

Globalisation, Domestic Political Institutions, and Climate Commitment and Performance
Annex

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A6 Research design

A6.1 Developed country sample

Table A6.1 presents countries that are Annex I parties of the UNFCCC. It illustrates that post-communist countries as defined by McCormick (2001) are classified by the UNFCCC as economies in transition. Moreover, not all Annex I countries are classified as developed countries based on the World Bank criteria (high-income country). In my analysis of developed countries, I focused on Annex I countries that are classified as high-income and having a population of at least 500,000 individuals. High-income countries that are not Annex I parties to the climate treaty include Andorra, Antigua and Barbuda, The Bahamas, Bahrain, Barbados, Brunei Darussalam, Israel, Kuwait, Puerto Rico, Qatar, San Marino, Saudi Arabia, Seychelles, Singapore, South Korea, St. Kitts and Nevis, Trinidad and Tobago as well as the United Arab Emirates. Furthermore, states with missing data for independent and dependent variables were not included. Bold printed countries in Table A6.1 were selected. The table reveals that my developed country sample is a homogeneous group of established democracies that are all classified by McCormick (2001) as liberal democracies.

Country	EiT	HIE	LD	NIC	Post-C	<500,000	No Data
Australia		X	X				
Austria		X	X				
Belarus	X				X		
Belgium		X	X				
Bulgaria	X				X		
Canada		X	X				
Croatia	X				X		
Cyprus		X		X			X
Czech Re- public	X	X			X		
Denmark		X	X				
Estonia	X				X		
Finland		X	X				
France		X	X				
Germany		X	X				
Greece		X	X				
Hungary	X				X		
Iceland		X	X			X	
Ireland		X	X				
Italy		X	X				
Japan		X	X				

Notes: Source: UNFCCC (2014); EiT = Economies in transition (UNFCCC 2014); HIE = High-income economy in 2005 (GNI per capita ≥ 10.725) World Bank; LD = Liberal democracy (McCormick 2001); NIC = Newly industrializing country (McCormick 2001); Post-C = Post-communist country (McCormick 2001); < 500,000 = Population size during the research period is below 500,000 citizens; No data = Data on independent and/or dependent variables is completely missing. Bold printed countries are selected for my analysis of developed countries.

Table A6.1 Annex I Countries (continuation)

Country	EiT	HIE	LD	NIC	Post-C	<500,000	No Data
Latvia	X				X		
Liechtenstein		X	X			X	
Lithuania	X				X		
Luxembourg		X	X			X	
Malta		X	X			X	
Monaco		X	X			X	
Netherlands		X	X				
New Zealand		X	X				
Norway		X	X				
Poland	X				X		
Portugal		X	X				
Romania	X				X		
Russian Federation	X				X		
Slovakia	X	X			X		
Slovenia	X	X			X		
Spain		X	X				
Sweden		X	X				
Switzerland		X	X				
Turkey				X			
Ukraine	X				X		
UK		X	X				
USA		X	X				

Notes: Source: UNFCCC (2014); EiT = Economies in transition (UNFCCC, 2014); HIE = High-income economy in 2005 (GNI per capita ≥ 10.725) World Bank; LD = Liberal democracy (McCormick, 2001); NIC = Newly industrializing country (McCormick, 2001); Post-C= Post-communist country (McCormick, 2001); < 500,000 = Population size during the research period is below 500,000 citizens; No data = Data on independent and/or dependent variables is completely missing. Bold printed countries are selected for my analysis of developed countries.

A6.2 Measurement of ideology heterogeneity among veto players

This section examines the political constraints variables from Henisz (2002) to establish to what extent these measures are valid and reliable measures of ideological heterogeneity among veto players. As political constraints, Henisz (2002, 2000) considers the number of veto players in the governmental system, the policy preferences of veto players and the preference coherence of legislative veto players (Henisz, 2002, p. 380). He provides two measures: *POLCON3* and *POLCON5*. While *POLCON3* counts the executive, the lower house and the upper house as institutional veto players, *POLCON5* additionally includes federalism and judiciary (Henisz, 2002, p. 380). The executive is treated as present in all political systems

(Henisz, 2000, p. 27). Henisz (2002) assumes a unidimensional policy-space of policy preferences of veto players. Regarding concept specification, *POLCON5* is overly maximalist (Jahn, 2010, p. 57). It considers with the judiciary a veto player that is not always relevant for policy outputs (Tsebelis, 2002, p. 205). *POLCON3* is overly minimalistic (Jahn, 2010, p. 57). It neglects to count the president as a potential veto player. Regarding concept logic, Henisz (2002) counts both bicameralism and federalism as separate veto players (redundancy) (see Chapters 4 and 5; see also Jahn, 2010, p. 54; Tsebelis, 2002, p. 205). In accordance with the veto player concept, both measures consider the policy preferences of veto players as well as the absorption rule by counting only veto players that are not redundant regarding their party composition. Henisz's (2002) conceptualisation, however, is a mixture of the veto player and veto point concept. The number and preferences of veto players are weighted equally.

To consider the absorption rule, Henisz (2002) compares the partisan composition of the executive with each legislative chamber. However, he only considers the names of the political parties. These names change over time within his dataset. Because of data availability and comparability, Henisz (2000, p. 5; Henisz, 2002, p. 380) uses estimated preferences. He assumes that preferences of veto players are distributed randomly around the status quo (Henisz, 2002, p. 380; see also Henisz, 2000, p. 5). He defines the utility of each veto player from a policy x as $|x-x_i|$. The assumption that all preference orderings have the same likelihood enables him to estimate preferences using a spatial model of political interaction (Henisz, 2002, p. 363; Henisz, 2000, p. 6). In the case of neither completely aligned nor completely independent legislative veto players from the executive, the index considers preference cohesion of legislative veto players (Henisz, 2002, pp. 364, 383). For this purpose, he weights legislative veto players with the partisan fractionalisation of the total legislative chamber (number of all parties in parliament) (Tsebelis, 2002, p. 205). The indicators of potential legislative veto players are problematic. For instance, he does not regard the German Bundesrat as potential veto player. Secondly, *POLCON3* and *POLCON5* are based on estimated instead of empirically observed policy preferences (Jahn, 2010, p. 59). Third, the indicator of cohesion of legislative veto players does not measure internal cohesion of collective veto players (Jahn, 2010, p. 55; Tsebelis, 2002, p. 205). Henisz (2002) provides his disaggregated data for further research online (replication).

Henisz's (2002, p. 380) political constraints measures result from the subtraction of the level of political discretion from 1. The level of political discretion is 'the expected range of policies for which all political actors with veto power can agree upon a change in the status quo' (Henisz, 2002, p. 380f.). Based on his assumptions, he proposes that the difference between randomly distributed preferences of two veto players is $1/(n+2)$ (n = number of actors) (Henisz, 2002, p. 381; Henisz, 2000, p. 6). In the case of two veto players, six possible preference orderings are possible (Henisz, 2002, p. 381). Consequently, *POLCON3* and *POLCON5* result from the average of the political constraints measures regarding the possible preference orderings (Henisz, 2002, p. 382). While this aggregation rule fits the veto player concept (Jahn, 2010, p. 55), it measures only the average expected distance between veto players. Moreover, he weights the average distance between veto player with

the fractionalisation of legislative veto players. Thus, variation in the Henisz (2002) measures within countries and between countries results only from different numbers of veto players and political parties in the upper and lower chambers. Jahn (2010, p. 55) concludes that '[i]t remains unclear though what this dimension is intended to represent.' Replicability is given in the case of the political constraint's measures.

To conclude, the underlying concept of Henisz (2002) differs considerably from Tsebelis's (2002) veto player approach. Both measures show validity and reliability problems in the three phases of index construction. Finally, in contrast with the assumptions of veto player theory, variation on Henisz's measures results from the number of veto points and the fractionalisation of legislative chambers.

A6.3 Validity and reliability of measurement approaches of political corruption

This section outlines that both the political corruption index (CPI) from Transparency International and the control of corruption measure from the World Governance Indicators (WGI) (Kaufmann et al., 2010) have validity and reliability problems in all three phases of index construction. They are frequently used in cross-national research.

Conceptualisation. Both measures intend not to capture political corruption itself but public perceptions of political corruption. The CPI further limits its concept to public sector corruption as it focuses on public perceptions of corrupt behaviour within the public sector (Transparency International 2016b, no page number). It does not define public sector corruption. Kaufmann et al. (2010) do not specify their concept beyond a short definition of political corruption. The relationships among the elements of political corruption and their relative importance remain unclear. The CPI additionally does not specify its underlying concept and differentiate it from related concepts. Moreover, the underlying concepts of both the CPI and the World Bank indicator have changed over time (Knack, 2006, p. 18).

Measurement. The methodological literature suggests that the reliability of composite measures is increased by the use of multiple data sources. The CPI and the WGI both have the advantage of relying on multiple data sources (McMann et al., 2016, p. 13; Transparency International, 2016b, no page number). The former summarises data from independent research institutions and business information (Transparency International, 2016b, no page number); the latter is based on indicators from research institutes, international and domestic governmental institutions and international surveys from the business sector (The World Bank Group, 2019b). Both measures also consider multiple data types. The CPI summarises survey data and expert evaluations (Transparency International 2016b, no page number). The control of corruption measure includes survey data of households and firms; data from expert evaluations; data from commercial business information providers and non-governmental institutions; and information from public international and domestic institutions (Kaufmann et al., 2010, p. 5; The World Bank Group, 2019b, 2017).

The WGI corruption measure considers indicators of different forms of corrupt behaviour of the government, the legislative branch, the judicial branch, public officials, political parties and the media (The World Bank Group, 2019b). With the

inclusion of indicators of corrupt behaviour of non-political actors and its institutions, the WGI corruption measurement refers to a broader definition of political corruption than its conceptualisation. In addition, it is based on indicators of other concepts, such as political trust (trust in politicians). Finally, Treisman (2007, p. 215) notes that the control of corruption measure summarises indicators of different types of corruption and different characteristics of corruption (frequency, severity). He finds it is unclear what it measures (Treisman, 2007, p. 215). In comparison to the conceptualisation of the CPI, Transparency International considers data on public sector and private sector corruption (McMann et al., 2016, p. 9).

The CPI includes only country-years for which at least three data sources are available (Transparency International, 2016a, p. 4). However, its values are only comparable over time since 2012 (Transparency International, 2016a, p.1; Transparency International, 2016b, p. 2). Data sources changed again in 2016 (Transparency International, 2016b, p. 2). An additional problem of the CPI is that it uses the same data in several country-years (Treisman, 2007, p. 217). The WGI include most countries but are only available for few country-years from to 1997-2015. Moreover, the indicators are not comparable over time. This stems from the variation of data sources over time, the inclusion of additional data and changes in the weights to aggregate the data sources (Kaufmann et al., 2010, p. 6; The World Bank Group, 2017). Moreover, not all data sources are available for all countries (The World Bank Group, 2017).

To conclude, while both measures consider multiple data sources and data types, both measures consider indicators that do not fit their underlying concepts and both are not comparable over time.

Aggregation. Transparency International first standardises the indicators using a z-transformation re-scaled to a scale from 0 to 100 and then aggregated using the mean (Transparency International, 2016a, p. 2f.). The WGI authors standardise the indicators and averages indicators that measure the same concept (Kaufmann et al., 2010, p. 2). They then aggregate these indicators using a weighted average (Kaufmann et al., 2010, p. 2). For this purpose, they use an unobserved components model (Kaufmann et al., 2010, p. 9). Kaufmann et al. (2010) assume that the global average of their corruption measure is constant over time. Consequently, their corruption measure cannot be used to analyse country trends over time (Kaufmann et al., 2010, p. 12). Knack (2006, p. 18) argues that the CPI and the WGI measures are not transparent regarding their weighting. The WGI authors additionally publishes most of the indicators of their composite indices (Kaufmann et al., 2010, p. 7). In sum, both measures show validity problems in the aggregation phase.

To conclude, while the CPI and the Control of Corruption indicators from the WGI have the advantage of multiple data types and data sources, they show considerable validity problems as indicators of political corruption in all three measurement phases. Crucially, they do not measure political corruption but public perceptions of corruption. The WGI index is additionally broader than the political corruption concept in its measurement.

A6.4 Validity and reliability of measurement approaches of vertical accountability

Besides the Vertical Accountability Index, the political rights measure from Freedom House and the index of democratisation from Vanhanen (no year) offer worldwide panel data on vertical accountability. This section shows that both have validity and reliability problems as indicators of vertical accountability.

Conceptualisation. The authors of Freedom House neither specify their concept nor differentiate it from related concepts. Freedom House understands political rights as political participation rights (Pickel & Pickel, 2006, p. 210). Beyond this definition, the underlying concept of the Freedom House measure is not explained (and there is no transparency). Secondly, based on the four categories of their indicators, it is not parsimonious. While the authors consider all relevant elements of vertical accountability—universal active suffrage, universal passive right to vote, free and fair elections, and elected political representatives (Merkel, 2016, p. 261; Merkel, 2004, p. 38, 42)—they also include elements of related concepts, for example, government corruption. Regarding concept logic, Freedom House does not address the vertical and horizontal relationships between the elements of its concept. Following Dahl, Vanhanen (no year) defines democracy as participation and contestation. Both dimensions are regarded as necessary conditions of democracy. His concept had variable performance with regard to its validity in the conceptualisation phase. On the one hand, it is transparent, applicable worldwide and distinguished from related concepts; it also shows no problems with regard to conflation and redundancy. On the other hand, it neglects relevant elements of vertical accountability. Its underlying concept is only partially coherent. It specifies the horizontal relationship between participation and competition, but it neither identifies sub-components nor specifies their horizontal and vertical relationships.

Measurement. The Freedom House measures each subcategory by 10 indicators (Freedom House, 2017, no page number). The first category consists of items that measure whether political authorities are elected in free and fair elections. The second category includes items that measure the opportunity of citizens to organise and participate in parties, the possibility that the opposition takes over, the independence of citizens' votes from the influence of powerful groups and active suffrage of different social groups. The final category encompasses items that measure the authority of the freely elected government, corruption, and vertical accountability between elections. Their measure additionally evaluates traditional monarchies and unequal treatment of ethnic groups by the government (Freedom House, 2017, no page number). Each indicator is coded on a scale from 0 to 4 by experts, including native coders based on multiple sources from the media, science, NGOs, and professionals (Freedom House, 2017, no page number; Pickel & Pickel, 2006, p. 211). The Freedom House Political Rights index shows deficits regarding validity. Several indicators—for example, 'Is the government free from pervasive corruption?'—do not measure aspects of vertical accountability. Some indicators are not unidimensional (Lauth & Kauff, 2012, p. 11). Finally, the measurement level is not explained. Freedom House does not provide coding criteria (Pickel & Pickel, 2006, p. 219). While Freedom House provides annual values for nearly all countries, the comparability

over time is limited as the methodology has changed over time (Freedom House, 2017, no page number; see also Pickel & Pickel, 2006, p. 219). Disaggregated data is only available for the most recent years.

The competition indicator from Vanhanen's index (Vanhanen, no year) results from the subtraction from 100 of the percentage of votes for the largest party in parliamentary elections, or alternatively, the subtraction from 100 of the percentage of votes for the successful candidate in presidential elections. Participation is measured by the percentage of citizens of the total population that participated in the last national election. In semi-presidential systems, Vanhanen considers both and weighs them based on their importance. Vanhanen's indicators are reliable. They are based on statistical data. The estimation rule is constant across countries and over time. Both indicators are available for nearly all countries worldwide and cover my entire research period. In contrast, the content validity for both indicators is questionable. It does not capture the overall concept of vertical accountability. It neglects restrictions on opposition parties and their independence from the ruling party. The validity of the participation indicator is restricted as it is dependent on demographic developments (Pickel & Pickel, 2006, p. 197). Vanhanen (no year) neglects to consider active suffrage and to what extent elections are free and fair. Moreover, he at most indirectly considers whether the chief of executive is elected. The competition indicator does not consider the difference between elections systems—such as majority or proportional vote (e.g., Pickel & Pickel, 2006, p. 197). *Aggregation.* The index of democratisation performs well in aggregation. It results from the multiplication of the participation and competition indicators. This aggregation rule fits Vanhanen's assumption that both dimensions are of equal importance and necessary conditions of democracy. The political rights measure is an additive index. The aggregation rule and weighting are not explained.

In sum, the Freedom House Political Rights index, as well as the index of democratisation, show considerable validity and reliability problems as indicators of vertical accountability. This applies to all three phases of index construction for the Freedom House measure and to the conceptualisation and measurement phase for the index of democratisation. While the concept of the former is overly maximalist, the latter neglects relevant elements of vertical accountability. Indicators from both measurements exhibit problems with regard to content validity and comparability over time. The aggregation rule of the political rights measure is not explained.

A6.5 Validity and reliability of measurement approaches of horizontal accountability

This section explains why the *executive constraints (EXCONST)* indicator from Polity IV has not been used to measure horizontal accountability. It captures 'the extent of institutionalised constraints on the decision-making powers of chief executives' (Marshall et al., 2016, p. 24) by so-called 'accountability groups' (Marshall et al., 2016, p. 24). From this definition, it follows that *EXCONST* focuses on constraints on the executive that are outlined in the constitution (that is, rules in law vs. rules in use). It captures constraints by the legislative branch, the judicial branch in democracies and ruling parties, important advisers or councils, and the military in autocracies ('accountability groups') (Marshall et al., 2016, pp. 24f.). Marshall et al.

(2016) assume that autocratic governments, similar to their democratic counterparts, differ in the extent of constraints that limit their behaviour (Marshall et al., 2016, p. 62). From the perspective of the horizontal accountability concept, the underlying concept of *EXCONST* is characterised by conflation (see also Lührmann et al., 2017, p. 10). It includes ‘non-democratic forms of constraints such as the ruling party in a one-party state or a powerful military’ (Lührmann et al., 2017, p. 10). Polity IV acknowledges this difference between its measurement concept and the horizontal accountability concept (Marshall et al., 2016, p. 62). Simultaneously, it neglects forms of checks and balances in semi-presidential and parliamentary systems as it evaluates executive constraints from the perspective of the US presidential system (Pickel & Pickel, 2006, p. 191). The data from Polity IV rests on expert evaluations based on multiple sources. The executive constraints measure is solely based on one indicator. Experts code the extent of institutional constraints on the executive on a scale from 1—‘unlimited authority’ of the executive—to 7—‘executive parity or subordination of the executive—relative to accountability groups (Marshall et al., 2016, pp. 62, 24f.). In accordance with its concept, it considers non-democratic accountability groups. The measurement level is not explained. It does not consider rules in use. The data is comparable across countries and over time. In sum, the underlying concept of the *EXCONST* indicator and its measurement is characterised by conflation. The reliance on a single indicator in its measurement restricts its reliability and validity.

A6.6 Validity and reliability of measurement approaches of civil rights

The Freedom House civil liberties measure and the rule of law index of the WGI both exhibit validity and reliability problems as indicators of civil rights.

Conceptualisation. The Freedom House civil liberties measure and the rule of law indicator from the World Governance indicators show problems in concept specification and logic. Freedom House defines civil liberties as the protection of the individual from the state (Pickel & Pickel, 2006, p. 210). It does not provide a description of their concept (no transparency). In their measurement, they distinguish four subcategories of civil liberties: freedom of expression and belief, associational and organisational rights; rule of law; and personal autonomy and individual rights (Freedom House, 2017, no year). This means that the underlying concept considers also political rights. It is, therefore, unsuitable for the separate analysis of the separate effect of civil rights. The rule of law indicator from the WGI aims to measure ‘perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular of contract enforcement, the policy and the courts, as well as the likelihood of crime and violence’ (The World Bank Group, 2019a, no page number). A further specification of its underlying concept is not available. While this definition includes with rule of law some elements of civil rights, it omits other elements and identifies elements that do not fit the common understanding of the rule of law concept (Thomas, 2010, p. 40) (for example, likelihood of crime and violence). In sum, it neglects relevant aspects of civil rights and is not clearly differentiated from related concepts. Furthermore, the World Governance indicator does not address the relationship between the elements within its concept. Finally, its underlying concept has changed over time (Thomas, 2010, p. 36). Before 2008,

it was supposed to measure the extent of rule of law itself and not perceptions (Thomas, 2010, p. 36).

Measurement. As has been explained above, the political rights and civil liberties measures from Freedom House are based on expert evaluations. Four subcategories of civil rights are identified, and each is measured by multiple indicators: freedom of expression and belief, associational and organisational rights, rule of law, and personal autonomy and individual rights (Freedom House, 2017). Civil rights are measured by 15 indicators (Freedom House, 2017). Several indicators are not unidimensional. Civil rights are also based on policy outcome measures (for example, 'Is there equality of opportunity and the absence of economic exploitation?') Moreover, some indicators do not measure aspects of civil liberties (for example, 'Is there freedom from war and insurgencies?'). In addition, the Freedom House civil liberties measure overlaps with regard to its indicators with the Freedom House Political Rights measure (Lauth & Kauff, 2012, p. 10f.). It faces the same reliability problems in the measurement phase as the political rights indicator from Freedom House. Inter-coder-reliability is restricted as the assignment of the values on the 0 to 4 scale is neither described nor explained. With regard to its data availability and comparability, the conclusions from the discussion of the Freedom House Political Rights indicator apply as well. It shows considerable problems with regard to the content validity of its indicators. While Freedom House provides data for a large country sample and time period, the values are not comparable over time, as the measurement approach has been changed. Disaggregated data is available.

The rule of law indicator is based on numerous indicators from multiple data sources. It relies on data from research projects, international institutions and country risk rating agencies that include representative citizen surveys and expert evaluations. Lauth and Kauff (2012, p. 14) argue that the rule of law indicators cover the most important data set on this variable. However, these indicators also include existing summary measures as indicators. The construct validity of the indicators of the World Bank rule of law measure has been questioned. Firstly, Kaufmann and his colleagues do not theoretically or empirically explain the selection of the indicators of their rule of law indicator (Thomas, 2010, p. 42, 46). Secondly, many indicators are not publicly available and, therefore, cannot be discussed regarding their validity (Thomas, 2010, p. 47). While the rule of law indicator covers most countries of the world, it is only available for a few years of my research period. The comparability of the values of the summary measure over time and across countries is restricted because of the variation in data availability of the indicators. In sum, the validity and reliability of the indicators from Freedom House and WGI in the measurement phase can be questioned. Moreover, the indicators partly do not fit the concept of civil rights.

Aggregation. The rule of law measure results from three aggregation steps. Having identified relevant indicators of governance and standardised, Kaufmann and his colleagues assign each indicator to one of six clusters (Thomas, 2010, p. 35). Firstly, a cluster represents a dimension of governance (Thomas, 2010, p. 35). The assignment of the indicators to these clusters is not theoretically or empirically explained (Thomas, 2010, p. 46). Secondly, the average of indicators from the same data source is estimated to reduce correlated errors (Thomas, 2010, p. 35). Thirdly, the

indicators of each cluster are aggregated by a linear function that considers measurement error (Kaufmann et al., 2010; Lauth & Kauff, 2012, p. 14; Thomas, 2010, p. 35). The function assumes that the mean of the error terms is 0 across variables and countries and that its variance is equal across countries (Thomas, 2010, p. 369). In addition, the indicators are weighted. The weights have been questioned (e.g., Arndt & Oman, 2006, pp. 58f.; Lauth & Kauff, 2012, p. 14). Lauth & Kauff (2012, p. 14) argue that the rule of law indicator is unidimensional and discuss the uncertainty of the measurement. However, Thomas (2010) notes that the governance indicators are highly correlated with each other to the point that it is questionable whether they measure separate dimensions of governance (Thomas, 2010, p. 45). The previous section has explained that the aggregation rule from Freedom House is not theoretically explained.

In sum, both measurement approaches show problems with validity and reliability in all three phases of index construction as indicators of civil rights.

A6.7 Validity and reliability of measurement approaches of types of autocracy

This chapter discusses the reliability and validity of datasets to measure types of autocracy with regard to my research question (Cheibub et al., 2010; Geddes 1999; Hadenius et al., 2017; Hadenius & Teorell, 2007; Wahman et al., 2013). Based on this discussion, I captured the effect of military, monarchic and civil autocracies using data from the Democracy and Dictatorship dataset from Cheibub et al. (2010). Most scholars define autocracy as non-democracy. As explained in Chapter 4.1.1, in the analysis of systematic differences between democracies and autocracies, regime type should be conceptualised as a binary variable. Thus, in my analysis of the effects of types of autocracy, I adopted a binary democracy concept. As described in Chapter 4, a minimalist democracy concept should be applied in the analysis of regime type differences.

All three datasets adopt dichotomous democracy understandings. While Geddes et al. (1999) and Cheibub et al. (2010) adopt a minimalist definition of autocracy as non-electoral democracy, Hadenius et al. (2017) defines autocracies as either non-electoral democracies or as non-liberal democracies (Roller, 2013, p. 51). Cheibub et al. (2010) and Geddes et al. (1999, p. 116) define democracies as political systems with competitive elections. Accordingly, autocracies are understood as non-electoral democracies (Roller, 2013, p. 38).¹ Hadenius et al. (2017; Hadenius & Teorell, 2007; Wahman et al., 2013) use an empirical criterion to distinguish autocracies from democracies. They estimate the mean threshold value of democracy indices from Cheibub et al. (2010); Boix et al. (2013) and Bernhard et al. (2001); Freedom House electoral democracy index and Polity IV (Hadenius & Teorell, 2017, p. 15; Wahman et al., 2013, p.23). On this basis, they classify countries with values of 7.0 or lower (0—no democracy—to 10—perfect democracy) as autocracies (Hadenius et al., 2017, p. 5; Wahman et al., 2013, p. 23). In earlier publications, the cut-off

¹ Geddes et al. (2014a,b) regard non-independent, occupied countries, countries with a provisional government or no central government neither as democracies nor as autocracies (Geddes et al., 2014a, p. 317; Geddes et al., 2014b, pp. 4f.).

value was 7.5 (Hadenius & Teorell, 2007, p. 145). With the present threshold, they prefer the Freedom House criteria of electoral democracy index over the categorisation of states as free by Freedom House (Wahman et al., 2013, p. 23). Roller (2013, pp. 41f.) concludes that they now apply a more minimalist democracy understanding. However, their dataset allows the testing of multiple threshold values (Wahman et al., 2013, pp. 23f.). The problem with their concept and threshold values lies therein: the political rights measure and Polity IV index are not limited to contested elections.

Cheibub et al. (2010, p. 83ff.) distinguish monarchic, military and civil dictatorships based on the characteristics of the institutions and persons that are able to remove the dictator from power, that is, 'family and kind networks along with consultative councils' (Cheibub et al., 2010, p. 87) in monarchies, 'key potential rivals from the armed forces' in military dictatorships and party rivals in civil dictatorships. Monarchies are thus defined as autocracies with a king as the effective head of government with a hereditary successor and/or predecessor' (Cheibub et al., 2010, p. 87). Military dictatorships are ruled by an effective head of government that is a current or past member of the armed forces (Cheibub et al., 2010, p. 87). Autocracies that are neither monarchies nor military dictatorships are classified as civilian dictatorships (Cheibub et al., 2010, p. 86). Cheibub et al. (2010, p. 84) claim that this classification of autocratic regimes provides observable criteria for measurement.

The Democracy and Dictatorship dataset from Cheibub et al. (2010) distinguishes based on the regime classification from Przeworski et al. (2000) democratic and autocratic regime types. Countries are coded as democracies when the following criteria are fulfilled:

'1. The chief executive must be chosen by popular election or by a body that was itself popularly elected. 2. The legislature must be popularly elected. 3. There must be more than one-party competing in the elections. 4. An alternation in power under electoral rules identical to the ones that brought the incumbent to office must have taken place.' (Cheibub et al., 2010, p. 69).

The authors of the Authoritarian Regimes Dataset define five autocratic regimes (Hadenius & Teorell, 2007, p. 148) based on distinguishing three mechanisms that maintain power in autocracies: '1) hereditary succession, or lineage; 2) the actual or threatened use of military force; and 3) popular election' (Hadenius et al., 2017, p. 5; see also Hadenius & Teorell, 2007, p. 146; Wahman et al., 2013, pp. 20f.). 'Monarchies are those regimes in which a person of royal descent has inherited the position of head of state in accordance with accepted practice or the constitution' (Hadenius & Teorell, 2007, p. 146, emphasis in original, see also Hadenius & Teorell, 2017, p. 5). Military regimes are characterised by the direct or indirect influence of the armed forces on the government (Hadenius & Teorell, 2017, p. 5; Hadenius & Teorell, 2007, p. 146). Electoral regimes are characterised by popular elections of the legislative or the executive branches (Hadenius & Teorell, 2017, p. 5; Hadenius & Teorell, 2007, p. 146). In contrast to Cheibub et al. (2010), Hadenius et al. (2017) differentiate electoral regimes based on the degree of party competition including no-party, one-party and multiparty autocratic regimes (Hadenius & Teorell, 2017, p. 5; Hadenius & Teorell, 2007, p. 147; Wahman et al., 2013, pp. 20, 26). Roller (2013, p. 43) criticises this by stating that their typology of autocracy

regimes considers party composition to be a dimension of democracy quality. In addition to these, Hadenius et al. (2017, p. 5) assume that mixed types of autocracies are possible (Hadenius & Teorell, 2007, p. 146; Wahman et al., 2013, p. 28). Finally, they specify ‘minor types of authoritarian regimes’ (Hadenius & Theorell, 2007, p. 148) (for example, theocracies, transitional regimes, occupation, civil war and rebel regimes) (Hadenius & Teorell, 2017, p. 7; Hadenius & Theorell, 2007, p. 148).

Geddes et al. (1999) identify personal, military and single-party regimes based on the ‘control over access to power and influence’ (Geddes, 1999, p. 123) of the leadership group that ‘makes key policies; and regime leaders must retain the support of its members to remain in power, even though leaders may have substantial ability to influence the group’s membership’ (Geddes et al., 2014a, p. 315). In military regimes, a group of officers rule (Geddes, 1999, p. 123). Autocracies led by members of the military that are not controlled by military officers are personalist dictatorships (Geddes, 1999, p. 124). In single-party autocracies, a party influences access to power and has some control over political leaders (Geddes, 1999, p. 124). Geddes et al. (2014b, pp. 12, 16) summarise monarchies, oligarchies, indirect-military regimes and mixed regime types into four types: party-based, military, personalist, and monarchical regimes.

All three measurement approaches distinguish among monarchies, military regimes and party regimes and provide definitions of the regime sub-types. Geddes et al. (1999) also consider personalism as a regime type. In comparison to Geddes (1999) and Cheibub et al. (2010), Hadenius et al. (2017) provide a differentiated measurement of party regimes (Roller, 2013, p. 49). Geddes et al. (1999) and Hadenius et al. (2017) also differentiate mixed and sub-types of autocracies (Roller, 2013, p. 51). Hadenius et al. (2017) differentiate based on the degree of party competition, including no-party, one-party and multiparty autocratic regimes (Hadenius & Teorell, 2017, p. 5; Hadenius & Teorell, 2007, p. 147; Wahman et al., 2013, pp. 20, 26). Roller (2013, p. 43) critiques that their typology, therefore, considers party composition a dimension of democracy quality. Geddes et al.’s (1999) theories exhibit a mixed performance with regard to concept specification. Some scholars question the treatment of personalism as an individual autocracy regime type (e.g., Hadenius & Teorell, 2007, p. 149). The conceptualisation of Cheibub et al. (2010) is transparent. It also performs well in concept specification. It differentiates autocratic regimes from democracies, is applicable to all countries and is parsimonious. Roller (2013, p. 43) states that with regard the number of autocratic regimes, the classification from Cheibub et al. (2010) is ‘parsimonious and elegant’ (Roller, 2013, p. 43). However, the measures from Geddes et al. and Hadenius et al. (2012) can be reduced to main types or can distinguish the different regime types with greater precision (Roller, 2013, p. 43). All measurement projects provide precise definitions of autocratic regime types. The measure of Cheibub et al. (2010) additionally shows no problems with regard to its concept logic (no conflation, no redundancy).

Cheibub et al.’s (2010, pp. 88f.) coding of non-democracies as monarchic, military or civil dictatorships rests on three questions: 1. ‘Does the head of government bear the title of ‘King’ and have a hereditary successor and/or predecessor?’ 2. ‘Is the head of government a current or past member of the armed forces?’ 3. ‘Is the head

neither monarchic nor military?’ Their indicators are characterised by content validity. Their indicators are in accordance with their conceptual and operational definitions. However, the validity of the indicator in identifying military dictatorships is questionable. An autocracy with a political leader that is a current or former member of the military is not necessarily a military dictatorship. Hadenius et al. (2017) ‘do not code all regimes with a former member of the armed forces as their head of state as being military in character’ (Wahman et al., 2013, p. 25). Cheibub et al. (2010) perform better regarding reliability. They offer clear and transparent coding rules (Cheibub et al., 2010, p. 74). They maintain that their indicators are easily observable and that their coding is based on observable ‘objective facts’ (Cheibub et al., 2010, p. 74). Inter-coder reliability is not discussed. It can also be argued that their regime type classification rests on only one indicator for each regime type. Wahman et al. (2013, p. 31) argue that Cheibub et al. (2010) focus too much on reliability and neglect the validity of their indicators. Finally, the data from Cheibub et al. (2010) is available and comparable for the complete research period and my whole country sample.

The approach from Hadenius et al. (2017) performs relatively well in the measurement phase. The measures of types of autocracy are based on multiple valid and reliable indicators. Hadenius et al. specify three criteria to classify monarchies (Roller, 2013, p. 47). They classify autocracies as military regimes if the armed forces directly or indirectly exercise power (Roller, 2013, pp. 47f.). Countries are coded as party regimes when their government are selected through elections (Roller, 2013, p. 48). The indicators are characterised by content validity. They capture their conceptual definition completely. Hadenius et al. (2017, p. 6) use multiple sources from international and national research projects to code types of autocracy. The data set of Hadenius et al. (2012) covers data from 192 countries, from 1972 to 2014 (Hadenius et al., 2017, p. 2). Inter-coder reliability is not addressed. The measurement level of the indicators is also not discussed. The indicators are coded based on multiple sources. Their dataset covers my research period and country selection. The dataset from Geddes et al. performs well in the measurement phase. It is based on comparable valid and reliable indicators. With regard to the validity of the indicators, the operational definition of democracy has been criticised in the literature. Geddes et al. (2014b, p. 6) code states as democracies if the government is elected by a ‘reasonably fair competitive election in which at least ten percent of the total population (equivalent to about 40 percent of the adult male population) was eligible to vote; or indirect election by a body at least 60 percent of which was elected in direct, reasonably fair competitive elections.’ Others have critiqued that full suffrage is not chosen as an indicator of competitive elections. The dataset performs well with regard to reliability. With the exception of the coding of monarchies, Geddes et al. provide detailed information on the coding rules and explanations. The measures from Geddes et al. are also based on multiple indicators and sources. Their dataset provides comparable indicators for my entire research period and country sample. Roller (2013, p. 45) argues that the coding rules of Geddes et al. (2017) are the most precise. They also explain deviations from the classification of Cheibub et al. (2010) (Roller, 2013, p. 43). The codings of military and party autocracies are based on multiple items (Roller, 2013, p. 46). If a country fulfils a certain proportion

of the criteria of these items, it is classified as the respective autocratic regime type (Roller, 2013, p. 46). However, Geddes et al. do not specify monarchies on the measurement level (Roller, 2013, p. 47). Geddes et al. (2014b) also publish the sources of their information. Data from Geddes et al. (2012a) is available for all countries with at least one million citizens from 1946-2010 (Geddes et al., 2014a, p. 317).

The three datasets perform relatively well in the aggregation phase. Cheibub et al. (2010) provide dichotomous measures of regime types and autocratic regime types. Countries are classified as monarchic, civil or military dictatorships when the respective criteria are fulfilled. The aggregation level and rule of the measures of Cheibub et al. (2010) are in accordance with their concept. They consider democracies and dictatorships as well as autocratic regime types as distinct political regimes (Cheibub et al., 2010, p. 78); and their aggregation rule is clear and transparent (Cheibub et al., 2010, p. 74). The measures from Hadenius et al. (2017) and Geddes et al. (1999) also perform well with regard to the validity of their aggregation level and rule. Geddes et al. (1999) enable a differentiated analysis based on minor and mixed autocracy regime type measures. Hadenius et al. (2007) additionally provide, besides their differentiated autocracy measures, a collapsed measure that only distinguishes the basic types of autocracy. Thus, their dataset allows a parsimonious or detailed classification of autocracies (Wahman et al., 2013, p. 28). All datasets offer disaggregated information. The three measurements come to nearly the same classifications of democracies and autocracies (Roller, 2013, p. 46). With few exceptions, all three datasets code the same countries as monarchies (Roller, 2013, p. 48). Roller (2013, p. 48) notes that the coding rules for military regimes are less complex in the case of Cheibub et al. (2013). It rests only on one indicator (Roller, 2013, p. 48).

In sum, the three datasets perform relatively well in the conceptualisation, measurement and aggregation phases of index construction. In the following empirical analysis, the regime classification from Cheibub et al. (2010, 2009b) was applied. It was likewise used in a previous analysis of environmental performance (e.g. Wurster, 2013). In comparison with Geddes et al., it enabled me to analyse the effect of the basic regime types that are identified in all conceptions of types of autocracy. In comparison to Hadenius et al. (2010), it distinguishes democracies from autocracies based on a minimalist democracy conception. The indicators are reliable and, with one exception, valid. Its data covers my research period and country sample. In contrast with Cheibub et al. (2010), Hadenius et al. (2017) and Geddes et al., it additionally enabled an analysis of mixed systems and minor types of autocracy. In the following empirical analysis, I was primarily interested in basic autocracy regime types (Roller, 2013, pp. 51f.). The variable 'regime' in Cheibub et al. (2009a, pp. 9f., 2009b) identifies a political system as a parliamentary democracy, a semi-presidential democracy, a presidential democracy, a civil dictatorship, a military dictatorship and a royal dictatorship in a country year. Based on this information, I created three dichotomous variables that indicated whether there was a civilian, military or royal dictatorship in a country year. The reference category encompasses parliamentary, semi-presidential and presidential democracies.

A7 Climate commitment

A7.1 Univariate statistics

This chapter presents univariate statistics of the independent variables in my analysis of UNFCCC and Kyoto Protocol ratification (Table A7.1.1 & A7.1.2). The statistics were based on the pooled sample of all available countries.

Table A7.1.1 Univariate statistics of independent variables (1992-2006)

	Mean	Std	Mini- mum	Maxi- mum	N
Economic development (ln)	8.869	1.300	5.861	11.717	1752
Economic growth	3.554	5.488	-50.248	35.224	1751
Industry sector size (ln)	3.367	.365	1.840	4.422	1748
Fuel exports (ln)	1.866	1.409	-.004	4.611	1731
ENGO strength (ln)	1.302	.918	.000	4.174	1738
Population density (ln)	4.006	1.299	.731	8.754	1752
Population growth (ln)	1.508	1.518	-6.343	16.640	1752
Urban population	53.448	23.324	6.288	100.00	1752
Climate change vulnerability	.473	.121	.261	.897	1752
Regional commitment	.762	.287	.000	1.000	1755
Left government ideology ^a	-	-	.000	1.000	1715
Right government ideology ^a	-	-	.000	1.000	1715
Centre government ideology ^a	-	-	.000	1.000	1715
Rightist veto player ^a	-	-	.000	1.000	1703
Government fragmentation (ln)	.527	.643	.000	2.833	1747
Bicameralism ^a	-	-	.000	1.000	1734
Presidential veto player ^a	-	-	.000	1.000	1734
Executive corruption	.501	.300	.011	.977	1748
Legislative corruption	.102	1.277	-3.424	2.973	1639
Vertical accountability	.609	.812	-1.585	1.851	1748
Horizontal accountability	.420	.988	-1.812	2.381	1748
Political rights	.676	.907	-1.705	2.110	1748
Civil rights	.669	.266	.019	.995	1748
Trade openness (lg)	-.007	.195	-.823	.746	1749
Capital openness (ln)	2.700	1.000	.000	5.373	1751
Policy diffusion	.876	.246	.000	1.000	1635
State memberships in IGOs	64.946	20.794	11.000	129.000	1635
IGO network centrality	5.327	1.250	.234	7.979	1401

Notes: ^a = dichotomous variable. Analysis units = country-years.

Table A7.1.2 Univariate statistics of independent variables (1998-2006)

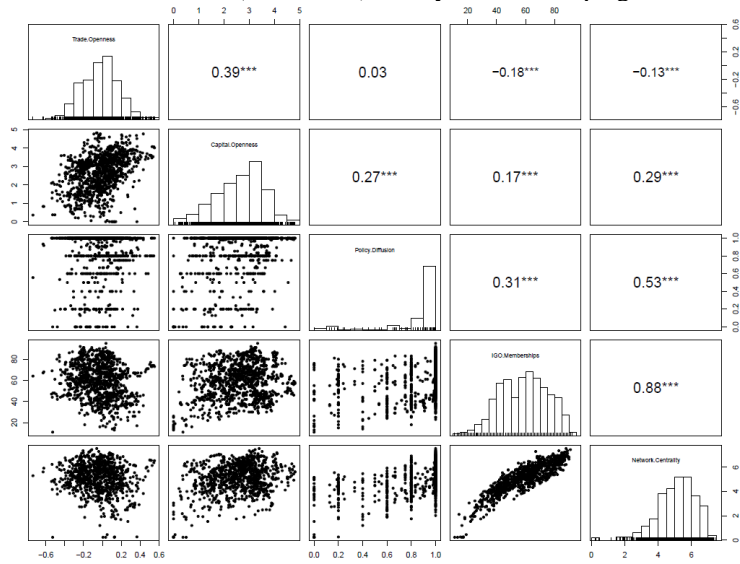
	Mean	Std	Mini- mum	Maxi- mum	N
Economic development (ln)	8.666	1.273	6.320	11.717	873
Economic growth	4.394	4.326	-28.100	33.736	873
Industry sector size	31.466	12.780	8.536	83.277	869
Fuel exports (ln)	2.014	1.529	.000	4.612	852
ENGO strength (ln)	1.299	.870	.000	3.891	860
Population density (ln)	3.946	1.339	0.890	8.755	873
Population growth	1.765	1.524	-2.851	16.640	864
Urban population	50.430	23.410	7.830	100.000	864
Climate change vulnerability	.490	.121	.269	.897	873
Regional commitment (mean)	.385	.320	.000	1.000	873
Left government ideology ^a	-	-	.000	1.000	840
Right government ideology ^a	-	-	.000	1.000	840
Centre government ideology ^a	-	-	.000	1.000	840
Left right polarization ^a	-	-	.000	1.000	836
Rightist veto player ^a	-	-	.000	1.000	836
Government fragmentation (ln)	.439	.631	.000	2.833	869
Bicameralism ^a	-	-	.000	1.000	860
Presidential veto player ^a	-	-	.000	1.000	860
Vertical accountability	.455	.769	-.158	1.704	869
Horizontal accountability	.220	.913	-1.81	2.258	869
Political rights	.507	.863	-1.621	2.094	869
Civil rights	.620	.248	.019	.992	869
Legislative corruption	.435	1.010	-2.942	2.973	873
Executive corruption	.576	.269	.016	.972	869
Trade openness (lg)	.004	.198	-.540	.746	871
Capital openness (ln)	2.904	.902	0.055	5.373	872
Policy diffusion	.388	.382	.000	1.000	776
State memberships in IGOs	63.574	15.884	29.00	104.000	776
State centrality in IGO net- works	5.709	.934	2.484	7.519	582

Notes: ^a = dichotomous variable. Analysis units = country-years.

A7.2 Bivariate correlations

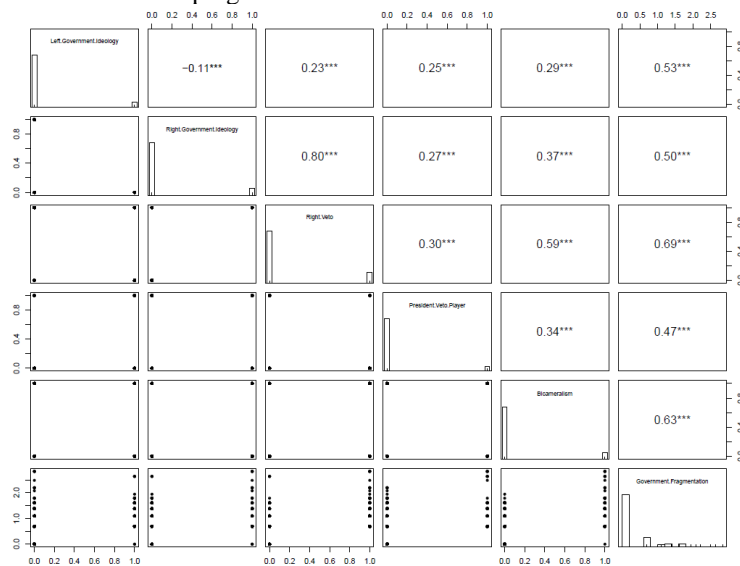
This chapter presents the bivariate correlations among independent variables. As explained in Chapter 7, the ratification of the UNFCCC was first analysed based on the developing-country sample. Therefore, Figures A7.2.1-A7.2.4 present the correlations for the developing-country sample from 1992-2006. In accordance with the analysis of the Kyoto Protocol ratification in Chapter 7, Figures A7.2.5-A7.2.8 present the bivariate correlations among independent variables for the pooled sample from 1998-2006.

Figure A7.2.1 Bivariate correlations among international integration dimensions (1992-2006): Analysis of developing countries



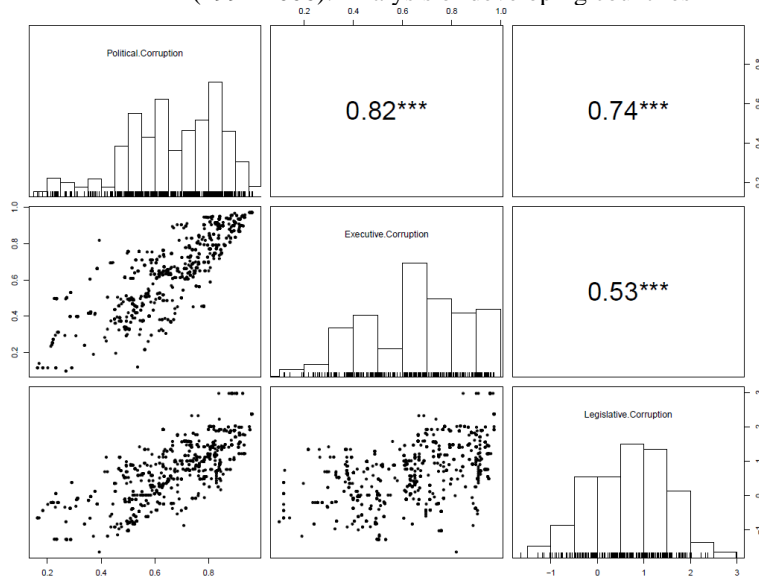
Notes: Analysis units = country-years.

Figure A7.2.2 Bivariate correlations among government ideology, veto player heterogeneity, and veto points (1992-2006): Analysis of developing countries



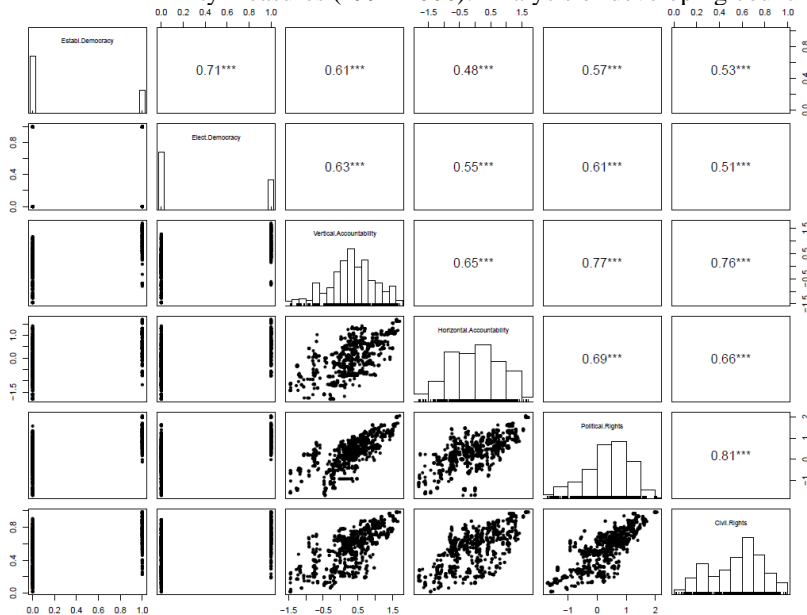
Notes: Analysis units = country-years.

Figure A7.2.3 Bivariate correlations among political corruption dimensions (1992-2006): Analysis of developing countries



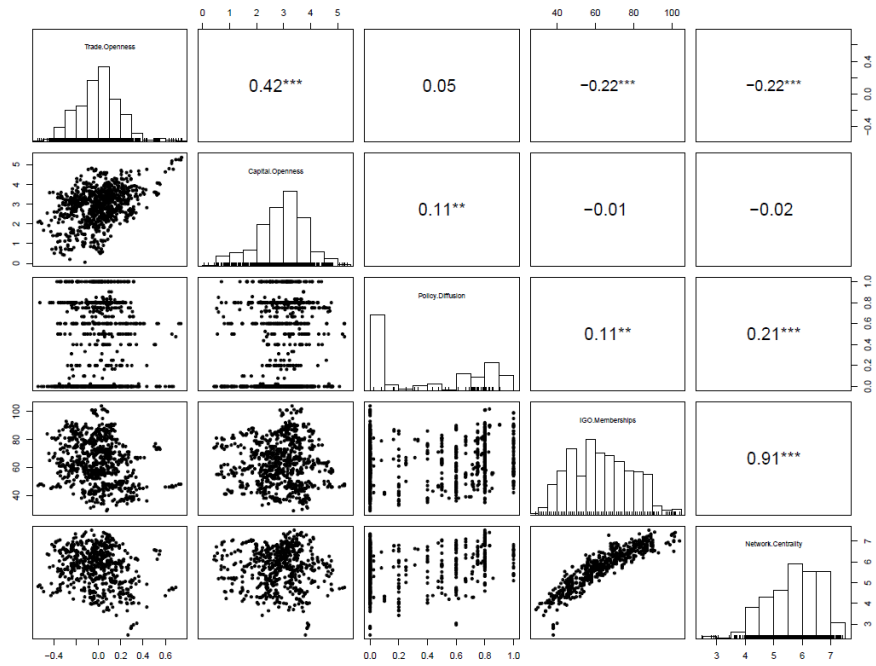
Notes: Analysis units = country-years.

Figure A7.2.4 Bivariate correlations among regime type, and democracy quality measures (1992-2006): Analysis of developing countries



Notes: Analysis units = country-years.

Figure A7.2.5 Bivariate correlations among international integration indicators (1998-2006): Global comparative analysis



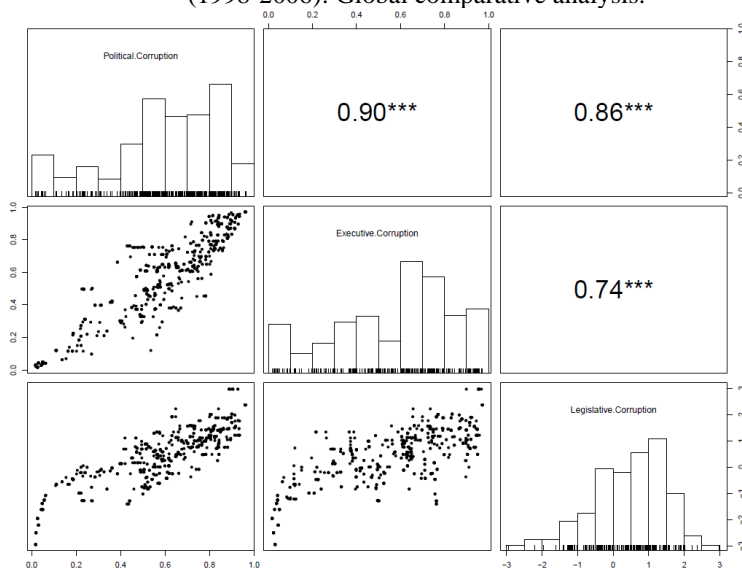
Notes: Analysis units = country-years.

Figure A7.2.6 Bivariate correlations among government ideology, right veto player, and veto points (1998-2006): Global comparative analysis



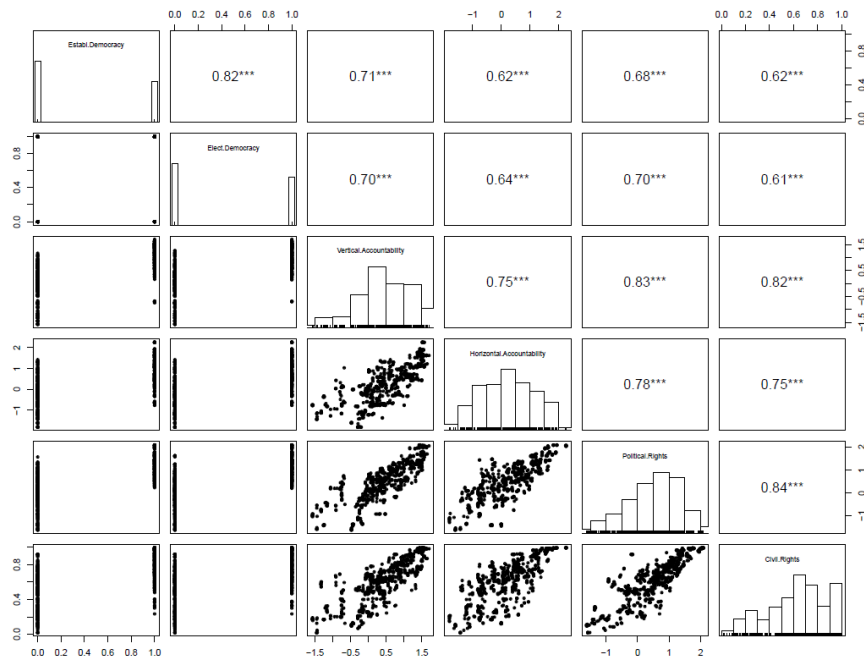
Notes: Analysis units = country-years.

Figure A7.2.7 Bivariate correlations among political corruption dimensions (1998-2006): Global comparative analysis.



Notes: Analysis units = country-years.

Figure A7.2.8 Bivariate correlations among regime type and democracy qualities indicators (1998-2006): Global comparative analysis



Notes: The analysis units are country-years.

A7.3 UNFCCC ratification

This chapter displays the results of the analysis of the additive effects of globalisation and domestic political institutions on UNFCCC ratification. As described in Chapter 7, multiple models were estimated to reduce model complexity.

Table A7.3.1 International integration and UNFCCC ratification (Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)
Economic development (ln)	-0.018 (0.123)	-0.032 (0.121)	-0.026 (0.123)	-0.022 (0.125)	0.005 (0.127)	-0.0358 (0.132)
Industry sector size (ln)	-0.386 (0.354)	-0.386 (0.350)	-0.400 (0.353)	-0.513 (0.342)	-0.412 (0.366)	-0.472 (0.359)
Fuel exports (ln)	-0.065 (0.096)	-0.048 (0.095)	-0.064 (0.097)	-0.065 (0.096)	-0.008 (0.097)	0.040 (0.099)
ENGO strength (ln)	0.458*** (0.130)	0.448*** (0.130)	0.477*** (0.130)	0.480*** (0.132)	0.358*** (0.134)	0.428*** (0.132)
Population density (ln)	-0.020 (0.088)	-0.017 (0.086)	-0.036 (0.087)	-0.053 (0.085)	-0.025 (0.087)	-0.019 (0.086)
Climate change vulnerability	-4.080*** (1.082)	-4.154*** (1.072)	-3.849*** (1.054)	-3.670*** (1.048)	-4.509*** (1.064)	-4.641*** (1.069)
Regional commitment					3.630*** (0.666)	3.677*** (0.685)
Annex I	-0.631* (0.350)	-0.669* (0.350)	-0.683** (0.346)	-0.738** (0.348)	-0.876** (0.359)	-0.789** (0.347)
Trade openness (lg)	-1.181* (0.664)	-1.167* (0.664)	-0.737 (0.553)		-0.994 (0.678)	-0.919 (0.681)
Capital openness (ln)	0.161 (0.133)	0.168 (0.133)		0.0285 (0.109)	0.138 (0.130)	0.166 (0.129)
Policy diffusion	1.277** (0.599)		1.299** (0.601)	1.263** (0.596)		
IGO memberships	0.016** (0.007)	0.020*** (0.006)	0.019*** (0.006)	0.020*** (0.006)	0.014** (0.006)	
Network centrality						0.253** (0.121)
<i>N</i>	412	412	412	413	412	410

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.2 Veto points and UNFCCC ratification (Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	-0.014 (0.125)	0.011 (0.123)	-0.003 (0.121)	-0.037 (0.124)	0.006 (0.129)	0.027 (0.127)	0.020 (0.126)	-0.011 (0.127)
Industry sector size (ln)	-0.246 (0.357)	-0.332 (0.353)	-0.340 (0.353)	-0.288 (0.358)	-0.333 (0.365)	-0.382 (0.364)	-0.391 (0.364)	-0.348 (0.366)
Fuel exports (ln)	-0.104 (0.100)	-0.100 (0.100)	-0.087 (0.098)	-0.074 (0.100)	-0.030 (0.100)	-0.0313 (0.099)	-0.027 (0.098)	-0.009 (0.097)
ENGO strength (ln)	0.565*** (0.145)	0.526*** (0.137)	0.569*** (0.143)	0.469*** (0.133)	0.436*** (0.145)	0.405*** (0.140)	0.431*** (0.144)	0.378*** (0.136)
Population density (ln)	-0.006 (0.086)	-0.013 (0.087)	-0.016 (0.086)	-0.010 (0.087)	-0.016 (0.085)	-0.017 (0.086)	-0.025 (0.085)	-0.016 (0.086)
Climate change vulnerability	-4.153*** (1.104)	-4.167*** (1.087)	-4.197*** (1.090)	-4.011*** (1.102)	-4.581*** (1.088)	-4.594*** (1.071)	-4.615*** (1.076)	-4.467*** (1.079)
Regional commitment					3.538*** (0.665)	3.606*** (0.665)	3.596*** (0.665)	3.562*** (0.665)
Annex I	-0.598 (0.373)	-0.512 (0.356)	-0.738** (0.354)	-0.521 (0.357)	-0.869** (0.384)	-0.795** (0.364)	-0.963*** (0.366)	-0.791** (0.366)
Government fragmentation (ln)	-0.051 (0.269)	-0.342 (0.220)			-0.002 (0.269)	-0.249 (0.215)		
Bicameralism	-0.504 (0.367)		-0.551* (0.315)		-0.385 (0.365)		-0.415 (0.314)	
Presidential veto player	-0.692 (0.454)			-0.728* (0.423)	-0.573 (0.448)			-0.598 (0.412)
Trade openness (lg)	-1.157* (0.662)	-1.176* (0.658)	-1.156* (0.669)	-1.204* (0.658)	-0.935 (0.677)	-0.969 (0.672)	-0.921 (0.684)	-1.013 (0.671)
Capital openness (ln)	0.108 (0.137)	0.139 (0.134)	0.161 (0.134)	0.106 (0.137)	0.100 (0.132)	0.121 (0.130)	0.133 (0.131)	0.101 (0.132)
Policy diffusion	1.487** (0.590)	1.378** (0.596)	1.450** (0.594)	1.344** (0.595)				
IGO memberships	0.017** (0.007)	0.017*** (0.007)	0.017** (0.007)	0.016** (0.007)	0.015** (0.007)	0.015** (0.006)	0.015** (0.007)	0.014** (0.006)
<i>N</i>	406	411	407	407	406	411	407	407

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.3 Government ideology, right veto player, and UNFCCC ratification (Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Economic development (ln)	-0.019 (0.127)	0.002 (0.122)	0.002 (0.127)	-0.013 (0.132)	0.011 (0.126)	-0.007 (0.131)	0.011 (0.128)	-0.007 (0.129)	0.001 (0.129)
Industry sector size (ln)	-0.384 (0.360)	-0.350 (0.352)	-0.386 (0.358)	-0.395 (0.371)	-0.395 (0.365)	-0.391 (0.370)	-0.420 (0.367)	-0.425 (0.368)	-0.374 (0.368)
Fuel exports (ln)	-0.066 (0.098)	-0.087 (0.099)	-0.091 (0.0984)	-0.001 (0.0979)	-0.017 (0.099)	-0.013 (0.099)	-0.011 (0.097)	-0.001 (0.097)	-0.013 (0.099)
ENGO strength (ln)	0.472*** (0.141)	0.495*** (0.134)	0.450*** (0.140)	0.362** (0.142)	0.371*** (0.137)	0.354** (0.142)	0.363*** (0.136)	0.345*** (0.133)	0.378*** (0.137)
Population density (ln)	-0.012 (0.088)	-0.020 (0.086)	-0.003 (0.085)	-0.025 (0.087)	-0.024 (0.086)	-0.020 (0.086)	-0.022 (0.087)	-0.021 (0.087)	-0.028 (0.087)
Climate change vulnerability	-4.371*** (1.128)	-3.804*** (1.088)	-4.181*** (1.112)	-4.685*** (1.108)	-4.357*** (1.073)	-4.562*** (1.102)	-4.558*** (1.085)	-4.736*** (1.099)	-4.374*** (1.076)
Regional commitment Annex I	-0.681* (0.376)	-0.509 (0.356)	-0.691* (0.372)	-0.919** (0.382)	-0.815** (0.368)	-0.911** (0.382)	-0.880** (0.360)	-0.961*** (0.372)	-0.808** (0.367)
Left government	-0.205 (0.349)		0.0871 (0.372)	-0.0177 (0.337)		0.102 (0.363)	-0.075 (0.289)		
Right government	0.162 (0.346)		0.651 (0.444)	0.190 (0.344)		0.393 (0.437)		0.241 (0.287)	
Centre government	-0.273 (0.522)		0.374 (0.606)	-0.262 (0.515)		0.048 (0.602)			-0.222 (0.502)
Right veto player		-0.301 (0.274)	-0.602* (0.358)		-0.115 (0.272)	-0.266 (0.357)			-0.0747 (0.285)
Trade openness (lg)	-1.165* (0.661)	-1.137* (0.664)	-1.097* (0.665)	-0.981 (0.678)	-0.943 (0.680)	-0.914 (0.684)	-0.992 (0.677)	-0.988 (0.679)	-0.943 (0.680)
Capital openness (ln)	0.149 (0.134)	0.145 (0.134)	0.150 (0.134)	0.128 (0.131)	0.124 (0.131)	0.119 (0.132)	0.137 (0.130)	0.136 (0.130)	0.118 (0.132)
Policy diffusion	1.315** (0.595)	1.438** (0.601)	1.567*** (0.596)						
IGO memberships	0.017** (0.007)	0.016** (0.007)	0.0170** (0.007)	0.0144** (0.006)	0.014** (0.006)	0.015** (0.007)	0.014** (0.006)	0.014** (0.006)	0.014** (0.006)
<i>N</i>	409	398	398	409	398	398	409	409	398

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.4 Political corruption and UNFCCC ratification (Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	-0.082 (0.133)	-0.117 (0.141)	-0.0463 (0.126)	-0.116 (0.144)	-0.081 (0.135)	-0.145 (0.144)	-0.031 (0.130)	-0.134 (0.146)
Industry sector size (ln)	-0.255 (0.373)	-0.212 (0.379)	-0.334 (0.358)	-0.220 (0.381)	-0.242 (0.384)	-0.151 (0.392)	-0.347 (0.370)	-0.178 (0.392)
Fuel exports (ln)	-0.048 (0.097)	-0.053 (0.097)	-0.053 (0.097)	-0.041 (0.098)	0.007 (0.098)	0.003 (0.098)	0.005 (0.098)	0.019 (0.098)
ENGO strength (ln)	0.404*** (0.136)	0.420*** (0.131)	0.456*** (0.130)	0.411*** (0.134)	0.284** (0.139)	0.300** (0.134)	0.353*** (0.134)	0.291** (0.136)
Population density (ln)	-0.053 (0.090)	-0.051 (0.090)	-0.021 (0.087)	-0.040 (0.088)	-0.070 (0.088)	-0.069 (0.088)	-0.024 (0.086)	-0.052 (0.086)
Climate change Vulnerability	-4.369*** (1.123)	-4.347*** (1.106)	-4.056*** (1.091)	-4.154*** (1.090)	-4.850*** (1.097)	-4.924*** (1.085)	-4.436*** (1.073)	-4.589*** (1.067)
Regional commitment Annex I	-0.814** (0.384)	-0.815** (0.378)	-0.697* (0.362)	-0.790** (0.374)	-1.168*** (0.402)	-1.224*** (0.402)	-0.974** (0.376)	-1.164*** (0.398)
Executive corruption	-0.750 (0.596)				-1.060* (0.592)			
Public sector corruption		-0.779 (0.544)				-1.200** (0.545)		
Legislative corruption			-0.088 (0.104)				-0.113 (0.108)	
Political corruption				-0.840 (0.656)				-1.240* (0.662)
Trade openness (lg)	-1.122* (0.668)	-1.184* (0.665)	-1.255* (0.669)	-1.261* (0.672)	-0.847 (0.689)	-0.950 (0.682)	-1.055 (0.680)	-1.046 (0.686)
Capital openness (ln)	0.146 (0.134)	0.151 (0.133)	0.151 (0.134)	0.141 (0.134)	0.093 (0.134)	0.107 (0.131)	0.114 (0.133)	0.087 (0.133)
Policy diffusion	1.209** (0.591)	1.171** (0.591)	1.218** (0.598)	1.201** (0.592)				
IGO memberships	0.016** (0.007)	0.017*** (0.007)	0.016** (0.007)	0.017** (0.007)	0.014** (0.006)	0.016** (0.006)	0.014** (0.006)	0.015** (0.006)
<i>N</i>	412	412	412	412	412	412	412	412

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.5 Regime type, democracy qualities, and UNFCCC ratification
(Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)
Economic de- velopment (ln)	-.030 .124	-.021 .127	-.020 .124	-.053 .126	-.013 .123	-.011 .125
Industry sec- tor size (ln)	-.338 .363	-.379 .365	-.322 .361	-.250 .375	-.370 .356	-.527 .375
Fuel exports (ln)	-.061 .096	-.064 .096	-.057 .096	-.057 .097	-.071 .098	-.038 .097
ENGO strength (ln)	.406*** .139	.455*** .135	.392*** .144	.399*** .136	.482*** .146	.435*** .131
Population density (ln)	-.031 .089	-.021 .089	-.020 .089	-.029 .088	-.017 .088	-.044 .089
Climate change vulnerability	-4.160** 1.078	-4.085*** 1.085	-4.116*** 1.075	-4.049*** 1.083	-4.079*** 1.087	-4.413*** 1.074
Annex I	-.751** .366	-.637* .359	-.724** .360	-.692** .350	-.593 .365	-.860** .375
Vertical ac- countability	.176 .175					
Horizontal ac- countability		.013 .155				
Political rights			.165 .163			
Civil rights				.689 .527		
Established democracy					.108 .297	
Electoral de- mocracy						.427 .270
Trade open- ness (lg)	-1.231* (.673)	-1.183 .665	-1.255* .672	-1.386** .690	-1.200* .664	-1.182* .677
Capital open- ness (ln)	.163 .132	.161 .133	.166 .132	.173 .134	.156 .134	.196 .136
Policy diffu- sion	1.219** .602	1.271** .602	1.193** .603	1.255** .598	1.296** .601	1.301** .597
IGO member- ships	.016** .007	.016** .007	.015** .007	.015** .007	.016** .007	.015** .007
<i>N</i>	412	412	412	412	412	412

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.5 Regime type, democracy qualities, and UNFCCC ratification
(Global comparative analysis, control of regional commitment)
(continuation)

	(7)	(8)	(9)	(10)	(11)	(12)
Economic development (ln)	-.008	-.002	-.000	-.050	.009	.010
Industry sector size (ln)	.128	.131	.128	.131	.127	.129
Fuel exports (ln)	-.325	-.394	-.288	-.219	-.404	-.525
ENGO strength (ln)	.379	.376	.377	.391	.368	.384
Population density (ln)	-.007	-.008	.003	-.001	-.011	.011
Climate change vulnerability	.097	.097	.097	.098	.098	.098
Annex I	.276*	.351**	.252*	.280**	.370**	.331**
Regional commitment	.143	.137	.146	.140	.146	.135
Vertical accountability	-.045	-.027	-.029	-.042	-.023	-.047
Horizontal accountability	.089	.087	.089	.087	.087	.089
Political rights	-4.631***	-4.515***	-4.628***	-4.528***	-4.514***	-4.764***
Civil rights	1.056	1.065	1.054	1.064	1.067	1.059
Established democracy	-1.075***	-.895**	-1.057***	-1.002***	-.855**	-1.058***
Electoral democracy	.381	.369	.375	.366	.373	.384
Trade openness (lg)	3.659***	3.626***	3.696***	3.692***	3.631***	-1.058***
Capital openness (ln)	.661	.666	.661	.661	.666	.384
IGO memberships	.262					
<i>N</i>	.178	.035				
		.155	.268*			
			.161	.915*		
				.532		
					-.058	
					.288	
						.351
						.269
Trade openness (lg)	-1.064	-.994	-1.126	.1.234*	1.005	-.974
Capital openness (ln)	.694	.681	.689	.702	.679	.691
IGO memberships	.129	.138	.141	.142	.136	.165
<i>N</i>	.130	.130	.129	.130	.130	.132
	.014**	.014**	.012*	.013**	.014**	.014**
	.006	.006	.006	.006	.006	.006
<i>N</i>	412	412	412	412	412	412

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.6 International integration and UNFCCC ratification (Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)
Economic development (ln)	0.002 (0.191)	0.012 (0.191)	-0.004 (0.186)	0.004 (0.189)	0.011 (0.194)	-0.047 (0.201)
Industry sector size (ln)	-0.385 (0.443)	-0.485 (0.432)	-0.376 (0.439)	-0.379 (0.435)	-0.466 (0.449)	-0.501 (0.438)
Fuel exports (ln)	-0.240** (0.118)	-0.207* (0.115)	-0.240** (0.118)	-0.241** (0.118)	-0.189 (0.115)	-0.112 (0.118)
ENGO strength (ln)	0.307* (0.172)	0.345** (0.171)	0.310* (0.171)	0.305* (0.169)	0.247 (0.176)	0.326* (0.181)
Population density (ln)	-0.046 (0.124)	-0.042 (0.123)	-0.050 (0.121)	-0.046 (0.124)	-0.076 (0.122)	-0.073 (0.123)
Climate change vulnerability	-4.102*** (1.146)	-4.132*** (1.132)	-4.078*** (1.132)	-4.113*** (1.135)	-4.394*** (1.150)	-4.382*** (1.155)
Regional commitment					3.151*** (1.071)	3.599*** (1.136)
Trade openness (lg)	0.058 (0.819)	0.073 (0.831)	0.117 (0.708)		0.023 (0.842)	-0.008 (0.834)
Capital openness (ln)	0.024 (0.164)	0.025 (0.163)		0.029 (0.142)	0.071 (0.164)	0.129 (0.164)
Policy diffusion	1.156 (0.861)		1.157 (0.861)	1.158 (0.861)		
IGO memberships	0.030*** (0.009)	0.034*** (0.009)	0.031*** (0.009)	0.030*** (0.008)	0.026*** (0.009)	
Network centrality						0.380** (0.158)
<i>N</i>	277	277	277	277	277	276

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.7 Government ideology, right veto player, and UNFCCC ratification (Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Economic development (ln)	0.024 (0.200)	0.024 (0.199)	0.029 (0.200)	0.015 (0.203)	0.015 (0.203)	0.014 (0.204)	0.006 (0.195)	0.021 (0.201)	0.016 (0.204)
Industry sector size (ln)	-0.376 (0.444)	-0.387 (0.442)	-0.393 (0.449)	-0.462 (0.451)	-0.467 (0.450)	-0.456 (0.456)	-0.461 (0.451)	-0.467 (0.449)	-0.468 (0.451)
Fuel exports (ln)	-0.259** (0.125)	-0.245** (0.120)	-0.255** (0.125)	-0.197 (0.121)	-0.189 (0.116)	-0.196 (0.121)	-0.192* (0.116)	-0.195 (0.119)	-0.190 (0.117)
ENGO strength (ln)	0.285 (0.192)	0.327* (0.183)	0.305 (0.202)	0.228 (0.195)	0.249 (0.189)	0.228 (0.209)	0.230 (0.187)	0.246 (0.176)	0.248 (0.191)
Population density (ln)	-0.043 (0.126)	-0.048 (0.124)	-0.052 (0.130)	-0.078 (0.124)	-0.077 (0.122)	-0.077 (0.128)	-0.080 (0.123)	-0.074 (0.123)	-0.076 (0.122)
Climate change vulnerability	-3.952*** (1.225)	-3.998*** (1.190)	-3.904*** (1.251)	-4.280*** (1.222)	-4.381*** (1.189)	-4.310*** (1.243)	-4.312*** (1.193)	-4.335*** (1.186)	-4.382*** (1.189)
Regional commitment				3.171*** (1.077)	3.139*** (1.074)	3.162*** (1.080)	3.174*** (1.076)	3.150*** (1.071)	3.138*** (1.074)
Left government	0.080 (0.490)		0.145 (0.571)	0.108 (0.482)		0.081 (0.553)	0.114 (0.474)		
Right government	-0.177 (0.486)		0.0618 (0.963)	-0.072 (0.482)		-0.106 (0.992)		-0.088 (0.475)	
Centre government	0.181 (0.785)		0.310 (0.961)	0.056 (0.787)		0.005 (0.984)			0.038 (0.804)
Right veto player		-0.111 (0.419)	-0.208 (0.867)		0.003 (0.414)	0.067 (0.888)			-0.002 (0.428)
Trade openness (lg)	0.136 (0.834)	0.053 (0.819)	0.0832 (0.838)	0.075 (0.866)	0.015 (0.846)	0.055 (0.873)	0.043 (0.847)	0.063 (0.860)	0.020 (0.852)
Capital openness (ln)	0.020 (0.166)	0.024 (0.164)	0.032 (0.169)	0.071 (0.165)	0.074 (0.164)	0.072 (0.168)	0.074 (0.164)	0.067 (0.165)	0.074 (0.164)
Policy diffusion	1.226 (0.870)	1.206 (0.859)	1.266 (0.873)						
IGO memberships	0.030*** (0.009)	0.029*** (0.009)	0.029*** (0.009)	0.026*** (0.009)	0.026*** (0.009)	0.026*** (0.009)	0.026*** (0.009)	0.026*** (0.009)	0.026*** (0.009)
<i>N</i>	274	270	270	274	270	270	274	274	270

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.8 Political corruption and UNFCCC ratification (Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	-0.004 (0.190)	-0.049 (0.194)	0.0194 (0.191)	-0.0294 (0.193)	0.008 (0.194)	-0.063 (0.197)	0.033 (0.194)	-0.044 (0.195)
Industry sector size (ln)	-0.338 (0.452)	-0.284 (0.455)	-0.303 (0.448)	-0.326 (0.453)	-0.386 (0.462)	-0.269 (0.471)	-0.373 (0.455)	-0.341 (0.464)
Fuel exports (ln)	-0.227* (0.119)	-0.233* (0.120)	-0.242** (0.122)	-0.223* (0.121)	-0.181 (0.116)	-0.201* (0.118)	-0.188 (0.118)	-0.169 (0.116)
ENGO strength (ln)	0.258 (0.179)	0.281* (0.169)	0.316* (0.173)	0.284* (0.172)	0.141 (0.185)	0.165 (0.173)	0.253 (0.175)	0.185 (0.176)
Population density (ln)	-0.057 (0.125)	-0.080 (0.129)	-0.039 (0.126)	-0.056 (0.126)	-0.108 (0.124)	-0.139 (0.128)	-0.066 (0.124)	-0.101 (0.125)
Climate change vulnerability	-4.328*** (1.190)	-4.523*** (1.188)	-4.299*** (1.160)	-4.152*** (1.144)	-4.824*** (1.208)	-5.175*** (1.210)	-4.562*** (1.170)	-4.517*** (1.148)
Regional commitment					3.505*** (1.118)	3.786*** (1.131)	3.352*** (1.096)	3.480*** (1.114)
Executive corruption	-0.649 (0.769)				-1.166 (0.758)			
Public sector corruption		-0.983 (0.695)				-1.561** (0.657)		
Legislative corruption			-0.059 (0.137)				-0.108 (0.141)	
Political corruption				-0.655 (0.832)				-1.241 (0.815)
Trade openness (lg)	0.112 (0.824)	0.0676 (0.824)	-0.195 (0.830)	0.0185 (0.823)	0.091 (0.851)	-0.041 (0.849)	-0.254 (0.853)	-0.064 (0.848)
Capital openness (ln)	0.039 (0.166)	0.059 (0.167)	0.060 (0.166)	0.027 (0.163)	0.094 (0.165)	0.133 (0.169)	0.107 (0.166)	0.073 (0.163)
Policy diffusion	1.022 (0.871)	0.775 (0.889)	1.007 (0.884)	0.997 (0.881)				
IGO memberships	0.031*** (0.009)	0.034*** (0.009)	0.031*** (0.009)	0.032*** (0.009)	0.026*** (0.009)	0.029*** (0.009)	0.026*** (0.009)	0.027*** (0.009)
<i>N</i>	277	277	276	277	277	277	276	277

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.9 Regime type, democracy quality, and UNFCCC ratification
(Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)
Economic de- velopment (ln)	-0.016 (0.192)	0.043 (0.191)	0.005 (0.191)	0.026 (0.194)	0.007 (0.196)	-0.010 (0.192)
Industry sector size (ln)	-0.290 (0.463)	-0.498 (0.443)	-0.410 (0.453)	-0.490 (0.463)	-0.383 (0.444)	-0.459 (0.459)
Fuel exports (ln)	-0.249** (0.118)	-0.238** (0.119)	-0.240** (0.118)	-0.247** (0.118)	-0.241** (0.119)	-0.229* (0.118)
ENGO strength (ln)	0.242 (0.187)	0.342* (0.178)	0.323* (0.182)	0.333* (0.177)	0.315* (0.187)	0.297* (0.172)
Population den- sity (ln)	-0.060 (0.125)	-0.031 (0.124)	-0.044 (0.124)	-0.040 (0.124)	-0.044 (0.127)	-0.074 (0.128)
Climate change vulnerability	-4.160*** (1.139)	-4.110*** (1.153)	-4.080*** (1.152)	-4.137*** (1.150)	-4.103*** (1.148)	-4.296*** (1.162)
Vertical ac- countability	0.177 (0.215)					
Horizontal ac- countability		-0.208 (0.187)				
Political rights			-0.048 (0.182)			
Civil rights				-0.427 (0.607)		
Established de- mocracy					-0.040 (0.360)	
Electoral de- mocracy						0.238 (0.314)
Trade openness (lg)	-0.066 (0.846)	0.050 (0.796)	0.100 (0.832)	0.214 (0.839)	0.058 (0.818)	-0.003 (0.831)
Capital open- ness (ln)	0.028 (0.165)	0.016 (0.162)	0.020 (0.164)	0.010 (0.164)	0.020 (0.167)	0.056 (0.170)
Policy diffusion	1.099 (0.867)	1.285 (0.863)	1.179 (0.863)	1.178 (0.860)	1.155 (0.860)	1.172 (0.864)
IGO member- ships	0.029*** (0.009)	0.031*** (0.009)	0.031*** (0.009)	0.032*** (0.009)	0.030*** (0.009)	0.030*** (0.009)
<i>N</i>	277	277	277	277	277	277

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.3.9 Regime type, democracy quality, and UNFCCC ratification
(Analysis of developing countries, control of regional commitment) (continuation)

	(7)	(8)	(9)	(10)	(11)	(12)
Economic development (ln)	-0.009 (0.196)	0.031 (0.195)	0.010 (0.194)	0.007 (0.197)	0.014 (0.199)	0.003 (0.195)
Industry sector size (ln)	-0.309 (0.474)	-0.530 (0.453)	-0.402 (0.463)	-0.448 (0.477)	-0.465 (0.450)	-0.528 (0.466)
Fuel exports (ln)	-0.205* (0.116)	-0.183 (0.115)	-0.190* (0.115)	-0.188 (0.115)	-0.189 (0.115)	-0.181 (0.115)
ENGO strength (ln)	0.131 (0.195)	0.275 (0.183)	0.199 (0.192)	0.241 (0.184)	0.252 (0.191)	0.234 (0.177)
Population density (ln)	-0.105 (0.123)	-0.063 (0.123)	-0.089 (0.124)	-0.079 (0.123)	-0.074 (0.125)	-0.100 (0.127)
Climate change vulnerability	-4.509*** (1.144)	-4.409*** (1.153)	-4.472*** (1.154)	-4.394*** (1.150)	-4.398*** (1.152)	-4.551*** (1.167)
Regional commitment	3.315*** (1.077)	3.063*** (1.073)	3.332*** (1.113)	3.189*** (1.121)	3.148*** (1.071)	3.155*** (1.082)
Vertical accountability	0.269 (0.212)					
Horizontal accountability		-0.122 (0.188)				
Political rights			0.113 (0.190)			
Civil rights				0.073 (0.636)		
Established democracy					-0.027 (0.354)	
Electoral democracy						0.196 (0.319)
Trade openness (lg)	-0.226 (0.889)	0.036 (0.828)	-0.124 (0.885)	-0.011 (0.895)	0.024 (0.842)	-0.029 (0.853)
Capital openness (ln)	0.079 (0.165)	0.067 (0.163)	0.088 (0.167)	0.075 (0.166)	0.069 (0.166)	0.100 (0.171)
IGO memberships	0.024*** (0.009)	0.027*** (0.009)	0.025*** (0.009)	0.026*** (0.010)	0.026*** (0.009)	0.026*** (0.009)
<i>N</i>	277	277	277	277	277	277

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

A7.4 Kyoto Protocol ratification

This chapter displays the results of the analysis of the additive effects of globalisation and domestic political institutions on Kyoto Protocol ratification. As described in Chapter 7, multiple models were estimated to reduce model complexity.

Table A7.4.1 International integration and Kyoto Protocol ratification (Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)
Economic de- velopment (ln)	-0.061 (0.133)	-0.057 (0.133)	-0.057 (0.132)	-0.065 (0.134)	0.001 (0.141)	-0.139 (0.196)
Industry sector size (ln)	0.658 (0.418)	0.660 (0.416)	0.615 (0.414)	0.406 (0.387)	0.718 (0.453)	0.860 (0.610)
Fuel exports (ln)	-0.074 (0.102)	-0.064 (0.102)	-0.077 (0.102)	-0.087 (0.101)	-0.018 (0.107)	-0.132 (0.133)
ENGO strength (ln)	0.034 (0.160)	0.051 (0.160)	0.039 (0.160)	0.057 (0.159)	-0.044 (0.157)	0.064 (0.202)
Population den- sity (ln)	0.368*** (0.105)	0.346*** (0.102)	0.355*** (0.103)	0.298*** (0.0939)	0.322*** (0.106)	0.262** (0.133)
Climate change vulnerability	0.634 (1.339)	0.825 (1.339)	0.863 (1.273)	1.009 (1.318)	-0.369 (1.261)	-0.158 (1.464)
Regional com- mitment Annex I					4.531*** (0.836)	5.173*** (1.041)
	-0.699 (0.497)	-0.608 (0.491)	-0.673 (0.491)	-0.654 (0.488)	-1.225** (0.476)	-0.905 (0.597)
Trade openness (lg)	-1.389 (0.861)	-1.516* (0.851)	-1.067 (0.665)		-1.730** (0.853)	-1.416 (1.000)
Capital open- ness (ln)	0.087 (0.148)	0.090 (0.147)		-0.067 (0.113)	0.094 (0.145)	0.337 (0.210)
Policy diffusion	0.928 (0.920)		0.936 (0.916)	1.131 (0.900)		
IGO member- ships	0.018** (0.009)	0.019** (0.009)	0.019** (0.009)	0.021** (0.009)	0.018** (0.009)	
Network cen- trality						0.300 (0.195)
<i>N</i>	573	573	573	573	573	491

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.2 Veto player influence and Kyoto Protocol ratification (Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	-0.119 (0.139)	-0.061 (0.135)	-0.107 (0.139)	-0.029 (0.146)	-0.003 (0.142)	-0.043 (0.149)	0.006 (0.145)	0.003 (0.143)
Industry sector size (ln)	0.662 (0.447)	0.639 (0.432)	0.706 (0.456)	0.838* (0.480)	0.707 (0.460)	0.812* (0.484)	0.785 (0.479)	0.770 (0.472)
Fuel exports (ln)	-0.003 (0.105)	-0.035 (0.104)	-0.002 (0.108)	-0.004 (0.108)	0.013 (0.109)	0.022 (0.110)	-0.025 (0.110)	-0.014 (0.107)
ENGO strength (ln)	-0.078 (0.171)	-0.078 (0.168)	-0.132 (0.176)	-0.164 (0.170)	-0.101 (0.163)	-0.179 (0.172)	-0.051 (0.160)	-0.136 (0.167)
Population density (ln)	0.349*** (0.110)	0.364*** (0.111)	0.361*** (0.113)	0.335*** (0.109)	0.336*** (0.108)	0.342*** (0.110)	0.329*** (0.108)	0.327*** (0.107)
Climate change vulnerability	0.565 (1.324)	0.651 (1.299)	0.478 (1.321)	-0.432 (1.238)	-0.275 (1.245)	-0.392 (1.234)	-0.349 (1.295)	-0.388 (1.237)
Regional commitment				4.057*** (0.841)	4.271*** (0.852)	4.049*** (0.862)	4.246*** (0.852)	4.242*** (0.819)
Annex I	-1.020* (0.533)	-1.119** (0.559)	-1.083* (0.558)	-1.439*** (0.516)	-1.300** (0.524)	-1.317** (0.533)	-1.310*** (0.498)	-1.456*** (0.520)
Left government	0.998*** (0.378)		0.824** (0.407)	0.443 (0.390)		0.451 (0.434)	0.176 (0.369)	
Right government	0.983** (0.402)		0.691 (0.461)	0.893** (0.404)		0.925* (0.544)		0.755* (0.387)
Right veto player		0.976** (0.398)	0.595 (0.459)		0.547 (0.399)	0.104 (0.481)		
Centre government						0.387 (0.567)		
Trade openness (lg)	-1.564* (0.903)	-1.915** (0.885)	-1.933** (0.922)	-2.014** (0.876)	-2.183** (0.874)	-2.234** (0.894)	-1.924** (0.873)	-2.005** (0.865)
Capital openness (ln)	0.139 (0.162)	0.160 (0.153)	0.180 (0.164)	0.151 (0.154)	0.144 (0.148)	0.172 (0.156)	0.133 (0.152)	0.142 (0.151)
Policy diffusion	0.401 (0.951)	0.723 (0.941)	0.442 (0.971)					
IGO memberships	0.016* (0.010)	0.011 (0.010)	0.012 (0.010)	0.014 (0.009)	0.012 (0.010)	0.010 (0.010)	0.018** (0.009)	0.013 (0.009)
<i>N</i>	560	553	548	560	553	548	560	560

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.3 Veto points and Kyoto Protocol ratification (Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	-0.115 (0.133)	-0.095 (0.134)	-0.094 (0.132)	-0.064 (0.133)	-0.041 (0.142)	-0.016 (0.142)	-0.014 (0.140)	-0.007 (0.140)
Industry sector size (ln)	0.685 (0.423)	0.606 (0.415)	0.743* (0.427)	0.658 (0.419)	0.834* (0.454)	0.735 (0.452)	0.763* (0.458)	0.769* (0.451)
Fuel exports (ln)	-0.023 (0.105)	-0.027 (0.103)	-0.066 (0.102)	-0.071 (0.101)	0.002 (0.108)	-0.014 (0.107)	-0.019 (0.107)	-0.008 (0.108)
Population density (ln)	0.353*** (0.110)	0.324*** (0.108)	0.373*** (0.107)	0.375*** (0.106)	0.346*** (0.106)	0.314*** (0.107)	0.325*** (0.106)	0.347*** (0.105)
ENGO strength (ln)	-0.059 (0.171)	-0.007 (0.164)	-0.086 (0.169)	0.040 (0.161)	-0.066 (0.165)	-0.069 (0.163)	-0.097 (0.165)	-0.008 (0.155)
Climate change vulnerability	0.746 (1.312)	0.921 (1.329)	0.685 (1.267)	0.554 (1.345)	-0.456 (1.263)	-0.234 (1.272)	-0.374 (1.223)	-0.540 (1.271)
Regional commitment					4.635*** (0.895)	4.409*** (0.858)	4.354*** (0.851)	4.869*** (0.863)
Annex I	-0.594 (0.511)	-0.718 (0.495)	-0.709 (0.510)	-0.648 (0.516)	-1.138** (0.493)	-1.209** (0.477)	-1.185** (0.479)	-1.165** (0.489)
Government fragmentation (ln)	0.316 (0.217)	0.383** (0.191)			0.189 (0.239)	0.128 (0.202)		
Bicameralism	0.645 (0.476)		0.914** (0.440)		0.223 (0.500)		0.456 (0.436)	
Presidential veto player	-0.367 (0.425)			-0.141 (0.412)	-0.682* (0.406)			-0.605 (0.379)
Trade openness (lg)	-1.430 (0.886)	-1.252 (0.877)	-1.443* (0.871)	-1.452* (0.864)	-1.891** (0.871)	-1.667* (0.862)	-1.818** (0.862)	-1.881** (0.851)
Capital openness (ln)	0.114 (0.153)	0.115 (0.152)	0.085 (0.150)	0.097 (0.149)	0.110 (0.146)	0.098 (0.146)	0.104 (0.145)	0.099 (0.144)
Policy diffusion	0.726 (0.950)	0.707 (0.932)	0.754 (0.940)	0.969 (0.929)				
IGO memberships	0.013 (0.010)	0.016* (0.010)	0.013 (0.009)	0.019** (0.009)	0.017* (0.010)	0.017* (0.010)	0.015 (0.010)	0.020** (0.010)
<i>N</i>	559	569	563	563	559	569	563	563

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.4 Political corruption dimensions and Kyoto Protocol ratification
(Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	-0.093 (0.152)	-0.098 (0.163)	-0.024 (0.143)	-0.073 (0.167)	-0.051 (0.159)	-0.053 (0.167)	0.010 (0.150)	-0.060 (0.170)
Industry sector size (ln)	0.687 (0.426)	0.687 (0.427)	0.656 (0.418)	0.662 (0.420)	0.772* (0.464)	0.779* (0.468)	0.720 (0.453)	0.738 (0.457)
Fuel exports (ln)	-0.057 (0.109)	-0.064 (0.105)	-0.100 (0.108)	-0.068 (0.111)	0.006 (0.113)	-0.008 (0.109)	-0.026 (0.115)	0.009 (0.116)
ENGO strength (ln)	0.023 (0.164)	0.026 (0.163)	0.026 (0.160)	0.032 (0.161)	-0.073 (0.165)	-0.071 (0.165)	-0.0447 (0.157)	-0.0609 (0.160)
Population density (ln)	0.356*** (0.108)	0.354*** (0.111)	0.378*** (0.106)	0.365*** (0.108)	0.307*** (0.108)	0.305*** (0.110)	0.326*** (0.107)	0.304*** (0.110)
Climate change vulnerability	0.564 (1.345)	0.540 (1.356)	0.560 (1.335)	0.630 (1.339)	-0.475 (1.267)	-0.493 (1.273)	-0.383 (1.261)	-0.390 (1.262)
Regional commitment					4.570*** (0.841)	4.562*** (0.840)	4.514*** (0.841)	4.585*** (0.842)
Annex I	-0.732 (0.503)	-0.751 (0.515)	-0.646 (0.497)	-0.713 (0.509)	-1.280*** (0.483)	-1.311*** (0.497)	-1.208** (0.484)	-1.308*** (0.496)
Executive corruption	-0.274 (0.624)				-0.457 (0.642)			
Legislative corruption			-0.099 (0.142)				-0.027 (0.145)	
Public sector corruption		-0.258 (0.662)				-0.407 (0.676)		
Political corruption				-0.097 (0.775)				-0.506 (0.801)
Trade openness (lg)	-1.353 (0.867)	-1.334 (0.877)	-1.397 (0.861)	-1.376 (0.867)	-1.690** (0.861)	-1.699** (0.862)	-1.733** (0.853)	-1.679* (0.859)
Capital openness (ln)	0.079 (0.150)	0.082 (0.149)	0.112 (0.153)	0.083 (0.152)	0.074 (0.148)	0.086 (0.146)	0.102 (0.151)	0.066 (0.152)
Policy diffusion	0.924 (0.920)	0.930 (0.918)	0.907 (0.924)	0.930 (0.920)				
IGO memberships	0.018** (0.009)	0.019** (0.009)	0.018** (0.009)	0.018** (0.009)	0.017* (0.009)	0.018** (0.009)	0.018** (0.009)	0.018** (0.009)
<i>N</i>	573	573	573	573	573	573	573	573

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.5 Regime type, democracy quality, and Kyoto Protocol ratification
(Global comparative analysis)

	(1)	(2)	(3)	(4)	(5)	(6)
Economic development (ln)	-0.151 (0.141)	-0.106 (0.140)	-0.064 (0.133)	-0.140 (0.145)	-0.144 (0.139)	-0.084 (0.134)
Industry sector size (ln)	0.884** (0.434)	0.740* (0.429)	0.737* (0.425)	0.819* (0.441)	0.757* (0.419)	0.757* (0.417)
Fuel exports (ln)	-0.035 (0.101)	-0.060 (0.101)	-0.061 (0.102)	-0.048 (0.104)	-0.012 (0.100)	-0.059 (0.0999)
ENGO strength (ln)	0.015 (0.164)	0.015 (0.161)	0.008 (0.164)	0.033 (0.164)	-0.086 (0.169)	0.023 (0.163)
Population density (ln)	0.332*** (0.108)	0.344*** (0.108)	0.362*** (0.106)	0.344*** (0.107)	0.316*** (0.110)	0.316*** (0.108)
Climate change vulnerability Annex I	0.632 (1.320)	0.541 (1.345)	0.542 (1.340)	0.395 (1.335)	0.324 (1.295)	0.416 (1.325)
	-0.799 (0.497)	-0.741 (0.504)	-0.809 (0.510)	-0.797 (0.503)	-1.077** (0.506)	-0.957* (0.514)
Vertical accountability	0.450** (0.209)					
Horizontal accountability		0.186 (0.170)				
Political rights			0.213 (0.186)			
Civil rights				0.880 (0.650)		
Established democracy					1.056*** (0.301)	
Electoral democracy						0.597** (0.281)
Trade openness (lg)	-1.595* (0.891)	-1.332 (0.881)	-1.429 (0.875)	-1.504* (0.878)	-1.382 (0.868)	-1.249 (0.874)
Capital openness (ln)	0.0994 (0.150)	0.0914 (0.149)	0.102 (0.149)	0.103 (0.149)	0.161 (0.153)	0.104 (0.151)
Policy diffusion	0.636 (0.920)	0.823 (0.920)	0.898 (0.924)	0.947 (0.925)	0.548 (0.933)	0.725 (0.927)
IGO memberships	0.011 (0.009)	0.017* (0.009)	0.014 (0.010)	0.016* (0.009)	0.015 (0.009)	0.015 (0.009)
<i>N</i>	573	573	573	573	573	573

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.5 Regime type, democracy quality, and Kyoto Protocol ratification (Global comparative analysis, control of regional commitment) (continuation)

	(7)	(8)	(9)	(10)	(11)	(12)
Economic development (ln)	-0.063 (0.149)	-0.052 (0.149)	-0.000 (0.141)	-0.054 (0.153)	-0.064 (0.147)	-0.015 (0.142)
Industry sector size (ln)	0.961** (0.490)	0.876* (0.481)	0.815* (0.476)	0.883* (0.491)	0.843* (0.459)	0.804* (0.460)
Fuel exports (ln)	-0.018 (0.107)	-0.020 (0.107)	-0.021 (0.107)	-0.017 (0.108)	-0.009 (0.106)	-0.025 (0.107)
ENGO strength (ln)	-0.097 (0.166)	-0.095 (0.165)	-0.078 (0.167)	-0.068 (0.162)	-0.132 (0.169)	-0.067 (0.161)
Population density (ln)	0.315*** (0.108)	0.314*** (0.107)	0.325*** (0.106)	0.314*** (0.106)	0.312*** (0.109)	0.307*** (0.107)
Climate change vulnerability	-0.443 (1.249)	-0.525 (1.274)	-0.508 (1.279)	-0.571 (1.272)	-0.537 (1.240)	-0.511 (1.259)
Regional commitment	4.381*** (0.850)	4.555*** (0.846)	4.516*** (0.844)	4.526*** (0.846)	4.089*** (0.872)	4.372*** (0.854)
Annex I	-1.274*** (0.474)	-1.250*** (0.481)	-1.280*** (0.484)	-1.275*** (0.478)	-1.368*** (0.478)	-1.321*** (0.484)
Vertical accountability	0.309 (0.215)					
Horizontal accountability		0.192 (0.170)				
Political rights			0.124 (0.178)			
Civil rights				0.601 (0.630)		
Established democracy					0.632** (0.314)	
Electoral democracy						0.310 (0.288)
Trade openness (lg)	-1.872** (0.874)	-1.732** (0.874)	-1.817** (0.871)	-1.870** (0.875)	-1.673* (0.864)	-1.668* (0.864)
Capital openness (ln)	0.0876 (0.146)	0.100 (0.146)	0.108 (0.146)	0.109 (0.146)	0.125 (0.149)	0.102 (0.147)
IGO memberships	0.012 (0.010)	0.016* (0.009)	0.015 (0.010)	0.016* (0.009)	0.016* (0.009)	0.016* (0.009)
<i>N</i>	573	573	573	573	573	573

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.6 International integration and Kyoto Protocol ratification (Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Economic development (ln)	0.314 (0.196)	0.330* (0.195)	0.326* (0.196)	0.319 (0.199)	0.271 (0.202)	0.088 (0.208)	0.0451 (0.256)
Industry sector size (ln)	0.114 (0.502)	0.137 (0.498)	0.073 (0.511)	-0.136 (0.445)	0.176 (0.497)	0.260 (0.501)	0.505 (0.691)
Fuel exports (ln)	-0.069 (0.115)	-0.053 (0.115)	-0.076 (0.116)	-0.061 (0.114)	-0.030 (0.115)	-0.000 (0.114)	-0.122 (0.139)
ENGO strength (ln)	0.117 (0.174)	0.141 (0.173)	0.084 (0.173)	0.117 (0.175)	0.125 (0.173)	-0.004 (0.177)	0.138 (0.223)
Population density (ln)	0.649*** (0.149)	0.619*** (0.145)	0.593*** (0.140)	0.625*** (0.147)	0.597*** (0.146)	0.526*** (0.144)	0.472*** (0.183)
Climate change vulnerability	1.509 (1.379)	1.629 (1.389)	1.797 (1.329)	1.847 (1.341)	1.143 (1.438)	0.478 (1.357)	0.058 (1.550)
Regional commitment						4.195*** (1.136)	4.696*** (1.307)
Trade openness (lg)	-1.053 (0.964)	-1.250 (0.944)	-0.442 (0.851)		-1.169 (0.931)	-0.877 (0.911)	-0.909 (1.042)
Capital openness (ln)	0.232 (0.178)	0.230 (0.176)		0.140 (0.157)	0.222 (0.176)	0.220 (0.178)	0.471* (0.263)
Policy diffusion	0.949 (1.022)		0.935 (1.003)	1.172 (0.986)			
IGO memberships	0.013 (0.010)	0.013 (0.010)	0.014 (0.010)	0.0143 (0.010)	0.014 (0.010)	0.0175* (0.010)	
Network centrality							0.233 (0.206)
<i>N</i>	442	442	442	442	442	442	382

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.7 Government ideology, rightist veto player, and Kyoto Protocol ratification (Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	0.275 (0.211)	0.259 (0.198)	0.285 (0.216)	0.111 (0.223)	0.071 (0.211)	0.111 (0.232)	0.122 (0.222)	0.102 (0.210)
Industry sector size (ln)	0.254 (0.549)	0.205 (0.523)	0.231 (0.561)	0.325 (0.546)	0.329 (0.522)	0.346 (0.570)	0.242 (0.536)	0.341 (0.531)
Fuel exports (ln)	-0.046 (0.118)	-0.023 (0.115)	-0.023 (0.118)	-0.009 (0.115)	0.035 (0.115)	0.020 (0.117)	-0.011 (0.116)	-0.008 (0.115)
ENGO strength (ln)	0.022 (0.190)	-0.051 (0.186)	-0.027 (0.196)	-0.068 (0.191)	-0.138 (0.191)	-0.154 (0.203)	0.012 (0.181)	-0.073 (0.187)
Population density (ln)	0.587*** (0.154)	0.641*** (0.152)	0.615*** (0.158)	0.518*** (0.148)	0.540*** (0.146)	0.549*** (0.151)	0.528*** (0.145)	0.516*** (0.147)
Climate change vulnerability	0.990 (1.345)	0.771 (1.340)	0.738 (1.356)	0.206 (1.327)	0.078 (1.314)	-0.273 (1.351)	0.404 (1.372)	0.200 (1.327)
Regional commitment				3.775*** (1.174)	3.843*** (1.164)	3.577*** (1.218)	4.208*** (1.130)	3.759*** (1.169)
Left government	0.234 (0.465)		-0.047 (0.550)	-0.057 (0.473)		-0.285 (0.561)	-0.263 (0.452)	
Right government	1.232*** (0.453)		0.389 (0.870)	0.798* (0.465)		-0.054 (0.850)		0.814* (0.446)
Right veto player		1.255*** (0.438)	0.996 (0.839)		0.975** (0.460)	1.214 (0.843)		
Centre government						0.632 (0.751)		
Trade openness (lg)	-1.692* (1.023)	-1.658* (0.993)	-1.896* (1.029)	-1.219 (0.952)	-1.381 (0.949)	-1.545 (0.972)	-0.922 (0.920)	-1.230 (0.950)
Capital openness (ln)	0.325* (0.192)	0.301 (0.183)	0.349* (0.193)	0.288 (0.189)	0.258 (0.180)	0.313 (0.191)	0.260 (0.186)	0.288 (0.189)
Policy diffusion	0.115 (1.074)	0.605 (1.025)	0.236 (1.084)					
IGO memberships	0.007 (0.010)	0.004 (0.010)	0.002 (0.011)	0.012 (0.010)	0.008 (0.011)	0.005 (0.011)	0.017* (0.010)	0.013 (0.010)
<i>N</i>	431	428	423	431	428	423	431	431

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.8 Veto points and Kyoto Protocol ratification (Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	0.251 (0.200)	0.263 (0.200)	0.251 (0.197)	0.282 (0.199)	0.079 (0.215)	0.085 (0.214)	0.065 (0.208)	0.090 (0.209)
Industry sector size (ln)	0.180 (0.509)	0.184 (0.504)	0.182 (0.507)	0.135 (0.503)	0.285 (0.510)	0.265 (0.507)	0.306 (0.506)	0.240 (0.501)
Fuel exports (ln)	-0.074 (0.116)	-0.061 (0.116)	-0.069 (0.115)	-0.067 (0.115)	0.001 (0.115)	-0.000 (0.114)	-0.007 (0.114)	0.010 (0.114)
ENGO strength (ln)	0.014 (0.184)	0.081 (0.180)	0.028 (0.179)	0.088 (0.181)	-0.013 (0.186)	-0.007 (0.185)	-0.054 (0.184)	0.033 (0.179)
Population density (ln)	0.634*** (0.154)	0.617*** (0.153)	0.635*** (0.149)	0.636*** (0.150)	0.534*** (0.145)	0.525*** (0.146)	0.521*** (0.145)	0.529*** (0.143)
Climate change vulnerability	1.255 (1.354)	1.651 (1.377)	1.258 (1.307)	1.476 (1.369)	0.180 (1.364)	0.493 (1.376)	0.416 (1.309)	0.317 (1.365)
Regional commitment					4.303*** (1.206)	4.183*** (1.153)	4.007*** (1.163)	4.530*** (1.186)
Government fragmentation (ln)	-0.0554 (0.287)	0.210 (0.218)			-0.0496 (0.281)	0.015 (0.229)		
Bicameralism	0.890 (0.556)		0.861* (0.459)		0.529 (0.568)		0.470 (0.479)	
Presidential veto player	0.206 (0.486)			0.287 (0.430)	-0.357 (0.491)			-0.385 (0.457)
Trade openness (lg)	-1.127 (0.978)	-1.092 (0.969)	-1.175 (0.971)	-1.047 (0.971)	-1.037 (0.922)	-0.878 (0.912)	-0.980 (0.922)	-0.941 (0.908)
Capital openness (ln)	0.253 (0.183)	0.253 (0.180)	0.261 (0.181)	0.235 (0.179)	0.245 (0.179)	0.220 (0.179)	0.237 (0.179)	0.235 (0.178)
Policy diffusion	0.904 (1.041)	0.795 (1.039)	0.887 (1.032)	0.928 (1.017)				
IGO memberships	0.001 (0.010)	0.013 (0.010)	0.010 (0.010)	0.013 (0.010)	0.017 (0.010)	0.017* (0.010)	0.015 (0.010)	0.019* (0.010)
<i>N</i>	433	442	433	433	433	442	433	433

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.9 Political corruption and Kyoto Protocol ratification (Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic development (ln)	0.253 (0.201)	0.211 (0.212)	0.313 (0.196)	0.225 (0.207)	0.045 (0.209)	-0.004 (0.218)	0.089 (0.208)	0.021 (0.213)
Industry sector size (ln)	0.140 (0.516)	0.198 (0.515)	0.074 (0.523)	0.0759 (0.512)	0.293 (0.518)	0.370 (0.520)	0.238 (0.519)	0.220 (0.512)
Fuel exports (ln)	-0.012 (0.120)	-0.043 (0.118)	-0.054 (0.127)	-0.003 (0.126)	0.056 (0.119)	0.026 (0.116)	0.008 (0.125)	0.066 (0.126)
ENGO strength (ln)	0.076 (0.184)	0.090 (0.180)	0.129 (0.179)	0.111 (0.177)	-0.067 (0.189)	-0.060 (0.189)	0.001 (0.180)	-0.021 (0.181)
Population density (ln)	0.642*** (0.150)	0.633*** (0.152)	0.653*** (0.150)	0.650*** (0.152)	0.520*** (0.145)	0.508*** (0.148)	0.526*** (0.145)	0.514*** (0.148)
Climate change vulnerability	1.229 (1.373)	1.159 (1.390)	1.585 (1.408)	1.471 (1.373)	0.231 (1.352)	0.187 (1.359)	0.509 (1.374)	0.441 (1.358)
Regional commitment					4.119*** (1.120)	4.193*** (1.133)	4.189*** (1.136)	4.124*** (1.127)
Executive corruption	-1.033 (0.665)				-1.120 (0.696)			
Public sector corruption		-0.855 (0.690)				-0.943 (0.730)		
Legislative corruption			0.050 (0.178)				0.0291 (0.178)	
Political corruption				-1.096 (0.849)				-1.108 (0.901)
Trade openness (lg)	-0.783 (0.983)	-0.864 (0.988)	-1.014 (0.971)	-0.870 (0.965)	-0.627 (0.932)	-0.743 (0.931)	-0.856 (0.920)	-0.707 (0.919)
Capital openness (ln)	0.219 (0.177)	0.243 (0.180)	0.225 (0.179)	0.209 (0.179)	0.175 (0.178)	0.205 (0.179)	0.213 (0.182)	0.167 (0.182)
Policy diffusion	0.873 (1.021)	0.939 (1.012)	0.948 (1.019)	0.889 (1.007)				
IGO memberships	0.013 (0.010)	0.016 (0.010)	0.014 (0.010)	0.015 (0.010)	0.016 (0.010)	0.018* (0.010)	0.017* (0.010)	0.016* (0.010)
<i>N</i>	442	442	442	442	442	442	442	442

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.10 Regime type, democracy quality, and Kyoto Protocol ratification
(Analysis of developing countries)

	(1)	(2)	(3)	(4)	(5)	(6)
Economic development (ln)	0.153 (0.203)	0.292 (0.201)	0.304 (0.194)	0.229 (0.203)	0.134 (0.207)	0.270 (0.200)
Industry sector size (ln)	0.616 (0.564)	0.175 (0.522)	0.227 (0.524)	0.334 (0.537)	0.446 (0.522)	0.257 (0.525)
Fuel exports (ln)	-0.067 (0.114)	-0.071 (0.115)	-0.073 (0.115)	-0.057 (0.116)	-0.060 (0.114)	-0.076 (0.115)
ENGO strength (ln)	0.043 (0.183)	0.104 (0.177)	0.096 (0.178)	0.112 (0.178)	0.006 (0.187)	0.108 (0.177)
Population density (ln)	0.623*** (0.152)	0.635*** (0.152)	0.643*** (0.149)	0.629*** (0.149)	0.572*** (0.155)	0.604*** (0.156)
Climate change vulnerability	1.459 (1.344)	1.442 (1.394)	1.352 (1.390)	1.136 (1.385)	1.031 (1.370)	1.294 (1.395)
Vertical accountability	0.591** (0.243)					
Horizontal accountability		0.093 (0.185)				
Political rights			0.146 (0.186)			
Civil rights				0.878 (0.674)		
Established democracy					0.789** (0.341)	
Electoral democracy						0.279 (0.309)
Trade openness (lg)	-1.541 (1.006)	-1.091 (0.977)	-1.213 (0.997)	-1.264 (1.000)	-1.416 (0.985)	-1.170 (0.983)
Capital openness (ln)	0.236 (0.179)	0.238 (0.179)	0.252 (0.180)	0.260 (0.178)	0.295 (0.182)	0.243 (0.179)
Policy diffusion	0.462 (1.036)	0.845 (1.043)	0.862 (1.032)	0.863 (1.031)	0.555 (1.043)	0.795 (1.039)
IGO memberships	0.006 (0.011)	0.013 (0.010)	0.011 (0.010)	0.012 (0.010)	0.014 (0.010)	0.013 (0.010)
<i>N</i>	442	442	442	442	442	442

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

Table A7.4.10 Regime type, democracy quality, and Kyoto Protocol ratification
(Analysis of developing countries, control of regional commitment) (continuation)

	(7)	(8)	(9)	(10)	(11)	(12)
Economic development (ln)	-0.004 (0.213)	0.066 (0.213)	0.088 (0.208)	0.039 (0.214)	-0.005 (0.220)	0.086 (0.213)
Industry sector size (ln)	0.641 (0.569)	0.332 (0.530)	0.277 (0.531)	0.425 (0.544)	0.445 (0.524)	0.266 (0.524)
Fuel exports (ln)	-0.015 (0.114)	-0.007 (0.115)	-0.002 (0.115)	-0.003 (0.114)	-0.005 (0.114)	-0.001 (0.115)
ENGO strength (ln)	-0.083 (0.191)	-0.028 (0.185)	-0.008 (0.184)	-0.022 (0.182)	-0.075 (0.191)	-0.005 (0.179)
Population density (ln)	0.522*** (0.147)	0.518*** (0.146)	0.526*** (0.144)	0.517*** (0.145)	0.501*** (0.148)	0.525*** (0.149)
Climate change vulnerability	0.397 (1.339)	0.389 (1.377)	0.451 (1.386)	0.243 (1.372)	0.262 (1.353)	0.468 (1.380)
Regional commitment	3.801*** (1.180)	4.187*** (1.140)	4.182*** (1.146)	4.114*** (1.151)	3.841*** (1.192)	4.188*** (1.152)
Vertical accountability	0.412* (0.248)					
Horizontal accountability		0.087 (0.185)				
Political rights			0.018 (0.191)			
Civil rights				0.591 (0.676)		
Established democracy					0.451 (0.362)	
Electoral democracy						0.012 (0.320)
Trade openness (lg)	-1.213 (0.954)	-0.908 (0.923)	-0.900 (0.944)	-1.044 (0.944)	-1.042 (0.933)	-0.880 (0.916)
Capital openness (ln)	0.197 (0.179)	0.223 (0.178)	0.222 (0.180)	0.236 (0.178)	0.241 (0.181)	0.220 (0.178)
IGO memberships	0.011 (0.011)	0.017* (0.010)	0.017 (0.011)	0.016 (0.010)	0.017* (0.010)	0.018* (0.010)
<i>N</i>	442	442	442	442	442	442

Notes: The table presents beta coefficients and standard errors in parentheses. * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country-years.

A7.5 Analysis of the model assumptions

This chapter presents the analysis of the model assumptions and model fit of the analysis of climate commitment in chapter 7.

A7.5.1 Model fit

In the following, the model fit of the final models of the analysis of climate commitment was tested. The final model of UNFCCC ratification included trade openness, capital openness, regional commitment, IGO memberships, electoral democ-

racy, political rights, ENGO strength, industry sector size, GDP per capita, population density, climate change vulnerability and the interactions of IGO memberships with electoral democracy and political rights. The final model of Kyoto Protocol ratification included trade openness, capital openness, regional commitment, network centrality, civil rights, political corruption, ENGO strength, industry sector size, fuel exports, GDP per capita, population density, climate change vulnerability, Annex I status and the interaction between network centrality and civil rights. The UNFCCC model was tested based on the sample of developing countries, and the Kyoto Protocol model was tested based on the pooled sample. Cox-snell-residuals were plotted vis-a-vis cumulative hazard rate function using the Kaplan-Maier estimate in order to test the model fit of the survival models (Wenzelburger et al., 2014, p. 203)². A well-fitted model should show a line with a slope of one (Stata, 2007, pp. 170f. following Wenzelburger et al., 2014, p. 203; Wenzelburger et al., 2014, p. 203). The final model of UNFCCC (only Non-Annex I developing countries) ratification, as well as Kyoto Protocol ratification (all countries), showed a relatively good fit (see Figures A7.5.1 & A7.5.2). The fitted lines of both models deviated only in the right half of the plot from the line with a slope of one. In the left part of the plot, both were relatively close to the ideal line. This indicated a good fit. In the right half, the deviation was a result from a higher model uncertainty since many observations were already dropped from the analysis (Stata, 2007, p. 171 following Wenzelburger et al., 2014, p. 203; Wenzelburger et al., 2014, p. 203).

Figure A7.5.1 UNFCCC ratification, final model (Analysis of developing countries)

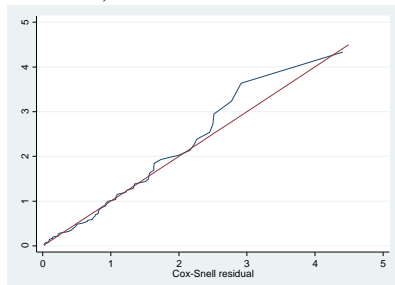
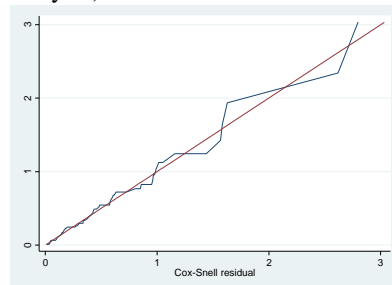


Figure A7.5.2 Kyoto Protocol ratification, final model (Global comparative analysis)



Notes: Analysis units = country-years.

A7.5.2 Test of the model assumptions

The final model of UNFCCC ratification included trade openness, capital openness, regional commitment, IGO memberships, electoral democracy, political rights, ENGO strength, industry sector size, GDP per capita, population density, climate change vulnerability and the interactions of IGO memberships with electoral democracy and political rights. The final model of the Kyoto Protocol included trade openness, capital openness, regional commitment, network centrality, civil rights,

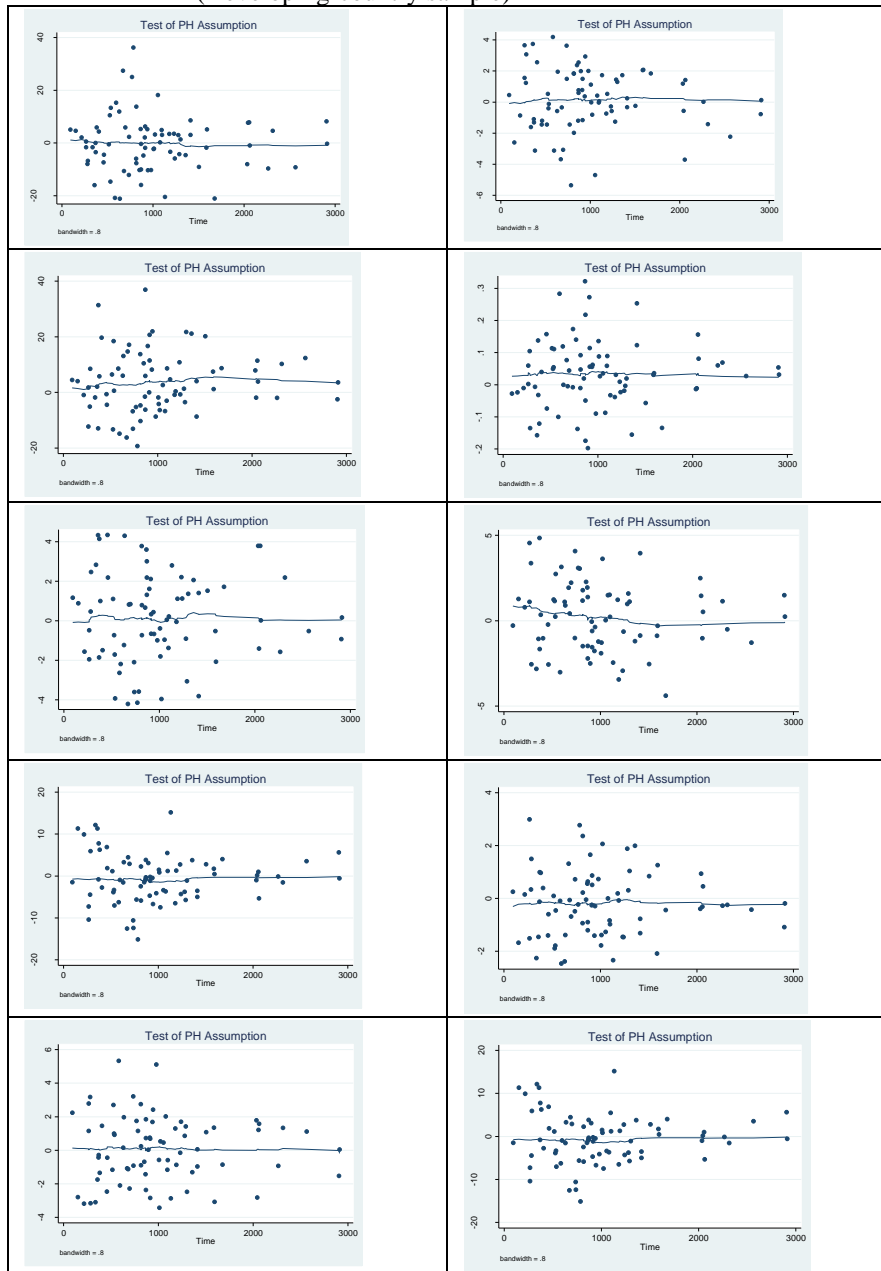
² A model fit statistic is Harrell's C (see Wenzelburger et al., 2014, p. 202). However, it is not possible to estimate Harrell's C with time-varying data.

political corruption, ENGO strength, industry sector size, fuel exports, GDP per capita, population density, climate change vulnerability, Annex I status and the interaction between network centrality and civil rights. The UNFCCC model was tested based on the sample of developing countries and the Kyoto Protocol model based on the pooled sample.

Event history analysis (including the Cox model) assumes that the effect of the independent variable is constant over time (proportionality assumption) (Box-Steffensmeier et al., 2004, p. 48; Wenzelburger, 2014, p. 192). If the proportionality assumption is violated, it leads to biased estimates (Wenzelburger et al., 2014, p. 192). This assumption has to be tested (Box-Steffensmeier et al., 2004; Wenzelburger et al., 2014, p. 192). There are multiple tests for this assumption (Wenzelburger et al., 2014). The literature suggests testing multiple fit statistics (Wenzelburger et al., 2014, pp. 186f.).

Smoothed Schoenfeld-residuals were plotted for the individual independent variables in order to test the proportionality assumption. Schoenfeld-residuals indicate whether the effect of a variable stays constant over time (Wenzelburger et al., 2014, p. 194). Following Wenzelburger et al. (2014, p. 194), a Lowess curve was plotted over the Schoenfeld-residuals. A straight horizontal line indicates constant effects of the independent variable (Wenzelburger et al., 2014, p. 194). Variables from both final models performed relatively well (see Figure A7.5.3 & A7.5.4). There are deviations of some models. Therefore, I additionally used another test.

Figure A7.5.3 Proportionality of the hazards: UNFCCC ratification, final model (Developing-country sample)



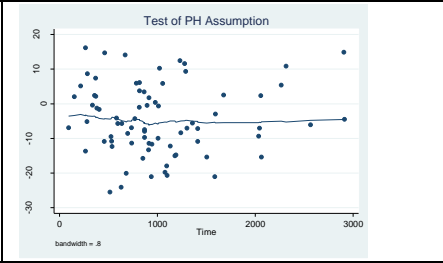
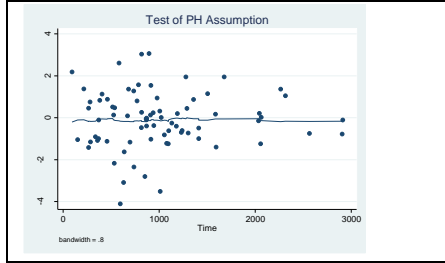
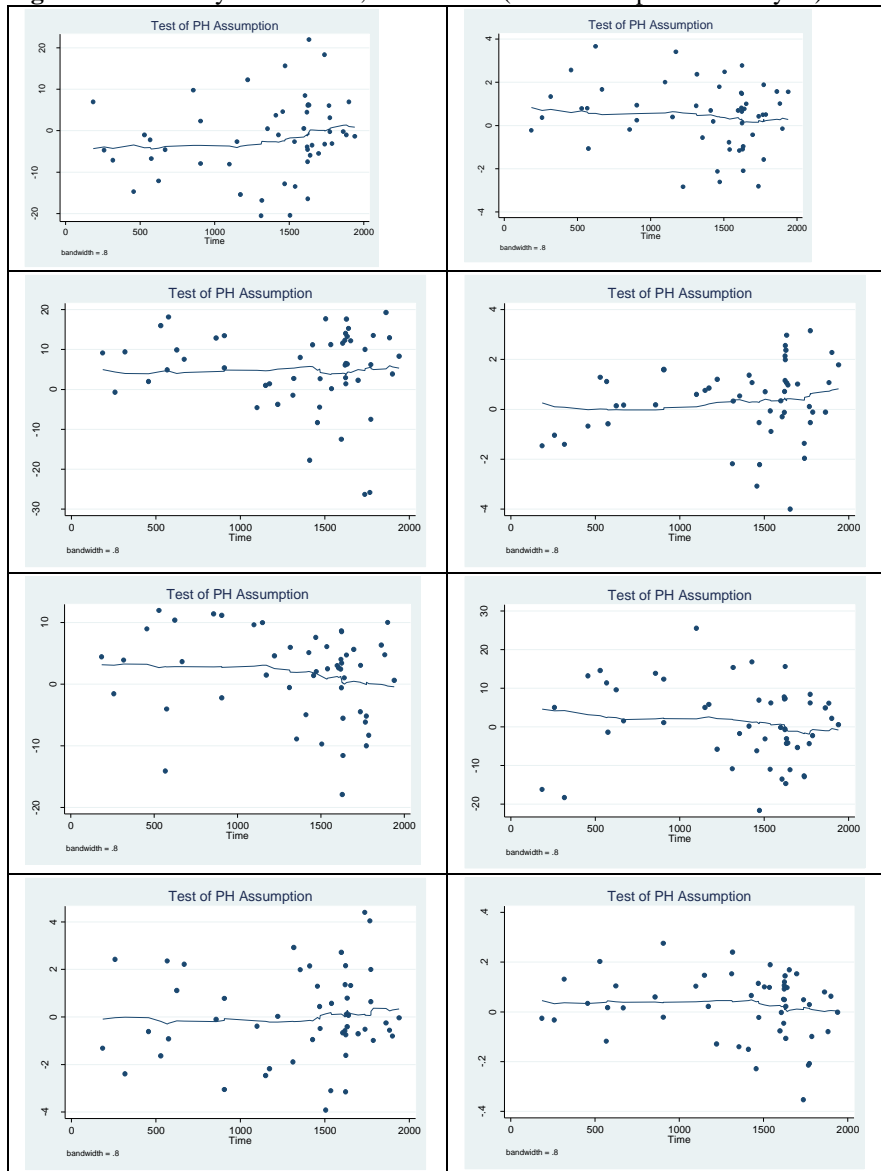
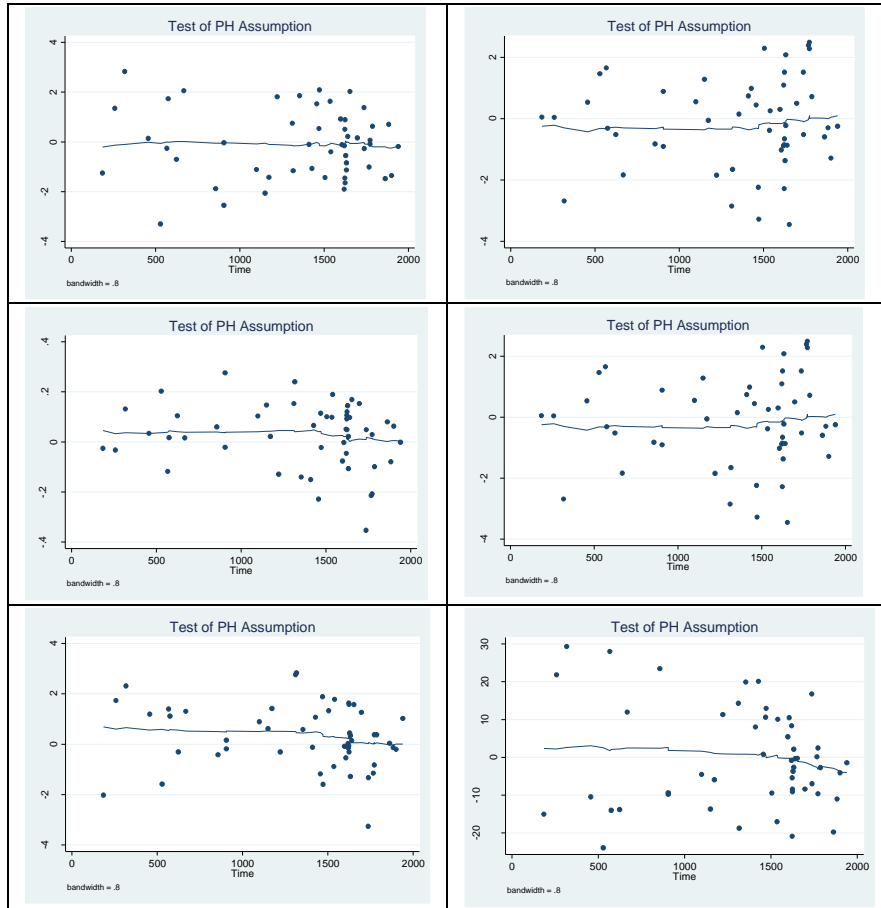


Figure A7.5.4 Kyoto Protocol, final model (Global comparative analysis)





Notes: Analysis units = country-years.

To test the proportionality assumption, the Grambsch-Therneau-Test was estimated for the individual covariates as well as the model (Box-Steffensmeier et al., 2004, p. 136; Wenzelburger et al., 2014, p. 195). The global test of Grambsch and Therneau tests, based on the Schoenfeld-residuals, whether one or more variables of the model is characterised by nonproportional hazards (Box-Steffensmeier & Jones, 2004, p. 135). The proportionality assumption is violated in the case of significant chi-square statistics (prob > χ^2 lower than 0.1/0.05) of individual coefficients of the model (Wenzelburger et al., 2014, p. 195).

Using the Grambschau-Therneau test, the global and individual tests of both final models indicated no problems with the proportionality assumption (Tables A7.5.1 & A7.5.2).

Table A7.5.1 Grambsch-Thernau test: UNFCCC, Final Model (Analysis of developing-country sample)

Independent variable	Chi square	Probability of Chi square
Economic development (ln)	.00	.957
Industry sector size	.00	.980
Fuel exports (ln)	.00	.963
ENGO strength (ln)	.93	.335
Population density (ln)	.05	.816
Climate change vulnerability	.06	.806
Regional commitment	.71	.400
Political rights	.00	.986
Electoral democracy	.14	.707
Trade openness (lg)	.06	.802
Capital openness (ln)	.53	.466
IGO memberships	.18	.671
Political rights X IGO memberships	.90	.344
Electoral democracy X IGO memberships	.14	.705
Global test	6.45	.954

Notes: Analysis units = country-years. Measurement of the independent and dependent variables see chapter 2 and 7.

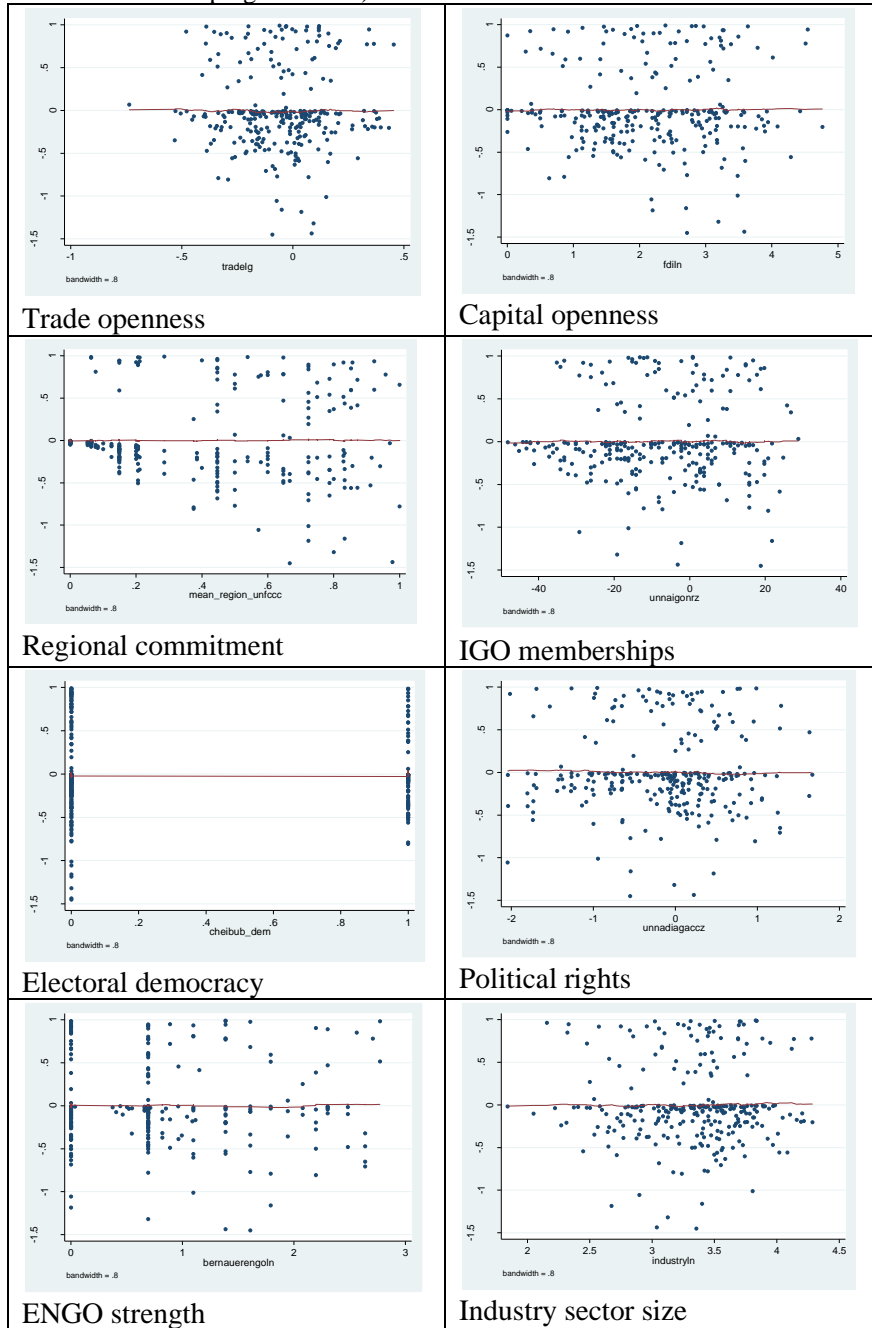
Table A7.5.2 Grambsch-Thernau test: Kyoto Protocol, Final Model (Global comparative analysis)

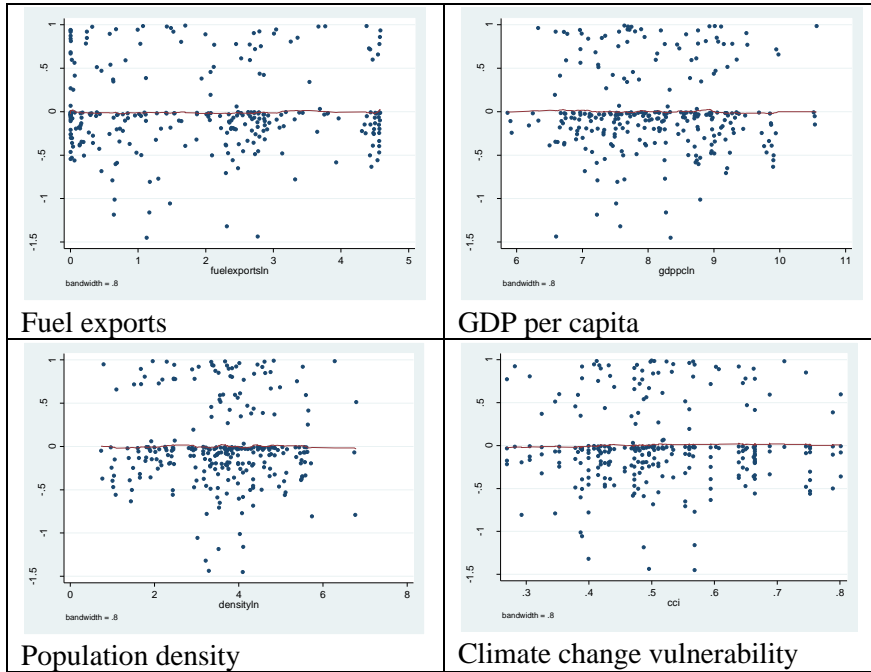
Independent variable	Chi square	Probability of Chi square
Economic development (ln)	.19	.660
Industry sector size	.92	.337
Fuel exports (ln)	.08	.779
ENGO strength (ln)	.57	.449
Population density (ln)	1.93	.165
Climate change vulnerability	1.42	.233
Annex I status	1.91	.168
Regional commitment	1.16	.281
Political corruption	1.60	.207
Civil rights	2.09	.148
Trade openness (lg)	.203	.691
Capital openness (ln)	1.40	.236
Network centrality	2.00	.157
Network centrality x civil rights	.29	.593

Notes: Analysis units = country-years.

Martingale residuals were plotted to test the functional form of independent variables of the final models of UNFCCC and Kyoto Protocol ratification (Wenzelburger et al., 2014, p. 204). These residuals are tested against the independent variables. Deviations from zero would indicate problems (Wenzelburger et al., 2014, p. 204). The plots indicated no problems (See Figures A7.5.5 & A7.5.6).

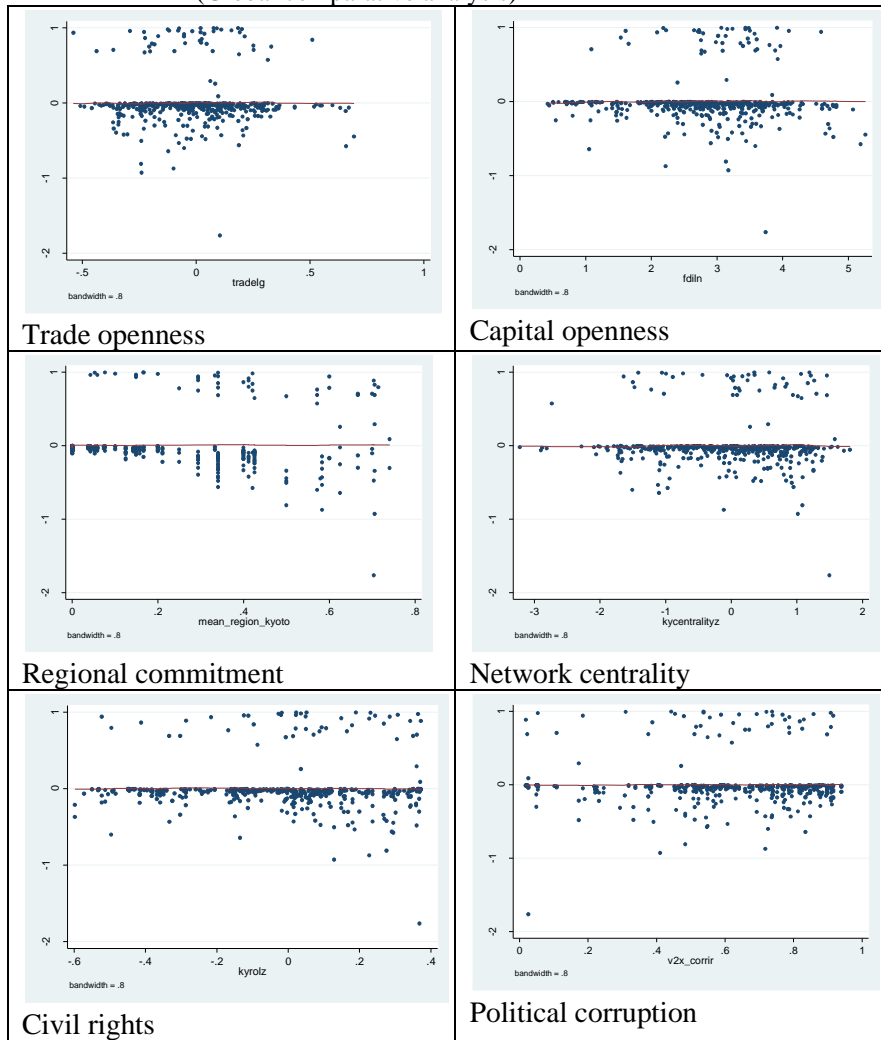
Figure A7.5.5 Martingale residuals: UNFCCC, final model (Analysis of developing countries)

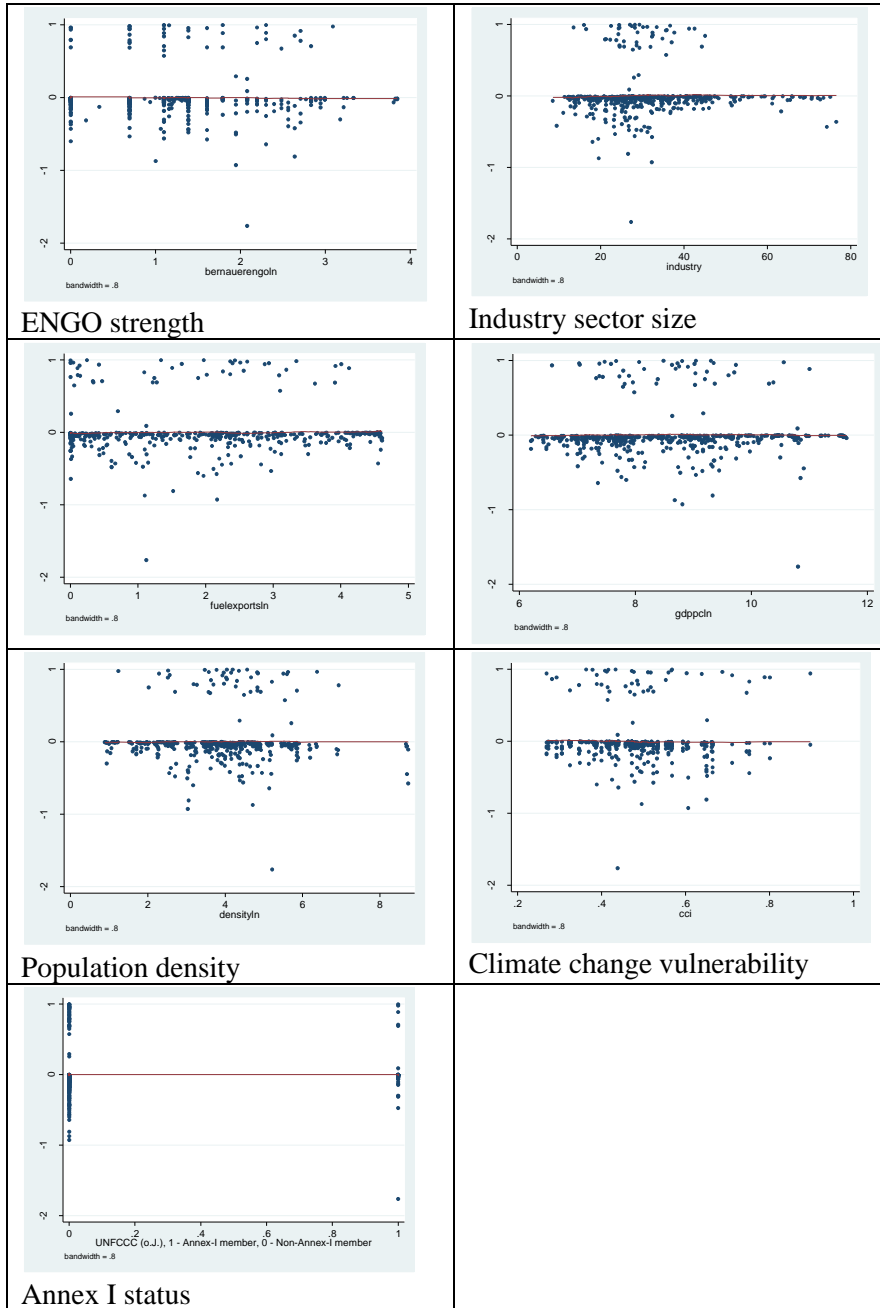




Notes: Analysis units = country-years.

Figure A7.5.6 Martingale residuals: Kyoto Protocol ratification, final model
(Global comparative analysis)



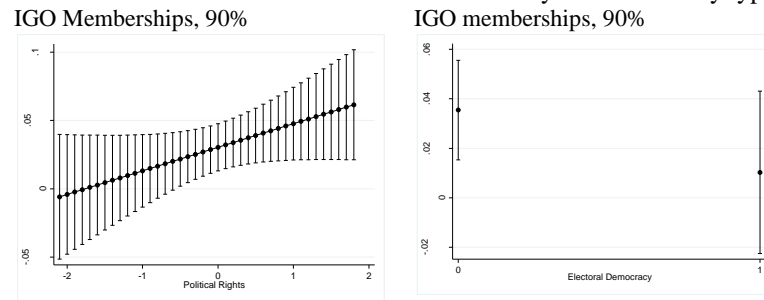


Notes: Analysis units = country-years.

A7.6 Robustness analysis

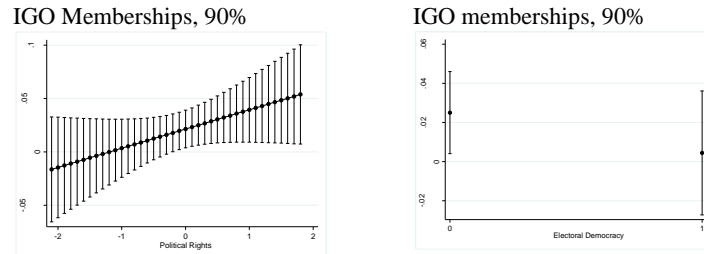
This section presents robustness analyses of the final models of climate commitment.

Figure A7.6.1 IGO memberships, political rights, electoral democracy, and UNFCCC ratification: control of autocracy and democracy types



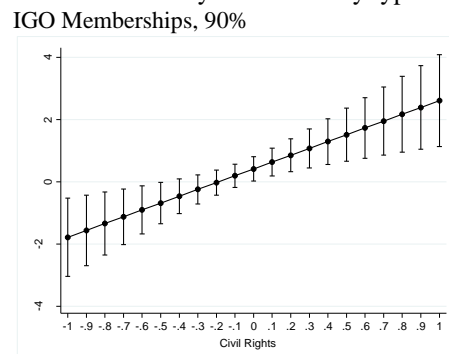
Notes: Analysis country-years from 1992-2006. Simultaneous analysis of the interactions of IGO memberships with political rights and electoral democracy, control of trade and capital openness, regional commitment, ENGO strength, industry sector size, GDP per capita, population density, climate change vulnerability, Annex-I status, presidential democracy, semi-presidential democracy, civilian dictatorship, royal dictatorship.

Figure A7.6.2 IGO memberships, political rights, electoral democracy, and UNFCCC ratification: additional controls



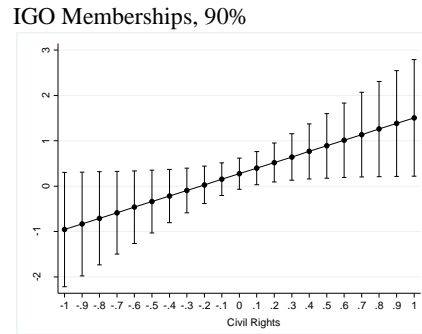
Notes: Analysis country-years from 1992-2006. Simultaneous analysis of the interactions of IGO memberships with political rights and electoral democracy, control of trade and capital openness, regional commitment, ENGO strength, industry sector size, GDP per capita, population density, climate change vulnerability, Annex-I status, electoral rules (mixed, plurality), urban population size, economic growth, country size.

Figure A7.6.3 IGO memberships, civil rights, and Kyoto Protocol ratification: democracy and autocracy types



Notes: Analysis units country-years from 1998-2006. Simultaneous analysis of the interactions of IGO memberships with civil rights, control of trade and capital openness, regional commitment, ENGO strength, industry sector size, GDP per capita, population density, climate change vulnerability, Annex-I status, presidential democracy, semi-presidential democracy, civilian dictatorship, royal dictatorship, military dictatorship.

Figure A7.6.4 IGO memberships, civil rights, and Kyoto Protocol ratification: additional controls



Notes: Analysis units country-years from 1998-2006. Simultaneous analysis of the interactions of IGO memberships with civil rights, control of trade and capital openness, regional commitment, ENGO strength, industry sector size, GDP per capita, population density, climate change vulnerability, Annex-I status, electoral rules (mixed, plurality), urban population size, economic growth, country size.

A8 Climate performance

A8.1 Analysis of the model assumptions of TSCS

This section argues, based on the analysis of the model assumptions of TSCS for my developed and developing-country sample, that the application of pooled regression implies that following empirical analysis in Chapter 8 no longer examines cross-national variance. As this study aims to explain country-difference in climate policy commitment and performance, it applies cross-sectional regression analysis. The regression model of developing countries includes trade openness (ln), capital openness (ln), policy diffusion, IGO memberships, number of governmental parties (ln), political rights, political corruption, GDP per capita (ln), economic growth, semi-presidentialism, presidentialism, royal, civil and military dictatorship (dummies), population density, urban population, industry sector size (ln), fuel exports (ln), ENGO strength (ln), climate change vulnerability. The pooled model of climate performance in developing countries includes trade and capital openness, policy diffusion, IGO membership, left, right, centre government strength, left-libertarian strength in parliament, left-right polarisation, the number of government parties (ln), bicameralism, electoral rules (plurality and mixed electoral rules), political corruption, GDP per capita, economic growth, population density (ln), urban population, population growth, corporatism, industry sector size, ENGO strength (ln), EU membership, and climate change vulnerability. A one-year time-lag was used. To test for serial autocorrelation, I first analysed residual graphs, that is, residuals vs. predicted values of the pooled OLS model (Residual-vs-fitted-values-plot) with countries and with years as labels (Wenzelburger et al., 2014, pp. 143f.). In the developed as well as the developing-country sample, residuals of countries and years

were close to each other (see Figures A8.1.1 & A8.1.2). This is an indicator of autocorrelation (Wenzelburger et al., 2014, p. 143). The statistic rho should be lesser than .3 for autocorrelation to be not a problem (Kittel, 2005, pp. 103f.). Rho is estimated by an autoregression and fixed regression³ of the residuals on the lagged residuals (Wenzelburger et al., 2014, pp. 133f., 144). In the developed country sample, rho, that is the coefficient of the lagged residuals was .63. In the developing-country sample, rho was .75. Many researchers include a lagged dependent variable (LDV) in the regression model to handle autocorrelation (LDV model).⁴ The LDV binds most of the variance of the dependent variable (Kittel & Winner, 2005, p. 286). Consequently, it often suppresses the effect of the other independent variables (Achen, 2001; Kittel & Winner, 2005, p. 286; Plümper et al., 2005, 338). Moreover, Kittel and Winner (2005, pp. 278, 286) stress that the interpretation of the parameters and their significance is ‘meaningless’ (see also Plümper et al., 2005, pp. 335) with a regression coefficient of the LDV that is higher than .9. The standard errors become unstable because of multicollinearity among the LDV and independent variables (Kittel, 2005, p. 105; Wenzelburger et al., 2014, p. 135). Finally, if serial correlation is high, the inclusion of a LDV means that regression coefficients measure the effect of the independent variables on annual changes of the dependent variable (Wenzelburger et al., 2014, p. 135). In my developed country sample, pooled OLS with LDV regression coefficient showed an LDV of .92***. My developing country pooled OLS regression showed an LDV of .95***. An alternative to the LDV model is to estimate the autocorrelation coefficient rho and correct serial correlation in the residuals (e.g., the Prais-Winsten transformation/ AR(1) approach) (Wenzelburger et al., 2014, p. 135; Plümper et al., 2005, p. 342). The AR(1) approach assumes that autocorrelation occurs over one country year (Wenzelburger et al., 2014, p. 135). Its application can change the substantive meaning of the regression coefficient. If rho is close to 1, the regression coefficients refer to the ‘effect of a partial adjustment in the independent variable on the partial adjustment in the dependent’ (Kittel, 1999, p. 231) (Kittel, 2005, p. 106; Wenzelburger et al., 2014, p. 135). When I estimated the model with the Prais-Winsten transformation, my developed country and developing countries models still exhibited problems with autocorrelation based on the Wooldridge test (*xtserial* with Wooldridge test for autocorrelation). In both analyses, the Wooldridge test was significant (F= .000, H0: no first-order autocorrelation). In sum, techniques to address serial correlation changed the substantive meaning of the regression coefficients. These techniques were, therefore, not suited to test my hypotheses. My hypotheses refer to long-term effects of level differences in CO₂ emissions among developed and developing countries (see also Kittel & Wiener, 2005, p. 289).

Non-stationarity describes a common time trend of variables (Jahn, 2013a, p. 401), that is, the expected value of a variable is not stable over time (Babones, 2014, p. 172). Multiple tests were used to check for non-stationarity in the data (Wenzelburger et al., 2014, p. 142). I first estimated the regression of the dependent variable on

³ Fixed regression corrects for heterogeneity (Wenzelburger et al., 2014, p. 144).

⁴ A similar approach is the autoregressive distributed lag (ADL-)model (see Wenzelburger et al., 2014, p. 134f.).

the LDV and the regressions of each independent variable on its lagged version (Wenzelburger et al., 2014, p. 142). A regression coefficient of the lagged variables close to 1 or a confidence interval that includes 1 indicates non-stationarity (Wenzelburger et al., 2014, p. 142). Several variables of my developed and developing-country sample indicated non-stationarity. In my developed country sample GDP per capita, population density, and urban population violated the nonlinearity assumption. In my developing-country sample, population density, and urban population violated the non-stationarity assumption. Beck and Katz (2011, pp. 342-344) regard non-stationarity as less problematic in the case of variables that have a limited scale. However, Kittel (2005, p. 106) notes that such variables (e.g., percentage scales) often behave like non-stationary variables since they only grow in one direction. In the context of non-stationary variables, a first difference model can be estimated (Jahn, 2013, 401; Wenzelburger et al., 2014, p. 133). However, this implies that pooled regression no longer examines cross-country variance (Wenzelburger et al., 2014, p. 133).

To test for unit heterogeneity, I compared the pooled OLS model with the LSDV model with country dummies, following Wenzelburger et al. (2014, p. 152). The LSDV model examines deviations of country means in the independent and dependent variables. Consequently, it focuses exclusively on the average country effect over time (Kittel & Winner, 2005, p. 272; Wenzelburger et al., 2014, p. 153). Significant country dummies of the LSDV model can be an indicator of problems with unit heterogeneity. My developed country sample showed no significant country dummies. My developing country models produced significant country dummies. A significant F-Test indicates unit heterogeneity (Kittel, 2005, p. 110; Wenzelburger et al., 2014, p. 153). The F-Test of my developing-country sample was significant. It follows that fixed effects, that is, country variables, should be controlled in the analysis. There is no agreement in the literature on the application of fixed effects (Plümper et al., 2005, p. 330). Plümper et al. (2005, p. 334) conclude that the inclusion of fixed effects is dependent on the research question. Garrett and Mitchell (2001, p. 163) argue that they should be included to consider the historical context of a country. Plümper et al. (2005, pp. 331f.) emphasise that significant country dummies do not necessarily imply omitted variable bias or that fixed effects consider the historical context of a country since they test the effect omitted variables, the effect of the time-invariant variables and the effect of the existing levels of the dependent variable. He states that the assumption that a not correctly specified model shows a significant fixed effect is false (Plümper et al., 2005, p. 332). As has been described above, the inclusion of country dummies means that average effect over time is analysed (Kittel & Winner, 2005, p. 272; Wenzelburger et al., 2014, p. 153). Thus, the following analysis would no longer examine effects of the levels of the independent variables on cross-sectional variance in climate policy outcomes (Kittel & Obinger, 2002, p. 21 Footnote; Plümper et al., 2005, p. 331; Wenzelburger et al., 2014, p. 153). The inclusion of time dummies hinders the analysis of time-invariant independent variables (Beck, 2001, p. 285; Plümper et al., 2005, p. 330; Wooldridge, 2002) and suppresses the effect of variables that vary only little over time and level effects (Beck, 2001, p. 285; Plümper et al., 2005, pp. 330, 333).

I also examined the assumptions of multicollinearity and homoscedasticity. Although some of these assumptions were violated, their solution did not change the meaning of the regression coefficients. Heteroscedasticity contributes to biased standard errors (Wenzelburger et al., 2014, p. 137). I tested for heteroscedasticity using the Breusch-Pagan-Cook-Weisberg Test. In the developed country sample, the Breusch-Pagan test was insignificant (.2044, H0: constant variance). In the developing-country sample, the Breusch-Pagan test was significant (.000). In pooled cross-section regression analysis, heteroscedasticity can be addressed with PCSE (Wenzelburger et al., 2014, p. 155).

In sum, the results showed that both datasets violated the assumptions of no autocorrelation, stationarity and homogeneity of units. The application of methods to deal with violations of model assumptions in pooled time-series analysis implies that I do not analyse country-differences in climate performance.

This section presents the visual inspection of the autocorrelation analysis in the TSCS analysis of climate policy performance in developed and developing countries (1992-2006). The model is described in Chapter 8.

Table A8.2.1 Univariate statistics of independent variables (Analysis of developed countries)

Variable	Mean	Std.	Min	Max
Economic development (ln)	10.45	.19	10.10 (PRT)	10.93 (NOR)
GDP growth (ln)	.94	.40	.15 (JPN)	1.94 (IRL)
Industry sector size	28.49	3.84	21.17 (GRC)	36.63 (NOR)
Fuel exports (ln)	1.22	1.15	-.81 (IRL)	4.03 (NOR)
ENGO strength (ln)	2.32	.86	.69 (IRL)	3.91 (USA)
Corporatism	1.54	1.33	1.00 (GRC)	5.00 (AUT)
Population density	4.17	-.80	.91 (AUS)	6.15 (NLD)
Urban population	76.49	9.66	53.70 (PRT)	97.03 (BEL)
Climate change vulnerability	.42	.07	.29 (NOR)	.53 (ESP)
Plurality electoral rules	-	-	0 (multiple)	1 (multiple)
Mixed electoral rules	-	-	0 (multiple)	1 (multiple)
Left party strength in parlia-	37.86	15.79	.00 (USA)	56.68 (GRC)
Centre party strength in par-	2.12	1.34	.00 (multiple)	4.41 (CAN)
Right party strength in parlia-	40.24	16.01	5.33 (PRT)	72.40 (IRL)
Left libertarian strength in	3.47	3.29	.00 (multiple)	9.27 (NOR)
EU membership	-	-	.00 (multiple)	1.00 (multi-
Left party strength in govern-	36.76	21.54	0.00 (CAN)	80.00 (SWE)
Centre party strength in gov-	1.88	1.50	.00 (multiple)	4.41 (CAN)
Right party strength in gov-	37.88	22.35	3.90 (PRT)	83.73 (JPN)
Left – right polarization	-	-	0 (multiple)	1 (multiple)
Government fragmentation (ln)	.73	.47	.00 (CAN)	1.58 (BEL)
Bicameralism	-	-	0 (multiple)	1 (multiple)
Political corruption (ln)	-2.97	1.02	-4.66 (DNK)	.97 (.97)
Executive corruption (ln)	-3.12	.97	-4.56 (DNK)	-1.09 (GRC)
Legislative corruption	1.63	.99	-.39 (ITA)	3.42 (DNK)
Public authority corruption	.08	.12	.01 (DNK)	.52 (GRC)
Trade openness (lg)	-.02	.17	-.38 (JPN)	.27 (BEL)
Capital openness	27.12	18.73	1.19 (JPN)	89.32 (IRL)
Diffusion	57.64	12.36	23.58 (JPN)	73.08 (DNK)
IGO memberships	94.35	14.20	60.71 (NZL)	124.44 (FRA)
State centrality in IGO net-	6.57	.43	5.37 (NZL)	7.28 (FRA)

Notes: Analysis units = country averages from 1992-2006. N=21.

A8.2.2 Bivariate correlations

This section first presents the effect of the electoral system on climate performance (Table A.2.2). When outliers were excluded from the analysis, plurality systems performed better than proportional representation systems in climate protection.

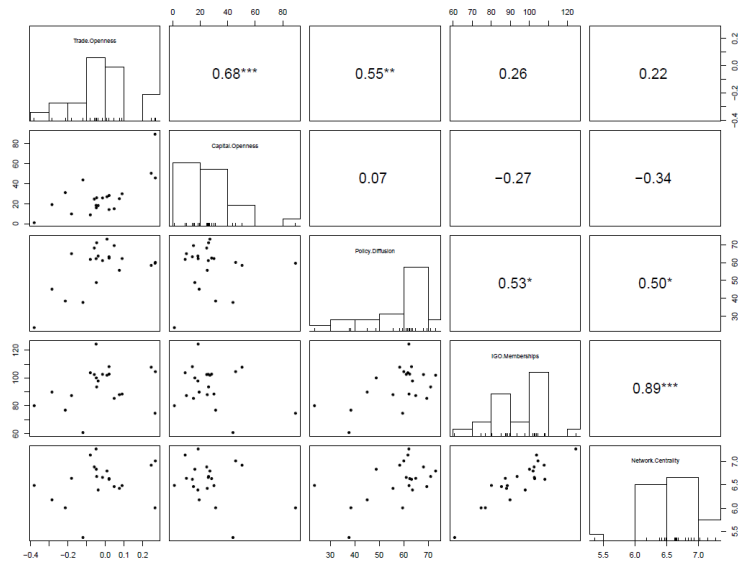
Table A.2.2 Electoral rules and climate performance (Multivariate OLS regression)

Independent variable	R ²	B	Outliers	Without outliers R ²	b
	.135		AUS, FRA	.421	
Plurality		-20.12			-30.89***
Mixed		-6.98			-.281

Notes Analysis units = country averages from 1992–2006.

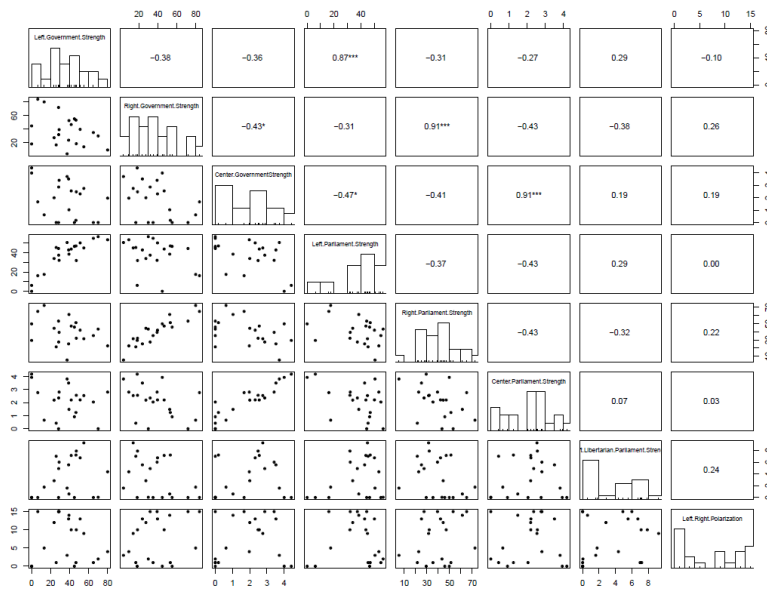
In the following, I present bivariate correlations among independent variables in the cross-sectional analysis of climate policy performance in developed countries (1992–2006). Correlations higher than .7 or .8 indicate problems with multicollinearity. Several control variables were highly correlated. These included population density and economic growth (-.559***). ENGO strength correlated highly with plurality electoral rules (.631***), corporatism with GDP per capita (.565***), left-libertarian strength with plurality electoral system (-.502**) and corporatism with government fragmentation (.575***). Several controls were highly associated with the main independent variables. Capital openness correlated highly with economic growth (.658***). Corporatism correlated highly with political corruption (-.532**), corporatism with legislative corruption (.648***) and left-libertarian strength with legislative corruption (.599***). Policy diffusion correlates highly with EU membership (.646***). IGO memberships correlated highly with EU membership (.573**) and network centrality with EU membership (.633**). These correlations were not necessarily problematic for cross-sectional regression; however, corporatism correlated highly with corporatism and left-libertarian parliamentary strength (.806**). As several international integration dimensions correlated highly with EU membership, I additionally analysed my final models with EU membership instead of international political integration. The results remained the same. There was no significant interaction effect with EU membership.

Figure A8.2.1 Bivariate correlations among indicators of international integration: Analysis of developed countries



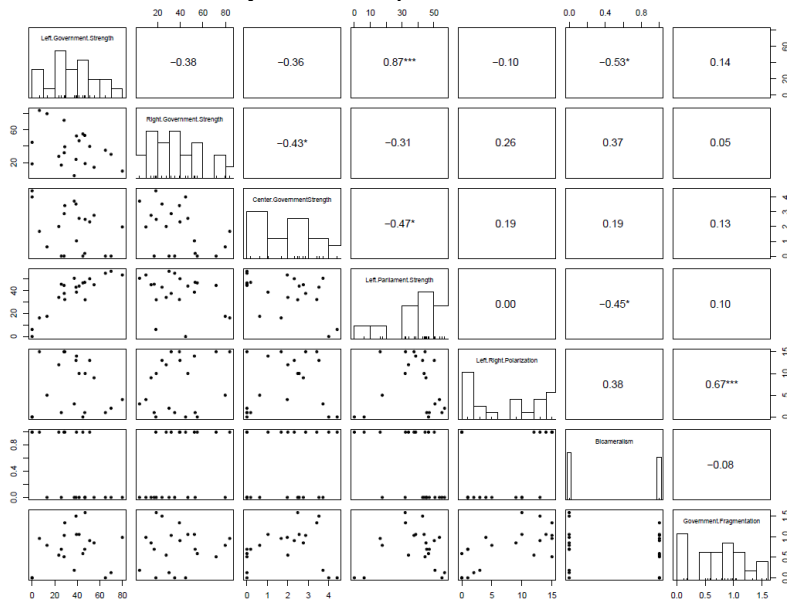
Notes: Analysis units = country averages from 1992-2006. N=21.

Figure A8.2.2 Bivariate correlations among party and ideological heterogeneity among veto player variables: Analysis of developed countries



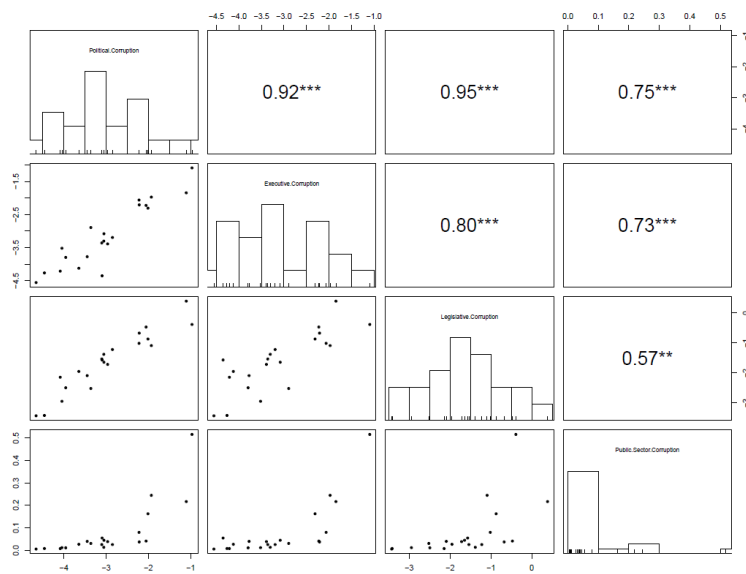
Notes: Analysis units = country averages from 1992-2006. N=21.

Figure A8.2.3 Bivariate correlations among veto player and point indicators:
Analysis of developed countries



Notes: Analysis units = country averages from 1992-2006. N=21.

Figure A8.2.4 Bivariate correlations among political corruption dimensions:
Analysis of developed countries



Notes: Analysis units = country averages from 1992-2006. N=21.

A8.2.3 Additive effects of international integration: Regression tables

The following tables tested the effect of the indicators of international integration. This was done in pairwise comparison to other independent variables on climate performance with and without outliers. Trade openness only had a significant positive effect on climate performance when capital openness was controlled. The result remained stable when the regression models were estimated without outliers. Capital openness had no significant effect. This result was also stable in the analysis without outliers. The effect of policy diffusion was significant in all models without outliers. IGO memberships had a significant positive effect in pairwise comparison to some independent variables. In the analysis without outliers, it applied to more models. The result remained the same when network centrality was used as an indicator of international political integration.

Table A8.2.3 Trade openness and climate performance in developed countries (Pairwise comparison)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Trade openness (lg)	32.60 (27.25)	-2.680 (30.04)	69.45* (35.75)	22.92 (27.71)	27.40 (25.60)	30.19 (25.45)	24.44 (28.80)	28.36 (28.89)	34.22 (28.17)	32.65 (27.99)	10.06 (28.71)	31.87 (27.77)
Policy diffusion		0.855** (0.402)										
Capital openness			-0.482 (0.316)									
IGO memberships				0.428 (0.323)								
Left government					0.382* (0.197)							
Left parliament strength						0.522* (0.267)						
Right government							-0.194 (0.213)					
Right parliament strength								-0.160 (0.299)				
Centre government (ln)									-1.231 (3.108)			
Centre parliament strength (ln)										-0.451 (3.743)		
Left libertarian parliament strength											2.586* (1.446)	
Left right polarization												0.438 (0.763)
Constant	64.73*** (4.446)	14.66 (23.92)	78.63*** (10.08)	24.18 (30.95)	50.59*** (8.395)	44.92*** (10.95)	71.91*** (9.059)	71.06*** (12.68)	67.09*** (7.486)	65.69*** (9.176)	55.25*** (6.771)	61.42*** (7.331)
R ²	0.070	0.256	0.176	0.153	0.231	0.233	0.111	0.085	0.078	0.071	0.210	0.087

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A8.2.3 Trade openness and climate performance in developed countries (Pairwise comparison) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Trade openness (lg)	15.25 (28.54)	27.77 (28.48)	23.96 (33.10)	31.31 (28.46)	28.62 (28.33)	45.17* (25.87)	19.59 (25.59)	29.57 (26.81)	27.50 (28.05)	31.51 (27.30)	17.87 (28.13)	8.324 (27.73)	36.56 (28.17)	19.63 (30.54)
Government fragmentation (ln)	15.51 (9.955)													
Bicameralism		-6.421 (9.215)												
Plurality electoral system			-16.54 (13.14)											
Mixed electoral system			-2.271 (11.80)											
Political corruption (ln)				-1.105 (4.619)										
Economic development (ln)					15.76 (24.13)									
Economic growth (ln)						-22.48* (10.84)								
Population density (ln)							6.209** (2.842)							
Urban population								-0.610 (0.460)						
Industry sector size									1.050 (1.210)					
Fuel exports (ln)										-3.852 (3.929)				
ENGO strength (ln)											-8.167 (5.418)			
Corporatism												7.177* (3.458)		
Climate change vulnerability													47.69 (67.31)	
EU membership														9.942 (10.47)
Constant	52.99*** (8.671)	67.68*** (6.182)	68.55*** (7.262)	61.43*** (14.55)	-100.1 (252.4)	86.08*** (11.07)	38.56*** (12.65)	111.3*** (35.37)	34.70 (34.88)	69.42*** (6.529)	83.34*** (13.07)	45.97*** (9.931)	45.05 (28.14)	57.81*** (8.544)
R ²	0.181	0.094	0.161	0.073	0.092	0.250	0.265	0.153	0.107	0.117	0.174	0.250	0.095	0.114

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A8.2.4 Trade openness and climate performance in developed countries (Pairwise comparison, without outliers and influential cases)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Trade openness	31.01 (24.85)	10.79 (28.31)	60.99* (32.76)	24.28 (33.61)	24.97 (27.79)	18.79 (22.21)	33.32 (33.07)	9.933 (26.84)	18.50 (25.07)	22.86 (22.60)	19.51 (32.63)	-0.471 (31.37)
Policy diffusion		1.293*** (0.425)										
Trade openness (lg)			-0.458 (0.393)									
IGO memberships				0.414 (0.379)								
Left government					0.407** (0.186)							
Left parliament strength						0.722*** (0.200)						
Right government							-0.248 (0.250)					
Right parliament strength								-0.0350 (0.264)				
Centre government (ln)									-3.162 (2.784)			
Centre parliament strength (ln)										-1.067 (3.418)		
Left libertarian parliament strength											2.615* (1.471)	
Left right polarization												1.254 (0.774)
Constant	73.08*** (3.304)	-12.61 (25.53)	81.69*** (10.65)	25.61 (36.97)	50.65*** (8.187)	36.68*** (8.427)	76.65*** (9.421)	72.62*** (10.26)	72.86*** (6.828)	71.13*** (8.075)	54.66*** (6.944)	58.14*** (6.550)
R ²	0.100	0.408	0.189	0.152	0.246	0.469	0.225	0.019	0.092	0.073	0.229	0.159
N	16	20	18	20	19	18	19	17	20	19	20	19

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

Table A8.2.4 Trade openness and climate performance in developed countries (Pairwise comparison, without outliers and influential cases) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Trade openness	-13.09 (33.32)	37.71 (32.70)	17.61 (25.25)	-9.986 (26.32)	-37.64 (26.28)	49.93* (26.93)	12.20 (20.12)	67.13** (29.44)	17.46 (28.26)	-45.34 (26.24)	25.89 (32.85)	-6.305 (24.78)	55.18** (21.53)	-13.75 (26.68)
Government fragmentation (ln)	17.64* (9.615)													
Bicameralism		-7.255 (9.452)												
Plurality electoral system			-20.33 (12.74)											
Mixed electoral system			2.928 (8.627)											
Political corruption (ln)				-2.153 (3.065)										
Economic development (ln)					46.99** (20.54)									
Economic growth (ln)						-21.14* (10.95)								
Population density (ln)							9.028*** (2.349)							
Urban population								-0.685 (0.515)						
Industry sector size									0.912 (1.006)					
Fuel exports (ln)										-16.91*** (4.617)				
ENGO strength (ln)											-8.025 (5.541)			
Corporatism												6.865** (3.012)		
Climate change vulnerability													145.4** (56.67)	
EU membership														29.05** (10.95)
Constant	53.77*** (7.990)	67.53*** (6.287)	69.06*** (5.239)	64.78*** (9.740)	-418.7* (213.6)	86.97*** (11.31)	22.71* (10.78)	122.8*** (39.09)	42.84 (28.83)	85.26*** (6.888)	82.62*** (13.43)	48.56*** (8.699)	5.228 (23.80)	39.66*** (9.734)
R ²	0.191	0.116	0.281	0.039	0.288	0.309	0.521	0.364	0.109	0.544	0.186	0.252	0.395	0.403
N	19	20	18	17	16	19	19	18	18	18	20	20	19	18

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

Table A.2.5 Capital openness and climate performance in developed countries (Pairwise comparison)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Capital openness	-0.067 (0.249)	-0.106 (0.220)	-0.482 (0.316)	0.039 (0.250)	-0.0205 (0.233)	0.007 (0.236)	0.007 (0.255)	-0.026 (0.257)	-0.073 (0.257)	-0.075 (0.261)	-0.125 (0.228)	-0.054 (0.255)
Policy diffusion		0.846** (0.334)										
Trade openness (lg)			69.45* (35.75)									
IGO memberships				0.512 (0.330)								
Left government strength					0.402* (0.203)							
Left parliament strength						0.539* (0.281)						
Right government strength							-0.252 (0.213)					
Right parliament strength								-0.234 (0.301)				
Centre government (ln)									-0.777 (3.209)			
Centre parliament strength (ln)										-0.607 (3.949)		
Left libertarian parliament strength											2.890** (1.302)	
Left right polarization												0.464 (0.791)
Constant	65.81*** (8.153)	18.09 (20.16)	78.63*** (10.08)	14.64 (33.87)	49.78*** (11.09)	43.41*** (13.94)	73.36*** (10.29)	74.11*** (13.50)	67.45*** (10.76)	67.31*** (12.87)	57.36*** (8.341)	61.97*** (10.57)
R ²	0.004	0.266	0.176	0.121	0.182	0.173	0.076	0.036	0.007	0.005	0.218	0.022

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-. N=21.

Table A.2.5 Capital openness and climate performance in developed countries (Pairwise comparison) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Capital openness	-0.145 (0.235)	-0.133 (0.257)	-0.206 (0.261)	-0.083 (0.257)	-0.0734 (0.251)	0.325 (0.310)	-0.043 (0.224)	-0.091 (0.244)	-0.105 (0.250)	-0.114 (0.252)	-0.227 (0.243)	-0.090 (0.222)	-0.034 (0.270)	-0.107 (0.245)
Government frag- mentation (ln)	18.55* (9.272)													
Bicameralism		-9.811 (9.395)												
Plurality electoral system			-22.78* (12.61)											
Mixed electoral system			-9.985 (10.54)											
Political corrup- tion (ln)				-2.273 (4.714)										
Economic devel- opment (ln)					21.22 (24.18)									
Economic growth (ln)						-28.19* (14.69)								
Population density (ln)							6.691** (2.808)							
Urban population								-0.666 (0.472)						
Industry sector size									1.369 (1.219)					
Fuel exports (ln)										-4.362 (4.110)				
ENGO strength (ln)											-10.94* (5.294)			
corporatism												7.668** (3.132)		
Climate change vulnerability													27.40 (72.98)	
EU membership														13.43 (9.485)
Constant	54.37*** (9.492)	72.28*** (10.22)	77.72*** (11.39)	59.52*** (15.47)	-155.8 (252.7)	81.59*** (11.22)	37.28** (14.03)	117.4*** (37.46)	27.85 (34.77)	72.42*** (10.24)	95.51*** (16.23)	46.96*** (10.58)	53.55 (33.70)	57.94*** (9.696)
R ²	0.185	0.061	0.166	0.016	0.045	0.173	0.243	0.103	0.069	0.062	0.195	0.253	0.012	0.104

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A.2.6 Capital openness and climate performance in developed countries (Pairwise comparison, without outliers and influential cases)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Capital openness	-0.068 (0.222)	-0.458 (0.393)	0.048 (0.218)	-0.063 (0.380)	-0.171 (0.288)	-0.135 (0.260)	-0.143 (0.255)	-0.037 (0.268)	0.076 (0.346)	0.072 (0.337)	-0.371 (0.372)	0.062 (0.334)
Policy diffusion		60.99 [*] (32.76)										
Trade openness (lg)			1.367 ^{***} (0.404)									
IGO memberships				0.534 (0.343)								
Left government					0.429 ^{**} (0.167)							
Left parliament strength						0.596 ^{**} (0.259)						
Right government							-0.144 (0.200)					
Right parliament strength								-0.093 (0.240)				
Centre government (ln)									-3.425 (2.966)			
Centre parliament strength (ln)										-5.485 (3.759)		
Left libertarian parliament strength											3.264 ^{**} (1.385)	
Left right polarization												1.073 (0.699)
Constant	71.09 ^{***} (5.991)	81.69 ^{***} (10.65)	-18.36 (26.10)	14.74 (34.72)	52.23 ^{***} (9.192)	45.55 ^{***} (12.37)	77.95 ^{***} (8.959)	75.51 ^{***} (12.89)	71.86 ^{***} (10.50)	77.64 ^{***} (12.03)	61.45 ^{***} (9.712)	57.39 ^{***} (10.49)
R ²	0.007	0.189	0.405	0.127	0.306	0.280	0.071	0.011	0.077	0.118	0.248	0.129
N	16	18	20	20	18	17	15	17	19	19	20	19

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

Table A.2.6 Capital openness and climate performance in developed countries (Pairwise comparison, without outliers and influential cases) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Capital openness	-0.124 (0.333)	-0.146 (0.398)	0.0306 (0.299)	-0.101 (0.286)	-0.0437 (0.226)	0.252 (0.363)	-0.00847 (0.279)	0.138 (0.440)	-0.0381 (0.214)	0.169 (0.344)	-0.0779 (0.362)	-0.115 (0.316)	-0.0245 (0.216)	-0.361 (0.258)
Government fragmentation (ln)	16.16 [*] (8.496)													
Bicameralism		-9.795 (9.675)												
Plurality electoral system			-31.93 ^{***} (10.32)											
Mixed electoral system			-1.182 (8.300)											
Political corruption (ln)				-2.456 (3.435)										
Economic development (ln)					31.93 (18.12)									
Economic growth (ln)						-21.79 (14.05)								
Population density (ln)							9.401 ^{***} (2.379)							
Urban population								-1.063 (0.646)						
Industry sector size									-0.205 (0.898)					
Fuel exports (ln)										-18.19 ^{***} (5.069)				
ENGO strength (ln)											-11.93 [*] (5.676)			
corporatism												6.741 ^{**} (2.909)		
Climate change vulnerability													1.401 (50.61)	
EU membership														36.60 ^{***} (7.330)
Constant	57.61 ^{***} (9.655)	72.55 ^{***} (12.25)	70.80 ^{***} (10.03)	66.12 ^{***} (9.996)	-261.5 (187.6)	79.59 ^{***} (12.52)	20.88 (13.11)	142.5 ^{***} (47.93)	74.68 ^{**} (27.06)	81.77 ^{***} (10.69)	94.66 ^{***} (16.61)	51.77 ^{***} (10.27)	68.01 ^{**} (24.03)	40.92 ^{***} (8.028)
R ²	0.185	0.060	0.437	0.035	0.194	0.131	0.511	0.145	0.006	0.462	0.209	0.252	0.001	0.643
N	19	20	18	17	16	19	18	19	15	18	20	19	15	17

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A8.2.7 Policy diffusion and climate performance in developed countries (Pairwise comparison)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Policy diffusion	0.835** (0.326)	0.855** (0.402)	0.846** (0.334)	0.739* (0.393)	0.657* (0.353)	0.663* (0.358)	0.848* (0.405)	0.872** (0.375)	0.840** (0.335)	0.837** (0.336)	0.691** (0.319)	0.936** (0.328)
Trade openness (lg)		-2.680 (30.04)										
Capital openness			-0.106 (0.220)									
IGO memberships				0.158 (0.342)								
Left government					0.249 (0.203)							
Left parliament strength						0.317 (0.280)						
Right government							0.013 (0.224)					
Right parliament strength								0.063 (0.290)				
Centre government (ln)									-0.969 (2.755)			
Centre parliament strength (ln)										0.214 (3.357)		
Left libertarian parliament strength											2.156* (1.200)	
Left right polarization												0.911 (0.672)
Constant	15.87 (19.23)	14.66 (23.92)	18.09 (20.16)	6.514 (28.23)	16.97 (18.99)	13.77 (19.18)	14.67 (29.27)	11.19 (29.11)	17.41 (20.17)	15.32 (21.51)	16.69 (18.19)	3.214 (21.00)
R ²	0.256	0.256	0.266	0.265	0.314	0.305	0.256	0.258	0.261	0.256	0.369	0.325

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A8.2.7 Policy diffusion and climate performance in developed countries (Pairwise comparison) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Policy diffusion	0.843** (0.294)	0.800** (0.350)	0.826** (0.352)	0.835** (0.333)	0.816** (0.330)	0.842** (0.306)	0.661* (0.316)	0.750* (0.361)	0.839** (0.321)	0.913*** (0.317)	0.707** (0.333)	0.646* (0.320)	0.841** (0.332)	0.872* (0.439)
Government fragmentation (ln)	17.83** (7.656)													
Bicameralism		-2.837 (8.462)												
Plurality electoral system			-14.36 (11.02)											
Mixed electoral system			1.665 (9.435)											
Political corruption (ln)				-2.068 (4.033)										
Economic development (ln)					17.44 (20.98)									
Economic growth (ln)						-18.35* (9.556)								
Population density (ln)							5.193* (2.623)							
Urban population								-0.278 (0.462)						
Industry									1.325 (1.034)					
Fuel exports (ln)										-5.529 (3.406)				
ENGO strength (ln)											-6.479 (4.792)			
corporatism												5.783* (2.981)		
Climate change vulnerability													35.25 (59.27)	
EU membership														-1.475 (11.24)
Constant	2.367 (18.26)	19.24 (22.11)	18.46 (22.95)	9.732 (22.97)	-165.4 (218.8)	32.67 (20.01)	4.244 (18.84)	41.99 (47.67)	-22.11 (35.15)	18.11 (18.50)	38.26 (25.07)	12.10 (18.07)	0.886 (31.90)	14.70 (21.65)
R ²	0.428	0.261	0.347	0.267	0.284	0.383	0.389	0.271	0.318	0.351	0.325	0.385	0.270	0.257

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

Table A8.2.8 Policy diffusion and climate performance in developed countries (Pairwise comparison, without outliers and influential cases)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Policy diffusion	1.351*** (0.387)	1.293*** (0.425)	1.828*** (0.423)	1.309** (0.462)	1.095*** (0.346)	0.645* (0.353)	1.298*** (0.431)	1.355*** (0.419)	1.355*** (0.397)	0.952* (0.452)	1.244*** (0.349)	0.963** (0.414)
Trade openness (lg)		10.79 (28.31)										
Capital openness			-0.00768 (0.199)									
IGO memberships				0.057 (0.321)								
Left government					0.337* (0.163)							
Left parliament strength						0.378 (0.227)						
Right government							-0.066 (0.209)					
Right parliament strength								0.007 (0.269)				
Centre government (ln)									-0.930 (2.537)			
Centre parliament strength (ln)										-2.813 (3.317)		
Left libertarian parliament strength											2.460** (1.050)	
Left right polarization												1.086 (0.626)
Constant	-16.08 (23.28)	-12.61 (25.53)	-46.18 (26.87)	-19.00 (29.09)	-15.52 (19.87)	12.60 (19.77)	-10.62 (29.51)	-16.58 (30.12)	-14.56 (24.22)	15.22 (30.17)	-18.69 (20.86)	1.039 (25.17)
R ²	0.403	0.408	0.541	0.404	0.553	0.423	0.407	0.403	0.408	0.285	0.549	0.371
N	20	20	19	20	19	17	20	20	20	19	20	19

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

Table A8.2.8 Policy diffusion and climate performance in developed countries (Pairwise comparison, without outliers and influential cases)
(continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Policy diffusion	1.293*** (0.351)	1.311*** (0.404)	1.283*** (0.417)	1.408*** (0.390)	1.305*** (0.391)	1.199** (0.424)	1.082** (0.480)	1.363** (0.474)	1.304*** (0.392)	1.026** (0.384)	1.214*** (0.393)	1.146*** (0.373)	1.366*** (0.409)	1.416*** (0.463)
Government fragmentation (ln)	15.96** (7.133)													
Bicameralism		-3.847 (7.780)												
Plurality electoral system			-11.19 (10.51)											
Mixed electoral system			1.347 (8.870)											
Political corruption (ln)				-3.922 (3.715)										
Economic development (ln)					8.040 (23.26)									
Economic growth (ln)						-10.38 (11.54)								
Population density (ln)							3.040 (3.195)							
Urban population								0.0209 (0.543)						
Industry sector size									0.939 (0.992)					
Fuel exports (ln)										-9.112** (4.233)				
ENGO strength (ln)											-5.891 (4.418)			
Corporatism												5.439* (2.722)		
Climate change vulnerability													-9.550 (59.66)	
EU membership														-6.122 (11.19)
Constant	-24.14 (21.36)	-11.98 (25.19)	-10.30 (26.84)	-31.26 (27.30)	-98.36 (245.0)	3.053 (31.63)	-12.55 (23.63)	-18.00 (60.32)	-39.91 (34.33)	13.12 (23.61)	5.553 (27.97)	-17.98 (21.58)	-13.06 (30.49)	-15.02 (22.54)
R ²	0.539	0.412	0.457	0.440	0.411	0.430	0.434	0.407	0.433	0.430	0.460	0.517	0.404	0.489
N	20	20	20	20	19	20	20	19	20	18	20	20	20	18

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

Table A8.2.9 International political integration and climate performance in developed countries (Pairwise comparison)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
IGO memberships	0.498 (0.309)	0.158 (0.342)	0.428 (0.323)	0.512 (0.330)	0.338 (0.313)	0.383 (0.303)	0.408 (0.337)	0.459 (0.326)	0.545 (0.323)	0.457 (0.283)	0.481 (0.333)	0.573 ⁺ (0.308)
Policy diffusion		0.739 ⁺ (0.393)										
Trade openness (lg)			22.92 (27.71)									
Capital openness				0.0387 (0.250)								
Left government					0.333 (0.206)							
Left parliament strength						0.460 (0.272)						
Right government							-0.154 (0.214)					
Right parliament strength								-0.138 (0.289)				
Centre government (ln)									-1.895 (3.058)			
Left libertarian parliament strength										2.676 ^{**} (1.221)		
Left right polarization											0.135 (0.784)	
Bicameralism												-11.49 (8.539)
Constant	17.00 (29.47)	6.514 (28.23)	24.18 (30.95)	14.64 (33.87)	19.91 (28.35)	10.50 (28.39)	31.37 (35.89)	26.23 (35.79)	16.13 (29.99)	11.64 (27.01)	17.62 (30.46)	15.40 (28.88)
R ²	0.120	0.265	0.153	0.121	0.231	0.240	0.145	0.131	0.139	0.306	0.122	0.201

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A8.2.9 International political integration and climate performance in developed countries (Pairwise comparison) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
IGO memberships	0.634 [*] (0.310)	0.488 (0.318)	0.463 (0.318)	0.358 (0.333)	0.243 (0.321)	0.527 [*] (0.298)	0.548 [*] (0.304)	0.562 [*] (0.306)	0.707 ^{**} (0.277)	0.367 (0.288)	0.489 (0.317)	0.366 (0.384)
Plurality electoral system	-23.10 [*] (11.18)											
Mixed electoral system	-1.884 (9.299)											
Political corruption (ln)		-1.391 (4.428)										
Economic development (ln)			15.26 (23.26)									
Economic growth (ln)				-13.12 (11.96)								
Population density (ln)					5.734 [*] (3.053)							
Urban population						-0.700 (0.437)						
Industry sector size							1.542 (1.126)					
Fuel exports (ln)								-5.110 (3.780)				
ENGO strength (ln)									-12.57 ^{**} (4.579)			
Corporatism										6.805 ^{**} (3.077)		
Climate change vulnerability											22.14 (65.06)	
EU membership												6.784 (11.28)
Constant	9.323 (30.59)	13.81 (31.85)	-139.2 (239.9)	42.50 (37.41)	17.18 (27.68)	67.84 (42.57)	-31.67 (45.73)	17.20 (28.84)	26.44 (25.65)	12.13 (26.93)	8.661 (38.88)	24.96 (32.77)
R ²	0.305	0.125	0.141	0.175	0.264	0.230	0.203	0.201	0.380	0.308	0.126	0.138

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A8.2.10 International political integration and climate performance in developed countries (Pairwise comparison, without outliers and influential cases)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
IGO memberships	0.709 (0.452)	0.0567 (0.321)	0.414 (0.379)	0.534 (0.343)	0.247 (0.345)	0.176 (0.309)	0.188 (0.230)	0.328 (0.419)	0.570* (0.267)	0.582* (0.309)	0.521 (0.356)	0.249 (0.382)
Diffusion		1.309** (0.462)										
Trade openness (lg)			24.28 (33.61)									
Capital openness				-0.0631 (0.380)								
Left government					0.343* (0.177)							
Left parliament strength						0.611** (0.217)						
Right government							-0.161 (0.196)					
Right parliament strength								-0.226 (0.341)				
Centre govern- ment (ln)									-5.720** (2.187)			
Left libertarian parliament strength										-5.959* (3.038)		
Left right polari- zation											2.529* (1.340)	
IGO memberships												0.938 (0.755)
Constant	-3.984 (43.01)	-19.00 (29.09)	25.61 (36.97)	14.74 (34.72)	28.04 (31.49)	24.90 (27.84)	56.28** (23.53)	41.49 (47.01)	18.88 (26.37)	21.50 (30.67)	5.710 (33.63)	35.37 (35.73)
R ²	0.126	0.404	0.152	0.127	0.313	0.439	0.097	0.105	0.439	0.317	0.309	0.152
N	19	20	20	20	18	18	15	20	17	18	20	19

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A8.2.10 International political integration and climate performance in developed countries (Pairwise comparison, without outliers and influential cases) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
IGO memberships	0.532 (0.375)	0.679** (0.266)	0.478* (0.269)	0.694* (0.393)	0.675* (0.370)	0.259 (0.383)	0.243 (0.321)	0.952*** (0.308)	0.965*** (0.315)	0.432* (0.236)	0.992*** (0.281)	-0.00420 (0.309)	0.489 (0.317)	0.203 (0.375)
Plurality electoral system	13.57 (9.425)													
Mixed electoral system		-16.84** (7.562)												
Political corruption			-22.37** (9.485)											
Economic development (ln)			2.766 (8.068)											
Economic growth (ln)				0.0111 (4.717)										
Population density (ln)					3.776 (28.64)									
Urban population						-30.40 (18.13)								
Industry sector size							5.734* (3.053)							
Fuel exports (ln)								-0.883** (0.386)						
ENGO strength (ln)									2.099** (0.976)					
Corporatism										-9.404** (3.829)				
Climate change vulnerability											-12.16*** (3.916)			
EU membership												7.201** (2.831)		
IGO memberships													22.14 (65.06)	
Pluralities														31.18*** (10.25)
Constant	3.026 (34.84)	5.673 (24.97)	24.33 (26.51)	-2.566 (36.85)	-41.60 (300.6)	67.49 (47.45)	17.18 (27.68)	37.80 (37.35)	-90.82* (46.04)	35.05 (21.82)	-4.653 (26.86)	46.97 (27.98)	8.661 (38.88)	17.01 (32.10)
R ²	0.255	0.358	0.344	0.165	0.174	0.260	0.264	0.436	0.419	0.324	0.533	0.306	0.126	0.602
N	20	20	20	20	19	19	21	19	19	18	19	19	21	17

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006. N=21.

Table A.2.11 International political integration (state centrality in IGO networks) and climate performance in developed countries (Pairwise comparison)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Network central-ity	16.12 (10.20)	5.543 (11.03)	14.02 (10.53)	17.12 (11.13)	12.71 (9.833)	13.15 (9.814)	13.19 (11.01)	14.80 (10.80)	17.26 (10.61)	16.93 (10.63)	17.06* (9.104)	15.63 (11.12)
Policy diffusion		0.738* (0.385)										
Trade openness (lg)			24.44 (27.40)									
Capital openness				0.067 (0.256)								
Left government					0.355* (0.197)							
Left parliament strength						0.476* (0.268)						
Right government							-0.162 (0.212)					
Right parliament strength								-0.136 (0.291)				
Centre government (ln)									-1.661 (3.046)			
Centre parliament strength (ln)										-1.499 (3.700)		
Left libertarian parliament strength											2.904** (1.194)	
Left right polarization												0.105 (0.795)
Constant	-41.91 (67.18)	-14.98 (64.42)	-27.56 (69.43)	-50.27 (75.88)	-32.54 (63.73)	-40.39 (63.67)	-16.53 (75.65)	-27.75 (74.96)	-46.28 (68.92)	-44.06 (68.91)	-58.16 (60.25)	-39.48 (71.39)
R ²	0.116	0.266	0.154	0.119	0.251	0.248	0.144	0.127	0.130	0.124	0.335	0.117

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

Table A.2.11 International political integration (state centrality in IGO networks) and climate performance in developed countries
(Pairwise comparison) (continuation)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Network centrality	11.63 (10.23)	18.39* (10.16)	16.60 (10.15)	17.80 (10.51)	16.18 (10.24)	10.48 (11.79)	4.970 (11.51)	15.73 (9.939)	18.08* (10.05)	16.39 (10.15)	19.35* (9.305)	14.37 (9.105)	16.59 (11.28)	11.57 (13.43)
Government fragmentation (ln)	14.65 (9.290)													
Bicameralism		-11.24 (8.561)												
Plurality electoral system			-20.03* (11.49)											
Mixed electoral system			-3.916 (9.479)											
Political corruption (ln)				-3.562 (4.440)										
Economic development (ln)					21.22 (22.70)									
Economic growth (ln)						-12.37 (12.85)								
Population density (ln)							5.934* (3.328)							
Urban population								-0.634 (0.443)						
Industry sector size									1.581 (1.129)					
Fuel exports (ln)										-4.183 (3.804)				
ENGO strength (ln)											-10.81** (4.666)			
Corporatism												7.249** (2.955)		
Climate change vulnerability													-7.828 (70.17)	
EU membership														6.421 (11.98)
Constant	-23.15 (65.78)	-51.46 (66.33)	-39.73 (67.69)	-63.49 (72.96)	-264.1 (247.1)	6.749 (84.19)	6.606 (69.20)	9.169 (74.53)	-99.86 (77.50)	-38.55 (66.88)	-38.03 (60.59)	-48.80 (59.82)	-41.73 (69.01)	-16.29 (83.52)
R ²	0.223	0.193	0.253	0.147	0.157	0.159	0.249	0.206	0.203	0.172	0.319	0.338	0.117	0.130

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). * $p < .1$, ** $p < .05$, *** $p < .01$. Analysis units = country averages from 1992-2006.

A8.2.4 Analysis of the model assumptions

This section tests the assumption of OLS regression of the final model. The final model included network centrality, bicameralism and the interaction between both variables. The model that tested the interaction between bicameralism and state centrality in IGO networks showed no problems with model assumptions. There was no multicollinearity among independent variables. The tolerance values were all above .20 (see Table A8.2.12).

Table A8.2.12 Test of multicollinearity

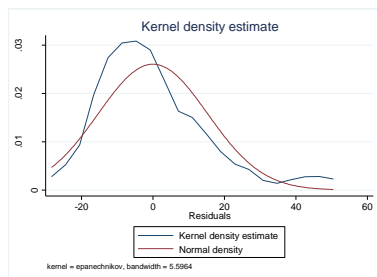
Variable	Tolerance value
Network centrality	.567
Bicameralism	.970
Network centrality X Bicameralism	.572

Notes: Analysis units = country averages from 1992-2006. N=21.

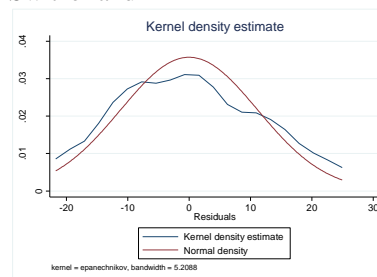
The Breusch-Pagan/ Cook-Weisberg test for heteroskedasticity was insignificant (0.101, H0: Constant variance). Thus, the assumption of constant variance was not violated. The model violated the normality assumption (Shapiro-Wilk test for normal data, $p = .028$). This can also be seen in the plot. However, when the multivariate outliers Switzerland and New Zealand were excluded from the analysis, the Shapiro-Wilk test for normal data became insignificant (.439). The graph also shows a more normal distribution of errors (see Figure A8.2.5).

Figure A8.2.5 Normal distribution of the residuals

All developed countries



Without outliers New Zealand and Switzerland



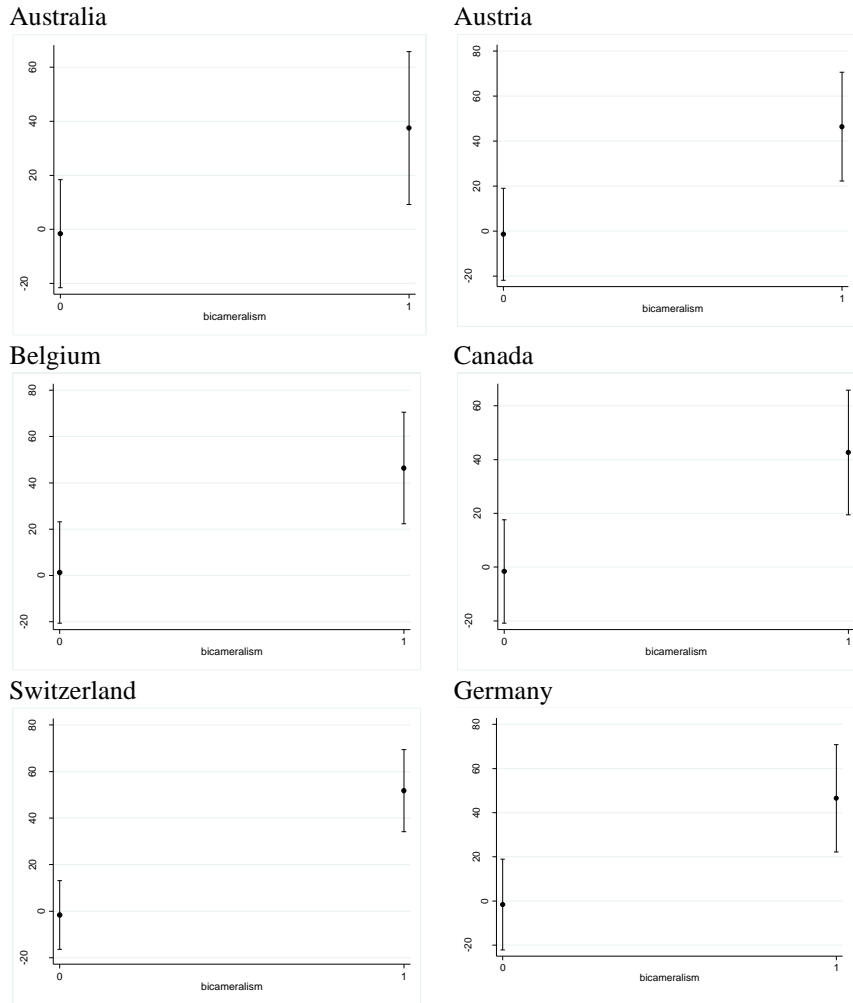
Notes: Analysis units = country averages from 1992-2006. N=21.

A8.2.5 Robustness analysis

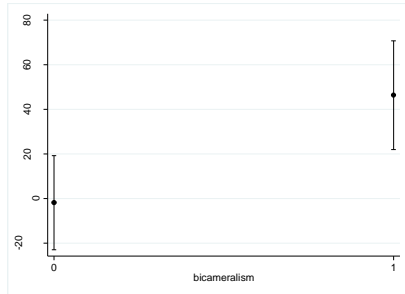
This chapter examines the robustness of the results based on the model that included network centrality, bicameralism and the interaction between both variables.

Jack-knife analysis

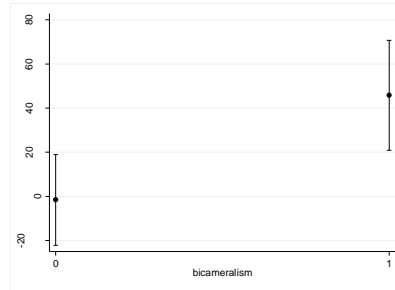
Figure A8.2.6 Jack-knife analysis of centrality and bicameralism (90% confidence interval)



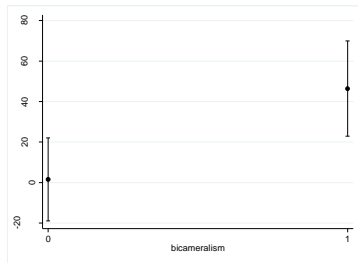
Denmark



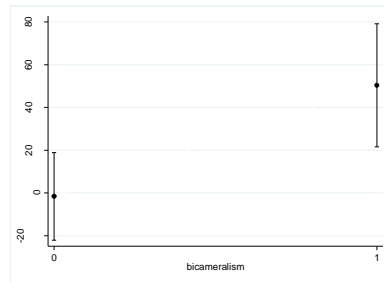
Spain



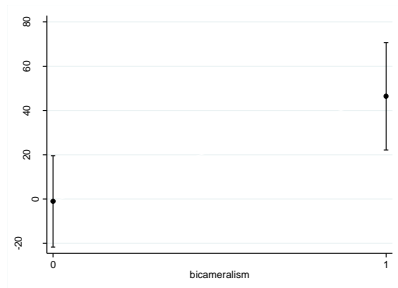
Finland



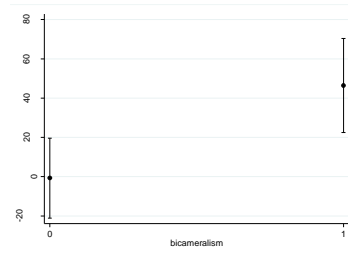
France



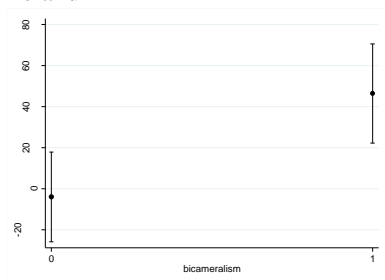
Great Britain



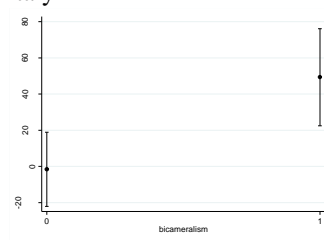
Greece



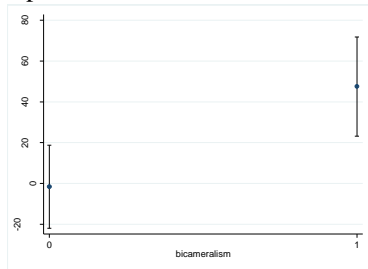
Ireland



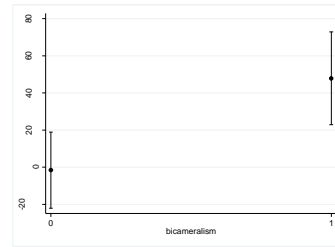
Italy



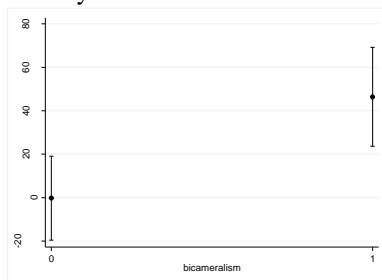
Japan



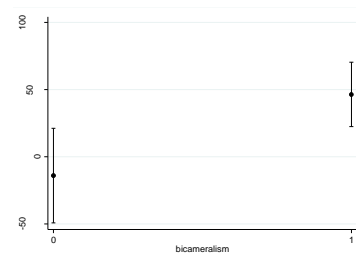
Netherlands



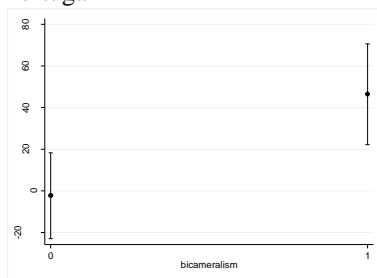
Norway



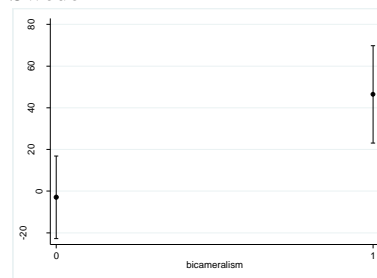
New Zealand



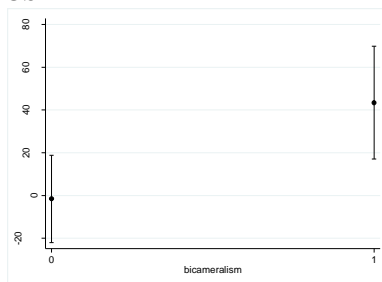
Portugal



Sweden



USA



Notes: Analysis units = country averages from 1992-2006. N=21.

In the following, I tested the effect of policy diffusion as well as the interaction between bicameralism and state centrality in IGO networks with additional controls: climate and country size. The measurement of these controls is described in table A8.2.13.

Table A8.2.13 Measurement of the dependent and independent variables in the analysis of climate change mitigation performance in developed countries (Cross-sectional analysis)

Variable	Description	Data Source
Climate	Country average of the heating degree months index from Jahn (2013b) from 1992-2005.	- Jahn (2013b)
	Country average of the cooling degree months index from Jahn (2013b) from 1992-2005.	
Country size	Land area in square km. If not constant over time country average from 1992-2006. 8	- The World Bank Group (2018)

The effect of policy diffusion became insignificant when I controlled outliers. It turned significant again when outliers—Canada, Japan and Switzerland—were removed from the analysis.

Table A8.2.14 Policy diffusion, country size and climate performance in developed countries

		Without outliers: CHE, JPN, CAN
Policy diffusion	.405 (p=.109)	.638*
Country size	.000***	.000**
R^2	.673	.667
N	21	18

Notes: Analysis units = country averages from 1992-2006. N=21.

The interaction between network centrality and bicameralism was insignificant when country size was controlled. However, it became significant again when outliers were excluded from the analysis. The interaction effect between network centrality and the government fragmentation became insignificant if country size was controlled with and without outliers. The interaction between state involvement and the government fragmentation was additionally insignificant if outliers were excluded in the model that controls country size (see Figure A8.2.7).

Figure A8.2.7 Control of country size

Centrality x bicameralism 95%, also insignificant with 90%



Centrality x bicameralism 90% Without outliers (NZL, CHE)



Notes: Analysis units = country averages from 1992-2006. N=21.

The national average number of heating degree months had a positive effect on climate policy performance in developed countries (see Table A8.2.16). The effect became significant when outliers were removed from the analysis. There was no significant effect of the average national number of cooling degree months on climate policy performance in developed countries. Data of HDM15 and CDM18 is available on a yearly basis until 2005. Country averages of these variables refer to 1992-2005.

Table A8.2.15 Bivariate Correlations of the independent and control variables with climate change mitigation performance levels in developed Annex-I countries

Independent variable	N=21	Without outliers	Outliers
Jahn HDM15_mean	.155	.434*	AUS, CAN, USA, FIN, CHE
Jahn CDM18_mean	-.302	.208	AUS, CAN, USA; GRC; JPN

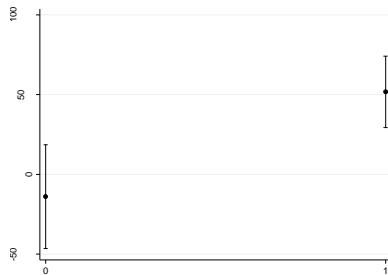
Notes: Analysis units = country averages from 1992-2006. N=21.

Figure A8.2.8 Control of climate conditions

Centrality x bicameralism, 95% control of jahnHDM15



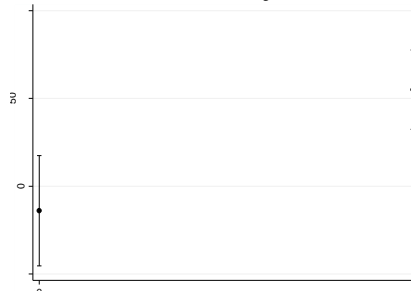
Centrality x bicameralism, 95% without outliers (New Zealand, Switzerland), control of jahnHDM15



Centrality x bicameralism, 95% control of jahnCDM18



Centrality x bicameralism, 95% without outliers (Greece, New Zealand, Switzerland) control of jahnCDM18



Notes: Analysis units = country averages from 1992-2006. N=21.

The interaction between network centrality and bicameralism remained significant when climate conditions were considered (see Figure A8.2.12).

A8.3 Developing countries

A8.3.1 Univariate Statistics

This chapter presents univariate statistics of the independent variables in my analysis of climate performance in developing countries (table A8.3.1).

Table A8.3.1 Univariate statistics of independent variables (Analysis of developing countries)

Variable	Mean	Std	Min	Max
Economic development (ln)	8.14	.99	.15	.15
Economic growth	3.75	2.13	-2.70	8.36
Industry sector size (ln)	3.32	.38	2.45	4.23
Fuel exports (ln)	1.87	1.51	.00	4.59
ENGO strength (ln)	1.07	.83	.00	2.79
Population density (ln)	3.79	1.25	.95	6.89
Population growth	2.13	.73	.37	3.52
Urban population	42.63	20.45	8.07	79.94
Climate change vulnerability	.52	.11	.29	.80
Plurality electoral rules	-	-	.00	1.00
Mixed electoral rules	-	-	.00	1.00
Civil dictatorship	-	-	.00	1.00
Military dictatorship	-	-	.00	1.00
Royal dictatorship	-	-	.00	1.00
Left party strength in government	-	-	.00	1.00
Centre party strength in government	-	-	.00	1.00
Right party strength in government	-	-	.00	1.00
Left – right polarization	-	-	.00	1.00
Government fragmentation (ln)	.33	.53	.00	2.41
Bicameralism	-	-	.00	1.00
Political corruption	.63	.19	.12	.97
Executive corruption	.63	.19	.12	.97
Legislative corruption ⁵	-.62	.77	-2.26	1.28
Public sector corruption	.63	.21	.12	.97
Vertical accountability	.33	.64	-1.44	1.63
Horizontal accountability	.06	.70	-1.25	1.64
Political rights	.38	.75	-1.50	1.99
Civil rights	.56	.22	.08	.98
Electoral democracy	-	-	.00	1.00
Established democracy	-	-	.00	1.00
Trade openness (lg)	-.04	.18	-.40	.49
Capital openness (ln)	2.67	2.75	.15	4.58
Policy diffusion	60.53	9.32	37.58	80.58
IGO memberships	62.47	14.45	28.92	87.43
State centrality in IGO networks	5.32	.82	2.51	6.80

Notes: Analysis units = country averages from 1992-2006. N=64.

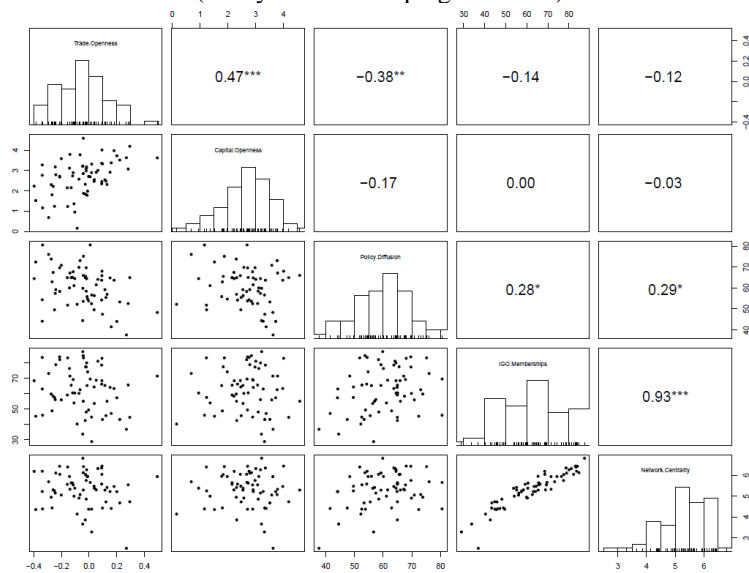
A8.3.2 Bivariate correlations

This section presents the bivariate correlation among independent variables of the analysis of the cross-sectional variance of climate performance among developing countries. There were no problematic correlations for the regression models. IGO memberships and state centrality correlated highly with each other as indicators of

⁵ Higher values imply lower levels of legislative corruption

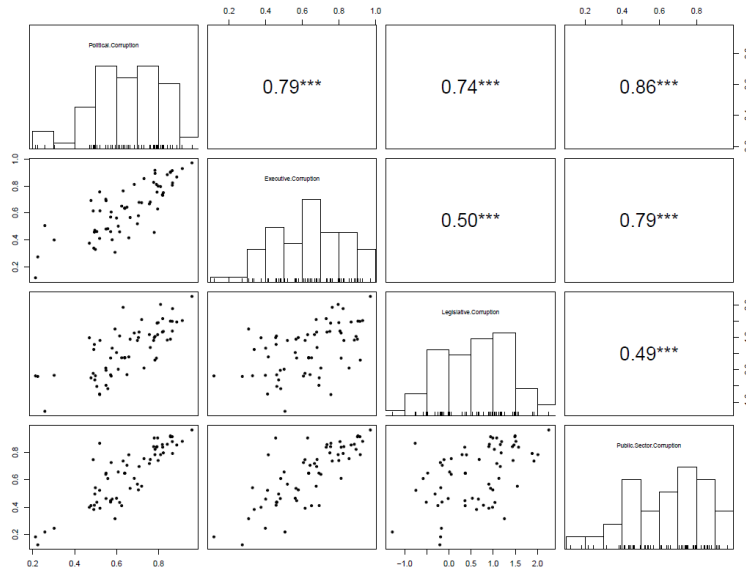
political embeddedness (.93***). The political corruption dimensions correlated highly with each other. Executive and public sector corruption should not be included in the same model (.79). The democracy quality indicators correlated highly with each other. Several f-correlations were above .7 or .8 and should, therefore, not be tested simultaneously. This includes the electoral and established democracy quality indicators. Interestingly, the democracy quality aspects correlated more with the electoral than the established democracy indicator. There were no problematic high correlations among regime type, democracy quality and political corruption indicators. Several government ideology, veto player and veto point indicators correlated highly with each other. Some variable pairs showed correlations above .7 and were, therefore, not included in the same model. This includes left government ideology and left-right polarisation and bicameralism and government fragmentation.

Figure A8.3.1 Bivariate correlations among international integration indicators (Analysis of developing countries)



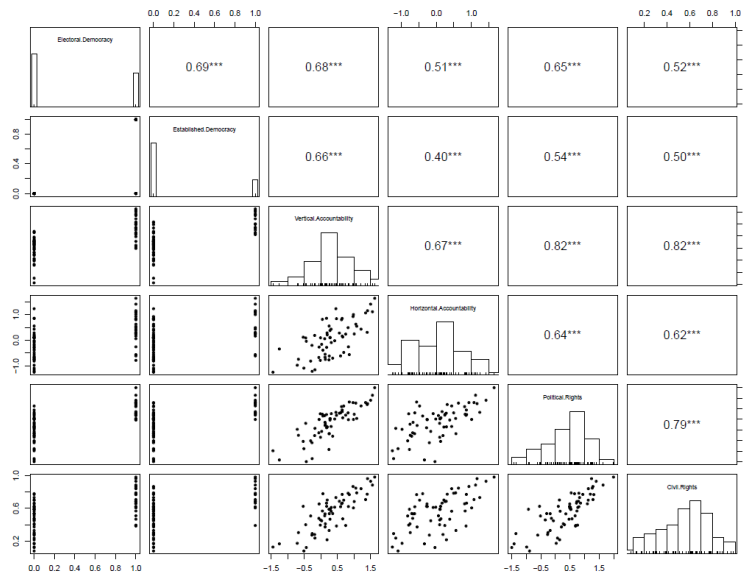
Notes: Analysis units = country averages from 1992-2006. N=64.

Figure A8.3.2 Bivariate correlations among political corruption indicators (Analysis of developing countries)



Notes: Analysis units = country averages from 1992-2006. N=64.

Figure A8.3.3 Bivariate correlations among democracy indicators (Analysis of developing countries)



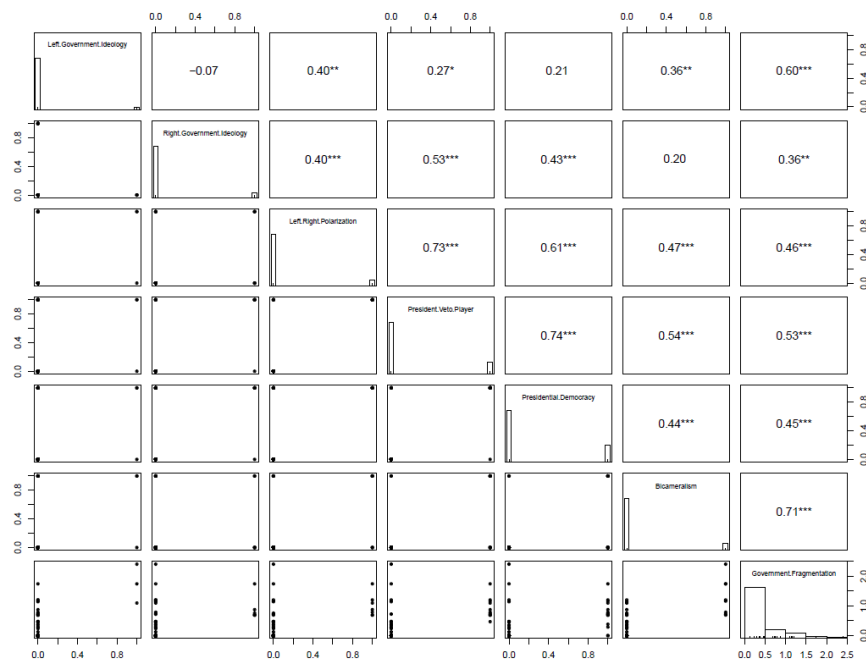
Notes: Analysis units = country averages from 1992-2006. N=64.

Table A8.3.4 Bivariate correlations among corruption indicators (Analysis of developing countries)

	Established democracy (dm)	Electoral democracy (dm)	Vertical accountability	Horizontal accountability	Political rights	Civil rights
Executive corruption	-.288**	-.184	-.505***	-.476***	-.328***	-.554***
Legislative corruption	-.170	-.218*	.080	.075	-.082	.170
Public sector corruption	-.280**	-.193	-.457***	-.440***	-.254**	.497***
Political corruption	-.145	-.092	-.400***	-.330***	-.136	-.439***

Notes: Analysis units = country averages from 1992-2006. N=64.

Table A8.3.5 Bivariate correlations among veto player and veto point indicators (Analysis of developing countries)



Notes: Analysis units = country averages from 1992-2006. N=64.

A8.3.3 Globalisation, domestic political institutions and climate performance

This section displays the analysis of additive effects of globalisation and domestic institutional variables.

Table A8.3.2 International integration and climate performance in developing countries

	(1)	(2)
Economic development (ln)	1.038 (1.987)	1.036 (1.986)
Economic growth	0.407 (0.492)	0.391 (0.485)
Industry sector size (ln)	-2.135 (4.087)	-2.099 (4.091)
Fuel exports (ln)	-0.842 (0.764)	-0.855 (0.758)
ENGO strength (ln)	-2.664** (1.284)	-2.692** (1.258)
Climate change vulnerability	17.02* (9.095)	16.98* (9.101)
Urban population size	-0.165** (0.082)	-0.168** (0.080)
Trade openness (lg)	-17.17** (6.993)	-17.10** (6.976)
Capital openness (ln)	1.789 (1.274)	1.785 (1.274)
Policy diffusion	0.086 (0.130)	0.085 (0.128)
IGO memberships	-0.030 (0.083)	
Network centrality		-0.484 (1.317)
Constant	75.89*** (16.45)	76.85*** (16.45)
R^2	0.468	0.468
N	64	64

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). Analysis units = country averages from 1992-2006. N=64.

Table A8.3.3 Political parties and climate performance in developing countries

	(1)
Economic de- velopment (ln)	0.723 (2.076)
Economic growth	0.409 (0.500)
Industry sector size (ln)	-1.969 (4.172)
Fuel exports (ln)	-0.733 (0.800)
ENGO strength (ln)	-2.327 (1.406)
Urban popula- tion size	-0.161* (0.0839)
Climate change vulnerability	15.08 (9.655)
Left govern- ment	-4.098 (5.156)
Right govern- ment	2.442 (3.747)
Left right polar- ization	-1.216 (3.330)
Trade openness (lg)	-19.83** (7.468)
Capital open- ness (ln)	1.891 (1.300)
Policy diffusion	0.034 (0.140)
IGO member- ships	-0.005 (0.0882)
Constant	79.55*** (17.45)
R^2	0.483
N	64

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). Analysis units = country averages from 1992-2006. N=64.

Table A8.3.4 Veto points and climate performance in developing countries

	(1)	(2)	(3)	(4)	(5)
Economic de- velopment (ln)	1.155 (2.035)	1.186 (1.987)	1.504 (2.029)	1.285 (1.977)	1.013 (1.990)
Economic growth	0.525 (0.492)	0.525 (0.487)	0.503 (0.495)	0.574 (0.482)	0.601 (0.482)
Industry sector size (ln)	-0.996 (4.117)	-1.023 (4.065)	-1.863 (4.088)	-1.561 (3.974)	-0.994 (4.002)
Fuel exports (ln)	-1.534* (0.829)	-1.538* (0.820)	-1.354 (0.823)	-1.288 (0.795)	-1.391* (0.800)
ENGO strength (ln)	-3.541** (1.513)	-3.488** (1.390)	-3.060** (1.475)	-3.126** (1.412)	-3.385** (1.430)
Urban popula- tion	-0.161* (0.0836)	-0.162** (0.0807)	-0.177** (0.0831)	-0.153* (0.0796)	-0.134 (0.0815)
Climate change vulnerability	6.647 (10.84)	6.648 (10.73)	10.37 (10.51)	8.966 (9.687)	7.568 (9.758)
Government frag- mentation (ln)	0.277 (2.972)		-1.826 (2.493)	-1.766 (2.303)	0.143 (2.905)
Bicameralism	-5.774 (4.509)	-5.542 (3.720)			-4.404 (4.094)
Presidential veto player	7.336* (3.996)	7.362* (3.945)	5.192 (3.652)		
Presidential de- mocracy(dm)				5.839** (2.617)	6.450** (2.674)
Political corrup- tion	11.28* (6.535)	11.18* (6.370)	9.015 (6.331)	7.255 (6.126)	8.590 (6.240)
Policy diffusion	0.017 (0.134)	0.017 (0.133)	0.056 (0.132)	0.096 (0.127)	0.075 (0.128)
Trade openness (lg)	-19.77*** (7.026)	-19.79*** (6.951)	-18.67** (7.018)	-18.92*** (6.807)	-19.55*** (6.821)
Capital open- ness (ln)	1.998 (1.281)	1.977 (1.248)	1.796 (1.280)	1.681 (1.245)	1.819 (1.249)
IGO member- ships	-0.031 (0.0864)	-0.030 (0.0849)	-0.044 (0.0863)	-0.067 (0.0844)	-0.060 (0.0845)
Constant	73.68*** (17.55)	73.69*** (17.37)	72.64*** (17.65)	72.76*** (17.01)	72.64*** (16.98)
R^2	0.522	0.522	0.505	0.533	0.544
N	64	64	64	64	64

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). Analysis = units country averages from 1992-2006. N=64.

Table A8.3.5 Political corruption and climate performance in developing countries

	(1)	(2)	(3)	(4)
Economic development (ln)	1.540 (2.012)	1.134 (1.967)	1.057 (2.010)	1.574 (2.056)
Economic growth	0.512 (0.495)	0.656 (0.516)	0.413 (0.498)	0.500 (0.500)
Industry sector size (ln)	-2.445 (4.068)	-2.161 (4.043)	-2.120 (4.127)	-2.514 (4.103)
Fuel exports (ln)	-1.203 (0.809)	-1.265 (0.810)	-0.874 (0.801)	-1.018 (0.784)
ENGO strength (ln)	-2.631** (1.276)	-2.306* (1.294)	-2.701** (1.320)	-2.424* (1.306)
Urban population	-0.155* (0.0815)	-0.138 (0.0828)	-0.164* (0.0829)	-0.161* (0.0817)
Climate change vulnerability	17.91* (9.063)	18.79** (9.081)	16.85* (9.250)	18.38* (9.195)
Political corruption	8.098 (6.273)			
Executive corruption		8.403 (5.776)		
Legislative corruption			0.191 (1.297)	
Public sector corruption				5.091 (5.060)
Trade openness (lg)	-17.41** (6.951)	-18.07** (6.946)	-17.24** (7.073)	-17.54** (7.002)
Capital openness (ln)	1.807 (1.266)	1.505 (1.275)	1.804 (1.290)	1.654 (1.281)
Policy diffusion	0.0828 (0.129)	0.089 (0.128)	0.089 (0.132)	0.101 (0.130)
IGO memberships	-0.050 (0.0839)	-0.042 (0.0824)	-0.032 (0.0853)	-0.053 (0.0860)
Constant	68.32*** (17.37)	68.57*** (17.04)	75.65*** (16.69)	69.25*** (17.72)
R^2	0.485	0.489	0.468	0.478
N	64	64	64	64

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). Analysis units = country averages from 1992-2006. N=64.

Table A8.3.6 Regime type, democracy quality dimensions, and climate performance in developing countries

	(1)	(2)	(3)	(4)	(5)	(6)
Economic development (ln)	1.308 (2.011)	1.486 (2.067)	1.626 (2.010)	1.540 (2.032)	2.714 (2.054)	1.902 (2.035)
Economic growth	0.558 (0.494)	0.503 (0.503)	0.453 (0.497)	0.511 (0.500)	0.502 (0.483)	0.449 (0.497)
Industry sector size (ln)	-2.070 (4.060)	-2.445 (4.107)	-2.006 (4.082)	-2.448 (4.109)	-3.271 (3.988)	-2.480 (4.060)
Fuel exports (ln)	-1.087 (0.811)	-1.179 (0.834)	-1.164 (0.809)	-1.203 (0.817)	-1.005 (0.795)	-0.967 (0.836)
ENGO strength (ln)	-3.159** (1.341)	-2.716* (1.423)	-3.194** (1.377)	-2.617* (1.327)	-3.427** (1.311)	-2.846** (1.289)
Urban population	-0.139* (0.0821)	-0.155* (0.0823)	-0.160* (0.0815)	-0.155* (0.0828)	-0.167** (0.0797)	-0.176** (0.0835)
Climate change vulnerability	14.49 (9.441)	17.58* (9.442)	17.02* (9.086)	17.96* (9.228)	14.61 (8.999)	16.46* (9.143)
Political corruption	8.017 (6.243)	8.048 (6.344)	11.12 (6.862)	8.008 (6.678)	10.52* (6.243)	11.26 (6.896)
Electoral democracy (dm)	2.772 (2.263)					
Established democracy (dm)		0.404 (2.867)				
Vertical accountability			2.189 (2.031)			
Horizontal accountability				-0.0644 (1.505)		
Political rights					2.969* (1.546)	
Civil rights						6.381 (5.833)
Trade openness (lg)	-18.57** (6.981)	-17.38** (7.023)	-18.76** (7.051)	-17.37** (7.082)	-20.63*** (6.979)	-20.10*** (7.358)
Capital openness (ln)	2.134 (1.288)	1.826 (1.286)	1.980 (1.274)	1.795 (1.307)	2.421* (1.275)	2.219* (1.318)
IGO memberships	-0.076 (0.086)	-0.051 (0.085)	-0.0900 (0.092)	-0.050 (0.086)	-0.121 (0.0896)	-0.086 (0.090)
Policy diffusion	0.123 (0.132)	0.0843 (0.131)	0.097 (0.129)	0.083 (0.130)	0.104 (0.126)	0.078 (0.129)
Constant	67.48*** (17.30)	68.88*** (17.98)	66.04*** (17.47)	68.38*** (17.59)	62.94*** (17.16)	62.82*** (18.05)
R^2	0.500	0.485	0.496	0.485	0.520	0.497
N	64	64	64	64	64	64

Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). Analysis units = country averages from 1992-2006. N=64.

Table A8.3.7 Additional controls

	(1)	(2)	(3)
Economic development (ln)	0.897 (1.948)	1.521 (2.025)	2.638 (1.905)
Economic growth	0.525 (0.491)	0.498 (0.496)	0.812* (0.481)
Industry sector size (ln)	-3.835 (4.197)	-1.729 (4.101)	-2.664 (3.869)
Fuel exports (ln)	-0.783 (0.752)	-0.816 (0.777)	-0.147 (0.773)
ENGO strength (ln)	-2.543* (1.266)	-3.219** (1.349)	-3.147** (1.263)
Urban population	-0.150* (0.080)	-0.179** (0.083)	-0.174** (0.077)
Climate change vulnerability	15.80* (8.968)	13.92 (9.375)	12.05 (8.494)
Plurality electoral system	-2.229 (2.312)		
Mixed electoral system	-4.982** (2.445)		
Military dictatorship		-3.304 (2.470)	-0.953 (2.203)
Royal dictatorship		-2.503 (4.039)	-0.474 (3.817)
Regional performance			0.689*** (0.242)
Trade openness (lg)	-15.76** (7.238)	-19.32*** (7.163)	-19.19*** (6.729)
Capital openness (ln)	1.936 (1.251)	2.029 (1.290)	2.025* (1.203)
Policy diffusion	0.0690 (0.128)	0.159 (0.140)	
IGO memberships	-0.002 (0.0837)	-0.036 (0.084)	-0.089 (0.079)
Constant	83.23*** (17.46)	69.36*** (17.12)	16.14 (26.15)
R^2	0.509	0.488	0.549
N	64	64	64

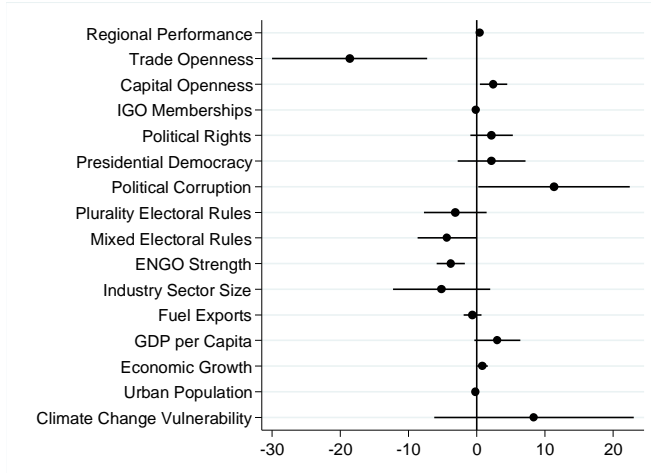
Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). Analysis units = country averages from 1992-2006. N=64.

Table A8.3.8 Simultaneous analysis of significant effects

	(1)	(2)	(3)	(4)	(5)	(6)
Economic development (ln)	2.588 (1.25)	3.042 (1.51)	2.639 (1.30)	3.121 (1.61)	2.689 (1.27)	2.983 (1.45)
Economic growth	0.639 (1.36)	0.829* (1.76)	0.626 (1.34)	0.833* (1.77)	0.686 (1.43)	0.833* (1.73)
Industry sector size (ln)	-5.696 (-1.31)	-5.161 (-1.21)	-5.961 (-1.42)	-5.279 (-1.29)	-5.533 (-1.25)	-5.225 (-1.20)
Fuel exports (ln)	-1.011 (-1.33)	-0.617 (-0.79)	-1.042 (-1.37)	-0.645 (-0.83)	-1.009 (-1.30)	-0.588 (-0.73)
ENGO strength (ln)	-3.767*** (-2.94)	-3.798*** (-3.09)	-3.931*** (-2.97)	-3.977*** (-3.17)	-4.034*** (-3.02)	-3.952*** (-3.02)
Urban population	-0.147* (-1.92)	-0.151** (-2.03)	-0.157** (-2.06)	-0.163** (-2.20)	-0.156* (-1.99)	-0.155** (-2.03)
Climate change vulnerability	9.432 (1.02)	8.404 (0.97)	8.235 (0.84)	6.061 (0.64)	8.781 (0.93)	8.675 (0.98)
Regional performance		0.439* (1.74)		0.444* (1.76)		0.437 (1.68)
Plurality electoral system	-3.963 (-1.42)	-3.162 (-1.15)	-4.300* (-1.70)	-3.297 (-1.31)	-3.981 (-1.41)	-3.194 (-1.13)
Mixed electoral system	-5.910** (-2.44)	-4.368* (-1.71)	-6.608*** (-2.79)	-5.079** (-2.06)	-5.614** (-2.26)	-4.277 (-1.64)
Military dictatorship					-2.037 (-0.80)	-0.656 (-0.28)
Royal dictatorship					0.648 (0.16)	1.570 (0.40)
Presidential democracy(dm)	2.141 (0.70)	2.176 (0.73)			2.132 (0.68)	2.231 (0.73)
Presidential veto player			2.900 (0.76)	3.541 (0.95)		
Political corruption	13.36* (2.00)	11.36* (1.72)	14.56** (2.31)	12.44* (1.99)	14.49** (2.09)	12.20* (1.76)
Political rights	3.126* (1.72)	2.179 (1.17)	3.195* (1.85)	2.122 (1.19)	2.804 (1.44)	2.194 (1.12)
Trade openness (lg)	-18.13** (-2.61)	-18.62*** (-2.75)	-18.04** (-2.61)	-18.61*** (-2.77)	-18.97** (-2.66)	-19.02*** (-2.73)
Capital openness (ln)	2.600** (2.12)	2.457** (2.06)	2.706** (2.23)	2.581** (2.20)	2.583** (2.07)	2.412* (1.98)
IGO memberships	-0.102 (-1.19)	-0.118 (-1.49)	-0.094 (-1.09)	-0.115 (-1.45)	-0.095 (-1.09)	-0.112 (-1.33)
Policy diffusion	0.084 (0.68)		0.065 (0.54)		0.121 (0.91)	
Constant	74.12*** (4.38)	38.65 (1.39)	75.75*** (4.41)	38.77 (1.40)	70.73*** (3.97)	38.86 (1.37)
R^2	0.593	0.613	0.594	0.616	0.599	0.616
N	64	64	64	64	64	64

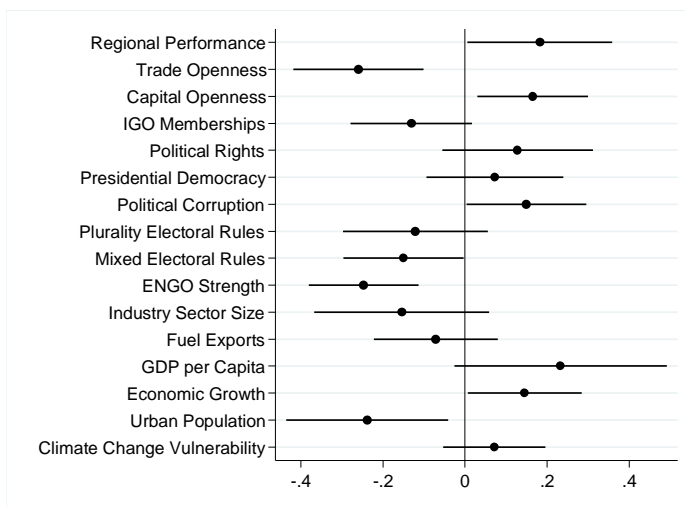
Notes: The table displays unstandardised regression coefficients and standard errors (in parentheses). Analysis units country averages from 1992-2006. N=64.

Figure A8.3.6 International integration, domestic political Institutions and climate performance in developing parites (cross-sectional regression analysis)



Notes: Unstandardized regression coefficients with 90% Confidence Intervals, $R^2=.613$, Analysis units = country averages from 1992-2006. N=64.

Figure A8.3.7 International Integration, domestic political institutions and climate performance in developing countries (cross-sectional regression analysis)



Notes: Standardized Regression Coefficients with 90% Confidence Intervals, $R^2=.613$, Analysis units = country averages from 1992-2006. N=64.

A8.3.4 Analysis of model assumptions

This section tests the model assumptions of the final model of my analysis of climate performance in developing countries: multicollinearity, homoscedasticity and

the normal distribution of the residuals. The final model included policy diffusion, trade openness, capital openness, IGO memberships, civil rights, public sector corruption ENGO strength, Industry sector size, fuel exports, GDP per capita, economic growth, urban population size, climate change vulnerability and the interactions of trade and capital openness with civil rights and public sector corruption. The model assumptions have also been tested without the interaction between capital openness and public sector corruption that became insignificant in the robustness analysis. The model assumptions were also fulfilled for this model.

Multicollinearity

There was no issue with multicollinearity (see Table A8.3.10). An estimation of VIF and tolerance values was done to test the assumption of no multicollinearity among independent variables (see table A8.3.18). VIF values higher than 10 (Cohen et al., 2003, p. 423; Wenzelburger et al., 2014, p. 31) or 4 (O'Brian, 2007, p. 675) are problematic.

Table A8.3.9 Analysis of tolerance values

Independent variable	Tolerance value
ENGO strength (ln)	.612
Industry sector size (ln)	.301
Fuel exports (ln)	.468
GDP per capita (ln)	.176
Economic growth	.606
Urban population size	.252
Climate change vulnerability	.708
Policy diffusion	.439
Trade openness (lg)	.415
Capital openness	.565
IGO memberships	.389
Civil rights	.403
Public sector corruption	.442
Public sector corruption X Trade openness	.354
Civil rights X Capital openness	.416
Public sector corruption X Capital openness	.290
Civil rights X Capital openness	.430

Notes: Analysis units = country averages from 1992-2006. N=64.

Homoscedasticity

The p-value (.0446, chi-square: 4.04) of the Breusch-Pagen/Cook-Weisberg test (see Wenzelburger et al., 2014, p. 30) indicated heteroscedasticity at the 95% significance level (Wenzelburger et al., 2014, p. 30). However, it showed no heteroscedasticity. I examined the model with robust standard errors. The results remained stable.

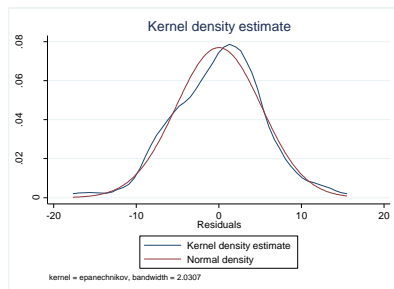
Normality assumption

The normality of residuals was tested with the Shapiro-Wilk test (Wenzelburger et al., 2014, p. 33). The p-value showed no problems for the final model (p =.669). The plot of the density of the residuals compared to the normal distribution also

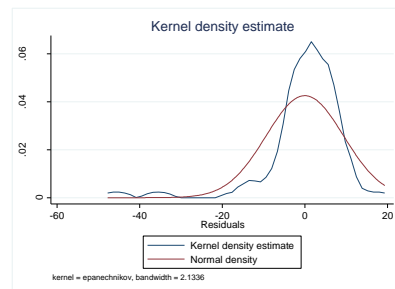
indicated no considerable deviations from the normal distribution (Wenzelburger et al., 2014, p. 33). Figure A8.3.7 shows that the inclusion of China and South Africa implied a considerable violation of the normality assumption. The p-value of the Shapiro-Wilk test additionally indicated a violation of the normality assumption ($p=.000$).

Figure A8.3.8 Normality assumption, Final model

Developing-country sample



Developing-country sample with China and South Africa

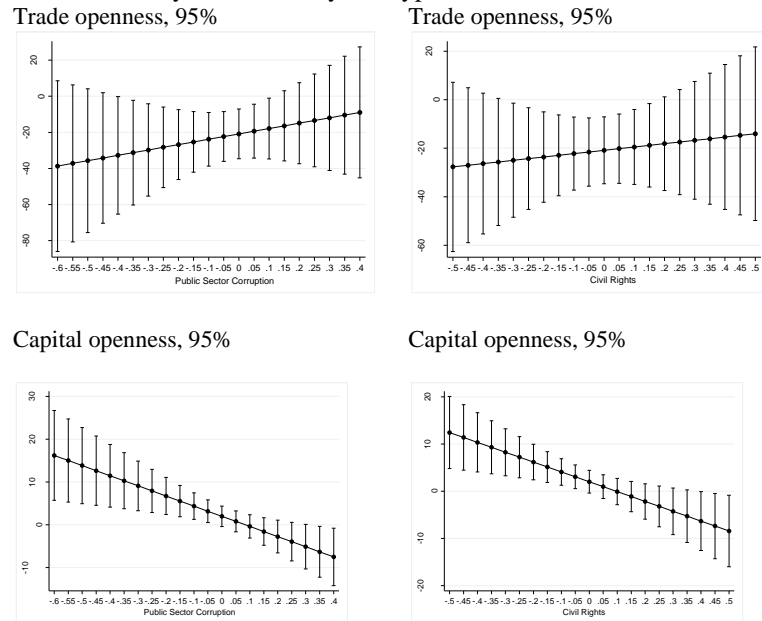


Notes: Analysis units = country averages from 1992-2006. N=64.

A8.3.5 Robustness analysis

This section presents robustness analyses of the analysis of climate performance in developing countries.

Figure A8.3.9 Trade and capital openness, public sector corruption, civil rights, and climate performance: control of regional performance, democracy and autocracy sub-types

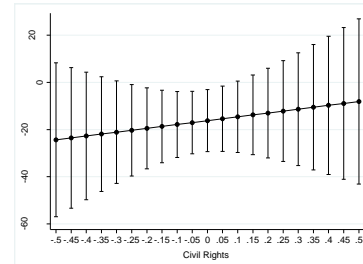
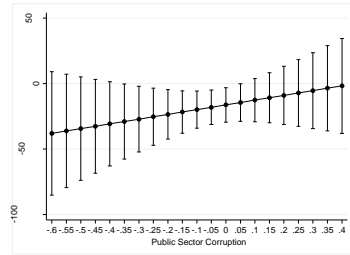


Notes: Analysis units = country averages from 1992-2006. N=64. Simultaneous analysis of the interactions of trade and capital openness with public sector corruption and civil rights. Control of IGO memberships, ENGO (ln), industry sector size (ln), fuel exports (ln), GDP per capita (ln), economic growth, urban population, climate change vulnerability, civilian, military and royal dictatorship, presidential democracy and semi-presidential democracy, regional performance.

Figure A8.3.10 Trade and capital openness, public sector corruption, civil rights, and climate performance: additional controls

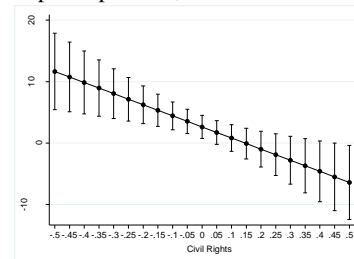
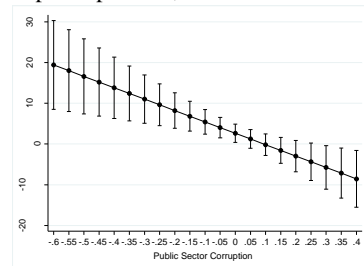
Trade openness, 95%

Trade openness, 95%



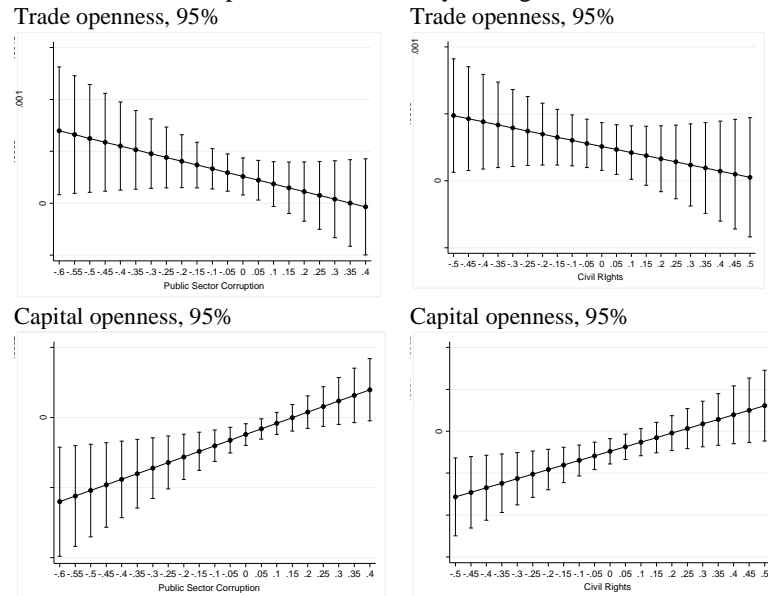
Capital openness, 95%

Capital openness, 90%



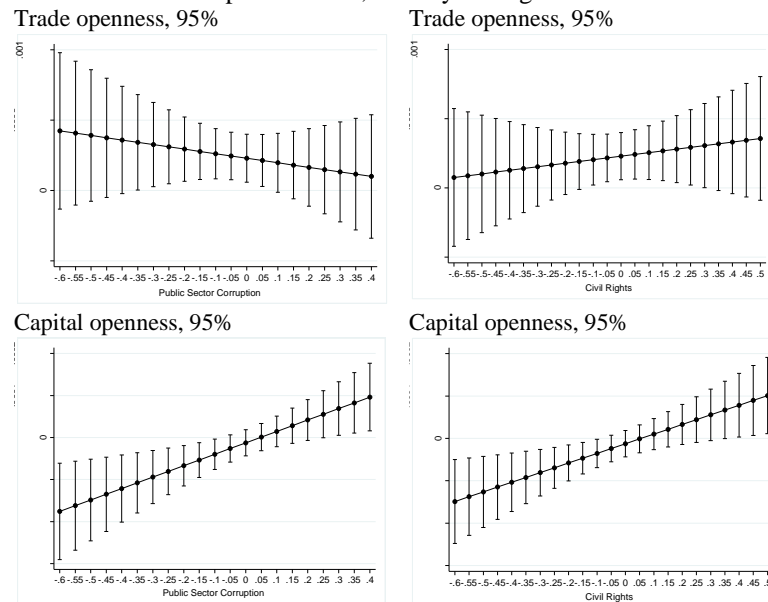
Notes: Analysis units = country averages from 1992-2006. N=64. Simultaneous analysis of the interactions of trade and capital openness with public sector corruption and civil rights. Control of IGO memberships, ENGO (ln), industry sector size (ln), fuel exports (ln), GDP per capita (ln), economic growth, urban population, climate change vulnerability, climate commitment, regional performance, electoral types (mixed, plurality), country size.

Figure A8.3.11 Trade and capital openness, public sector corruption, civil rights, and climate performance, country averages from 1992-1999



Notes: Analysis units = country averages from 1992-1999. N=64. Simultaneous analysis of the interactions of trade and capital openness with public sector corruption and civil rights. Control of policy diffusion, IGO memberships, ENGO (ln), industry sector size (ln), fuel exports (ln), GDP per capita (ln), economic growth, urban population, climate change vulnerability.

Figure A8.3.12 Trade and capital openness, public sector corruption, civil rights and climate performance, country averages from 2000-2010



Notes: Analysis units = country averages from 2000-2010. N=64. Simultaneous analysis of the interactions of trade and capital openness with public sector corruption and civil rights. Control of policy diffusion, IGO memberships, ENGO (ln), industry sector size (ln), fuel exports (ln), GDP per capita (ln), economic growth, urban population, climate change vulnerability.

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