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.090)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Populist (South)</td>
<td>−0.102**</td>
<td>0.017</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.044)</td>
<td>(0.042)</td>
<td></td>
</tr>
<tr>
<td>Populist (North)</td>
<td>−0.302***</td>
<td>−0.301***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.063)</td>
<td>(0.068)</td>
<td></td>
</tr>
<tr>
<td>Vulnerability</td>
<td>3.247***</td>
<td>3.302***</td>
<td>3.125**</td>
</tr>
<tr>
<td></td>
<td>(1.250)</td>
<td>(1.255)</td>
<td>(1.231)</td>
</tr>
<tr>
<td>GHG emissions/GDP</td>
<td>0.568</td>
<td>0.508</td>
<td>0.461</td>
</tr>
<tr>
<td></td>
<td>(1.088)</td>
<td>(1.091)</td>
<td>(1.070)</td>
</tr>
<tr>
<td>Oil rent</td>
<td>−0.001</td>
<td>−0.0004</td>
<td>−0.002</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
<td>(0.008)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>GDP p.c. (log)</td>
<td>0.318***</td>
<td>0.285***</td>
<td>0.307***</td>
</tr>
<tr>
<td></td>
<td>(0.087)</td>
<td>(0.086)</td>
<td>(0.085)</td>
</tr>
<tr>
<td>Democracy</td>
<td>0.924***</td>
<td>0.865***</td>
<td>0.938***</td>
</tr>
<tr>
<td></td>
<td>(0.305)</td>
<td>(0.303)</td>
<td>(0.300)</td>
</tr>
<tr>
<td>Right-wing*Populist (South)</td>
<td></td>
<td>−0.447***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.064)</td>
<td></td>
</tr>
<tr>
<td>Right-wing*Populist (North)</td>
<td></td>
<td>0.039</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.104)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>−4.734***</td>
<td>−4.396***</td>
<td>−4.639***</td>
</tr>
<tr>
<td></td>
<td>(1.212)</td>
<td>(1.191)</td>
<td>(1.176)</td>
</tr>
</tbody>
</table>

| Observations        | 811              | 811              | 811              |
| Log Likelihood      | −1,086.323       | −1,086.806       | −1,084.775       |
| Akaike Inf. Crit.   | 2,198.645        | 2,205.611        | 2,211.550        |
| Bayesian Inf. Crit. | 2,259.723        | 2,280.784        | 2,310.214        |

**Note:** *p<0.1; **p<0.05; ***p<0.01
ideology does not have a significant effect. This, combined with a non-significant interaction, suggests that the main force in the ideological field in the Global North is not the left-right axis, but rather the differentiation between populist and pluralist governments.

To delve deeper into the results, a fourth model was estimated, which focused solely on countries in the Global South and included an unordered discrete predictor identifying governments as Pluralist Left, Pluralist Right, Populist Left, and Populist Right. This facilitated the calculation of predicted values by the model and allowed for the estimation of differences in marginal effects. The estimated results are presented in Table 4 and Figure 2. In this model, “Pluralist Left” serves as the reference category and is therefore omitted. The predictor “Pluralist Right” is positive and statistically significant, which reinforces the central argument of the paper. To ensure the validity of the achieved results, I conducted a robustness check by removing one year at a time from the sample and found that the statistical significance of the coefficient for right-wing pluralistic governments remained intact. The results of this test are presented in Table 5 of the Appendix. This demonstrates the robustness of the model and lends further support to its conclusions.
<table>
<thead>
<tr>
<th>Dependent variable:</th>
<th>Ambition on Regime’s Legalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gov. Pluralist Right</td>
<td>0.227** (0.094)</td>
</tr>
<tr>
<td>Gov. Populist Left</td>
<td>-0.005 (0.083)</td>
</tr>
<tr>
<td>Gov. Populist Right</td>
<td>-0.078 (0.107)</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>2.838*** (0.820)</td>
</tr>
<tr>
<td>GHG emissions/GDP</td>
<td>-0.194 (0.679)</td>
</tr>
<tr>
<td>Oil rent</td>
<td>-0.007 (0.005)</td>
</tr>
<tr>
<td>GDP p.c. (log)</td>
<td>0.274*** (0.060)</td>
</tr>
<tr>
<td>Democracy</td>
<td>0.415** (0.195)</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.218*** (0.800)</td>
</tr>
</tbody>
</table>

Observations 588
Log Likelihood -520.022
Akaike Inf. Crit. 1,064.044
Bayesian Inf. Crit. 1,116.565

*Note: *p<0.1; **p<0.05; ***p<0.01

Table 4: Regression Outputs, Global South Countries.
5 Conclusions

The present study was based on the premise that the link between government ideology and preferences regarding climate change multilateralism has not been adequately addressed in academic literature. Previous works mainly focused on the role of ideology in developed countries, while overlooking the possibility that this variable could behave differently in the Global South. This is particularly striking, since other areas of International Political Economy have found that ideology could have heterogeneous effects on governments’ foreign preferences. I argued that in the developing world, pluralist right-wing governments have reasons to be more ambitious in designing multilateral climate institutions than their left-wing counterparts, who in turn face mixed or contrary incentives to such a stance.

The results provide evidence in favor of this hypothesis. All estimated models showed that in the Global South, the most ambitious government coalitions are those with pro-market and pluralist positions. The evidence is less clear about which type of coalition is the least ambitious: while most results suggest that right-wing populisms perform worse, in some models, the differences are not significant with their left-wing counterparts. Further research is necessary to deepen understanding of these factors.

Beyond the academic contribution of this work, the hypothesis presented here also generates interesting political implications for left-wing sectors in the Global South. The negative consequences of climate policies and the transition to a carbon-neutral economy undermine the possibility of having an active agenda on the matter. This raises the need to consider containment policies and eventual transformation of affected economic sectors, as well as overcoming the opposition between the environment and development, observing the possibility of new paths to economic and social growth.

Furthermore, some results also suggest further exploration of cases in developed countries. While the first two models align with previous literature, the inclusion of interactions between ideology and populism changes the significance of predictors, granting greater weight to the latter factor. The lack of systematic inclusion of populism in previous statistical literature also calls for further exploration of the relationship between this phenomenon and climate foreign policies in developed countries.
References


https://doi.org/10.33774/apsa-2023-pkdsg ORCID: https://orcid.org/0000-0002-9964-3430 Content not peer-reviewed by APSA. License: All Rights Reserved


Schulze, K. (2014). Do parties matter for international environmental cooperation? An analysis of environmental treaty participation by advanced industrialised democ-


A Appendix
Table 5: Regression Results with One Year Omission: A Comparative Analysis

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pluralist Right</td>
<td>0.191*</td>
<td>0.209**</td>
<td>0.257***</td>
<td>0.235**</td>
<td>0.218**</td>
<td>0.226**</td>
<td>0.186*</td>
<td>0.274***</td>
<td>0.250***</td>
</tr>
<tr>
<td></td>
<td>(0.099)</td>
<td>(0.100)</td>
<td>(0.096)</td>
<td>(0.097)</td>
<td>(0.096)</td>
<td>(0.098)</td>
<td>(0.102)</td>
<td>(0.101)</td>
<td>(0.097)</td>
</tr>
<tr>
<td>Populist Left</td>
<td>-0.014</td>
<td>-0.015</td>
<td>0.023</td>
<td>0.014</td>
<td>0.002</td>
<td>-0.014</td>
<td>-0.041</td>
<td>0.010</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>(0.087)</td>
<td>(0.087)</td>
<td>(0.084)</td>
<td>(0.085)</td>
<td>(0.085)</td>
<td>(0.087)</td>
<td>(0.089)</td>
<td>(0.088)</td>
<td>(0.086)</td>
</tr>
<tr>
<td>Populist Right</td>
<td>-0.138</td>
<td>-0.114</td>
<td>-0.034</td>
<td>-0.092</td>
<td>-0.095</td>
<td>-0.084</td>
<td>-0.074</td>
<td>-0.055</td>
<td>-0.066</td>
</tr>
<tr>
<td></td>
<td>(0.113)</td>
<td>(0.111)</td>
<td>(0.108)</td>
<td>(0.111)</td>
<td>(0.110)</td>
<td>(0.113)</td>
<td>(0.114)</td>
<td>(0.114)</td>
<td>(0.112)</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>2.564***</td>
<td>2.250***</td>
<td>2.778***</td>
<td>2.829***</td>
<td>2.786***</td>
<td>3.158***</td>
<td>3.061***</td>
<td>2.863***</td>
<td>2.828***</td>
</tr>
<tr>
<td></td>
<td>(0.850)</td>
<td>(0.827)</td>
<td>(0.790)</td>
<td>(0.839)</td>
<td>(0.844)</td>
<td>(0.855)</td>
<td>(0.869)</td>
<td>(0.872)</td>
<td>(0.843)</td>
</tr>
<tr>
<td>GHG/GDP</td>
<td>-0.248</td>
<td>-0.416</td>
<td>-0.308</td>
<td>-0.157</td>
<td>-0.212</td>
<td>0.054</td>
<td>-0.030</td>
<td>-0.255</td>
<td>-0.146</td>
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<tr>
<td></td>
<td>(0.714)</td>
<td>(0.712)</td>
<td>(0.660)</td>
<td>(0.683)</td>
<td>(0.673)</td>
<td>(0.695)</td>
<td>(0.766)</td>
<td>(0.716)</td>
<td>(0.693)</td>
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<tr>
<td>Oil rent</td>
<td>-0.005</td>
<td>-0.006</td>
<td>-0.006</td>
<td>-0.007</td>
<td>-0.009*</td>
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<td>-0.008</td>
<td>-0.007</td>
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<tr>
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<td>(0.006)</td>
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<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.005)</td>
<td>(0.005)</td>
</tr>
<tr>
<td>GDP pc (log)</td>
<td>0.250***</td>
<td>0.228***</td>
<td>0.269***</td>
<td>0.267***</td>
<td>0.276***</td>
<td>0.306***</td>
<td>0.292***</td>
<td>0.281***</td>
<td>0.277***</td>
</tr>
<tr>
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<td>(0.062)</td>
<td>(0.061)</td>
<td>(0.057)</td>
<td>(0.061)</td>
<td>(0.062)</td>
<td>(0.062)</td>
<td>(0.063)</td>
<td>(0.064)</td>
<td>(0.061)</td>
</tr>
<tr>
<td>Democracy</td>
<td>0.487**</td>
<td>0.453**</td>
<td>0.391**</td>
<td>0.394**</td>
<td>0.430**</td>
<td>0.260</td>
<td>0.410**</td>
<td>0.433**</td>
<td>0.452**</td>
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<tr>
<td></td>
<td>(0.201)</td>
<td>(0.197)</td>
<td>(0.188)</td>
<td>(0.199)</td>
<td>(0.198)</td>
<td>(0.205)</td>
<td>(0.207)</td>
<td>(0.208)</td>
<td>(0.201)</td>
</tr>
<tr>
<td></td>
<td>(0.833)</td>
<td>(0.809)</td>
<td>(0.770)</td>
<td>(0.817)</td>
<td>(0.827)</td>
<td>(0.830)</td>
<td>(0.847)</td>
<td>(0.849)</td>
<td>(0.822)</td>
</tr>
</tbody>
</table>

| Observations  | 511    | 514    | 520    | 529    | 524    | 502    | 524    | 525    | 555    |
| Akaike Inf. Crit. | 918.737 | 953.557 | 939.014 | 958.377 | 950.659 | 913.243 | 967.035 | 960.631 | 1,019.826 |
| Bayesian Inf. Crit. | 969.574 | 1,004.464 | 990.060 | 1,009.629 | 1,001.797 | 963.866 | 1,018.173 | 1,011.792 | 1,071.653 |

Note:

* p<0.1; ** p<0.05; *** p<0.01